

19) Taylor, M. L., G. F. Hartnell, S. G. Riordan, M. A. Nemeth, T. Cavato, K. Karunanadaa, B. George, D. M. Carpenter and J. D. Astwood (2001). Sponsor summary report for study #00-01-39-38: Comparison of broiler performance when fed diets containing event MON 863, nontransgenic parental line or commercial corn. MSL-17243, an unpublished study conducted by Monsanto Company.



**Monsanto Company**  
**Product Safety Center**  
**REPORT SUMMARY**

**REPORT NO.:** MSL -17243

**DATE:** July 30, 2001

**TITLE:** Sponsor Summary of Report for Study #00-01-39-38: Comparison of Broiler Performance When Fed Diets Containing Event MON 863, Nontransgenic Parental Line, or Commercial Corn

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**ABSTRACT:**

Traits such as insect protection are being introduced into corn to provide efficacious methods of control of certain insect pests. The test event, MON 863, produces a variant of the wild-type Cry3Bb1 protein, which protects against corn rootworm (CRW, *Diabrotica*). Study 00-01-39-38 was undertaken to compare the wholesomeness of corn event MON 863 grain to six non-transgenic commercial corn varieties in addition to the nontransgenic parental line (LH82xA634) when fed to rapidly growing Ross x Ross broiler chickens. The rapidly growing broiler is considered to be sensitive to changes in nutrient quality in diets, and therefore is a useful model to evaluate the wholesomeness of corn. The LH82xA634 non-transgenic parental control corn event for MON 863 has background genetics representative of the test event but does not produce the variant of the wild-type Cry3Bb1 insect control protein.

Mycotoxin screens, pesticide screens, and nutrient analyses of the corn grain used for study 00-01-39-38 were conducted prior to the study start. Pesticide levels were below the limits of detection and the mycotoxin levels were below or slightly above the limits of detection. Diets were formulated on the basis of the individual nutrient analyses for grain from each test, control, and reference substance tested. The only sources of dietary protein used in the study were from the test lines of corn and from supplemented commercial soybean meal. Methionine and lysine were added, as needed, to conform to commercial diet formulation standards and to meet NRC (1994) nutritional recommendations.



AA050703

Report No: MSL-17243 Authors: M. L. Taylor, G. F. Hartnell, S. G. Riordan, M. A. Nemeth, T. Cavato, K. Karunanandaa, B. George, D. M. Carpenter, and J. D. Astwood

Title: Sponsor Summary of Report for Study #2000-01-39-38 (Comparison of Broiler Performance When Fed Diets Containing Event MON863, Parental Line, or Commercial Corn)

Statistical analyses were performed on starting and final live weights, feed intake, feed efficiency, adjusted feed efficiency, chill weight, percent chill weight (chill weight as a percentage of live weight), breast weight, percent breast weight (breast weight as a percentage of chill weight), wing weight, percent wing weight (wing weight as a percentage of chill weight), thigh weight, percent thigh weight (thigh weight as a percentage of chill weight), drum weight, percent drum weight (drum weight as a percentage of chill weight), fat pad weight, fat pad as a percentage of live weight, and moisture, protein, and fat for breast and thigh meat. Since pens having the broilers were set up in a randomized complete block design for diet treatments in each of five replicated blocks of pens, the standard randomized block analysis of variance (ANOVA) statistical model was used to analyze the data. Means were compared at the 5% level of significance. An additional analysis was done to compare the fit of event MON 863 to the population of responses from the reference varieties to determine if the responses obtained from broilers fed diets containing the corn event MON 863 were consistent with the expected variation of responses of broilers fed the other corn varieties. This analysis was carried out using a linear mixed model procedure ( $P < 0.05$ ) from SAS Institute, Cary, NC.

All performance parameters measured were similar ( $P > 0.05$ ) across the broilers fed diets of MON 863 corn, parental control corn, and corn from commercially available reference varieties. In addition, broilers fed diets containing MON 863 corn had similar feed efficiency to the parental (LH82 x A634) and all reference lines and similar adjusted feed efficiency to the parental and two of the six commercially available reference lines (RX826 and DK539). The other four reference corn line diets had slightly increased adjusted feed efficiencies (on average, 1.9% greater than MON 863). However, all feed efficiency and adjusted feed efficiency values fell within historical ranges for previous broiler studies and literature ranges reported for feed efficiency.

Breast and thigh meat quality values and carcass measurements of live weight, chill weight on a weight basis, fat pad (on a weight basis or as a percentage of the live weight) and thigh, drum, and wing (all on a weight basis) showed that there were no statistically significant differences between treatments ( $P > 0.05$ ). When expressed as a percentage of the live weight, the chill weight of broilers fed diets containing MON 863 were not different from the chill weight of broilers fed the nontransgenic parental line and four of the reference lines. When expressed as a percentage of the chill weight, thigh, drum, and wing weights were not different from the nontransgenic parental line and multiple reference lines. Any variation in the values from study 00-01-39-38 fell within the ranges including historical values from previous broiler studies and literature values of Ross x Ross broiler strains reported for thigh, drum, and wing meat yield.

When expressed on a weight basis, breast meat weights of the MON 863 fed broilers were not different from the breast meat weights of broilers fed the nontransgenic parental line and four of the reference lines. However, breast meat weights of the broilers fed

MON 863 diets were statistically significantly less than two of the reference lines (DK521 and DK539) when expressed on a weight basis and statistically significantly less than these and three additional reference lines (RX826, DK493, and DK537) when expressed on a percent chill weight basis. This was the only instance, breast weight on a percent chill weight basis, for which a statistically significant diet by sex interaction was observed. However, when individual sex (male and female) comparisons were made for this parameter, no statistically differences were observed in the females, and the MON 863 was not statistically different from the nontransgenic parental line, LH82 x A634, or one of the reference lines, BX86. The statistically significant differences due to diets were between MON 863 and the other five reference lines. All mean values from study 00-01-39-38 fell within the reported literature ranges reported for breast meat yield of Ross x Ross broiler strains. Therefore, this difference was not considered biologically significant as it falls within the natural variability of breast meat weight measurements of broiler chickens.

Comparison of the MON 863 corn event to the population of reference diets showed no differences in all performance and meat quality parameters and in most carcass yield parameters measured. There was a significant difference ( $P < 0.05$ ) in the fat pads of females (on a weight basis and percent of live weight basis) between MON863 and the population of reference diets. These minor differences in the females were not observed in the males, and all mean values fell within the historical range of previous broiler studies and literature ranges reported for fat pad measurements. Therefore, this difference was not considered biologically significant as it falls within the natural variability of fat pad measurements of broiler chickens.

In conclusion, there were no biologically relevant differences in the parameters tested between broilers fed the corn event MON 863 and its parent, LH82xA634. In addition, when individual treatment comparisons were made, broilers in general performed and had similar carcass yield and meat composition with diets containing MON 863, the parental control, or five commercially available reference lines. Corn event MON 863 event was as wholesome as its corresponding nontransgenic parental line and six commercially available reference lines regarding ability to support the rapid growth of broiler chickens.



**Signatures of Approval**

**MSL Number:**

MSL-17243

**Title:**

Sponsor Summary of Report for Study #00-01-39-38: Comparison of Broiler Performance When Fed Diets Containing Event MON 863, Nontransgenic Parental line, or Commercial Corn

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## Table of Contents

Section	Page
Signatures of Approval.....	1
Table of Contents .....	2
1.0 Purpose.....	3
2.0 Methods.....	3
3.0 Test Animals .....	4
4.0 Experimental Design and Analysis .....	4
5.0 Results .....	6
5.1 General Observations .....	6
5.2 Performance Parameters.....	6
5.3 Carcass Measurements .....	7
5.4 Population Statistical Analyses .....	8
6.0 Conclusions .....	8
7.0 References .....	9
 <b>Table 1.</b> Performance of Broilers, Carcass Yield, and Meat Quality of Breast and Thigh.....	 10
<b>Appendix 1.</b> Colorado Quality Research Study #00-01-39-38 Final Report with Attached QA Statement.....	12
<b>Appendix 2.</b> Trilogy Consulting Corporation Statistical Report.....	103

## 1.0 Purpose

Traits such as insect protection are being introduced into corn to provide efficacious methods of insect control. Grain of corn event MON 863 produces a variant of the wild-type Cry3Bb1 protein (Hileman and Astwood, 2001), which protects against corn rootworm (CRW, *Diabrotica*). Study 00-01-39-38 was undertaken to compare the wholesomeness of MON 863 corn to other commercial corn varieties including the nontransgenic parental line when fed to rapidly growing Ross x Ross broiler chickens. This document summarizes the results and conclusions from the complete final report for study 00-01-39-38 (Appendix 1) and provides additional background information.

## 2.0 Methods

Grain of the corn event MON 863 and of the non-transgenic parental control line (LH82 x A634) was produced in Kihei, Hawaii under Production Plan #00-01-39-04. Grain from six reference lines produced in other locations during the 1999 growing season were included as reference substances in the study 00-01-39-38. The six non-transgenic, commercially available reference varieties were: DK539, DK521, DK537, DK493 (all grown in Yuma County, CO), BX86 (grown in Carlyle, IL, Clinton County), and RX826 (grown near St. Joseph, IL, Champaign County). All reference line background information was documented in Monsanto study 00-01-50-04.

Analyses to determine the levels of mycotoxin and pesticides and nutrient analyses of the corn grain used for broiler study 00-01-39-38 were conducted prior to the study start. No unusual values were reported from these analyses that could impact animal feed performance. The pesticide levels were below the limits of detection and the mycotoxin levels were below or slightly above the limits of detection. The diets were formulated on the basis of the individual nutrient analyses for grain from each test, control, and reference substance tested. The only sources of dietary protein used in the study 00-01-39-38 were from the lines of corn and from supplemented commercial soybean meal. Methionine and lysine were added, as needed, to conform to commercial diet formulation standards and to meet nutritional recommendations of the National Research Council (NRC), 1994. Diets were formulated such that the protein levels were as close as possible to NRC values to align with traditional broiler industry uses. From days 1-20, broilers were fed a starter diet containing approximately 55% w/w corn (crude protein ranging from 19.1-23.9%, Appendix 1). From days 20-42, broilers were fed a grower/finisher diet containing approximately 60% w/w corn (crude protein ranging from 19.2-21.5%, Appendix 1). These dietary corn concentrations are within the range typically used by commercial poultry growers in the United States.

The formulated poultry diets were analyzed for crude protein, amino acids, moisture, fat, crude fiber, neutral detergent fiber, acid detergent fiber, carbohydrates, ash, calcium,

phosphorus, potassium, sodium, chloride, magnesium, sulfur, zinc, iron, manganese, and copper. A coccidiostat, salinomycin, was mixed into test diets at a level of 60 g/ton. No growth promotants or other medications were added to test diets. Diets were prepared at the CQR feed mill. Feed was provided *ad libitum*; each pen had its own feeder. During the first six days, a chick feeder tray was added to each pen. Water was provided *ad libitum* by an automatic water drinker in each pen.

### 3.0 Test Animals

Rapidly growing broilers were used to compare the broiler performance and processing parameters with diets containing corn event MON 863, the parental corn line, and six commercially available reference corn lines. Commercial broiler chickens reach a market weight of approximately 2 kg in approximately 42 days. The rapidly growing broiler is considered to be sensitive to changes in nutrient quality in diets, and therefore represents a useful model to evaluate the wholesomeness of corn diets. In study 00-01-39-38, an approximately 50- to 60-fold increase in body weight was observed, which is consistent with the body weight gains seen in commercial production.

A high yielding commercial strain of broilers (Ross x Ross) was purchased from Hoover's Hatchery in Rudd, IA. The broilers were one day of age at receipt and randomly assigned to treatments the same day. Chicks were separated by gender and only healthy broilers were assigned. Broilers were vaccinated for Marek's disease at the hatchery and for Newcastle and Infectious Bronchitis at CQR at 7 days of age. The broilers were examined twice daily for general health, and any abnormal health symptoms were recorded. Any broilers sacrificed were weighed, and any broilers found dead were necropsied to determine the possible cause of death.

### 4.0 Experimental Design and Analysis

A randomized complete block design was used, consisting of eight treatments corresponding to the eight corn lines evaluated. Treatments were assigned to pens using a randomized complete block design with 80 males and 80 females per each of five blocks. All treatments were represented in each block consisting of 16 pens (8 male and 8 female) with 10 broilers/pen for a total of 80 pens and 800 broilers. For each treatment group, there were 100 broilers in 10 pens, 5 pens of males (10 broilers/pen) and 5 pens of females (10 broilers/pen). At study start, there were an additional 2 broilers added to each pen to compensate for possible losses due to mortality from starveouts (broilers refusing feed) and dehydration which occurs normally during the first few days in a chicken feeding study. At study day 7, the group size was culled to 10 broilers/pen. The extra broilers removed included unhealthy broilers first, and any remaining broilers still needing to be removed were selected randomly. Broilers culled at day 7 were sacrificed

and weighed. Only personnel involved in feed manufacturing were aware of treatment identification.

As much as possible, the intent was to simulate commercial conditions for raising broilers. Broilers were housed in concrete floor pens containing clean wood shavings. The poultry room where the study 00-01-39-38 was conducted was environmentally controlled for light and temperature. The environmental conditions (floor space, temperature, lighting, bird density, feeder and water space) were similar for all experimental treatments.

Broilers were weighed by pen at day 0 (study start) and day 42 (feed removed) and individually at study termination (day 43 for males and day 44 for females). The average body weight/pen and body weight/broiler for each treatment group by sex was calculated. The average feed efficiency per pen was calculated for the entire duration of the study by using the total feed intake during the study divided by the total body weight of the surviving broilers in the pen. This was averaged for each treatment group by sex. Adjusted feed efficiency was calculated by using the total feed intake/pen divided by the total body weight of the surviving broilers and body weight of broilers that died or were removed from the pen. At study termination, carcass measurements were taken including those for fat pads, which were collected from each broiler and weighed. One broiler per pen was sampled for breast and thigh meat quality assays which were conducted after the in-life study termination. Table 1 shows the carcass and breast and thigh meat quality measurements made following study termination.

Statistical analyses were performed on starting and final live weights, feed intake, feed efficiency, adjusted feed efficiency, chill weight, percent chill weight (chill weight as a percentage of live weight), breast weight, percent breast weight (breast weight as a percentage of chill weight), wing weight, percent wing weight (wing weight as a percentage of chill weight), thigh weight, percent thigh weight (thigh weight as a percentage of chill weight), drum weight, percent drum weight (drum weight as a percentage of chill weight), fat pad weight, fat pad as a percentage of live weight, and moisture, protein, and fat for breast and thigh meat. Since the pens were set up as a randomized complete block design with the diet treatments in each of five replicated blocks of pens, the standard randomized block analysis of variance (ANOVA) statistical model was used to analyze the data. Means were compared to each other at the 5% level of significance. An additional analysis was done to compare the fit of event MON 863 to the population of responses from the reference varieties to determine if the responses obtained from broilers fed diets containing the corn event MON 863 were consistent with the expected variation of responses of broilers fed the other corn varieties. This analysis was carried out using a linear mixed model procedure ( $P < 0.05$ ) from SAS Institute, Cary, NC.

Colorado Quality Research (CQR) provided Quality Assurance oversight for the in-life phase of the study. Monsanto provided Quality Assurance oversight for the statistical analyses and conducted the test and control substance line identification. Discussion on GLP requirements was provided in the CQR final report.

## **5.0 Results**

The nutrient assay results for the starter and finisher diets met industry standards (Appendix 1). A few assay values were slightly above or below NRC values, but this was attributed to assay method variability and the different moisture level of the various diets and not to the corn lines specifically.

### **5.1 General Observations**

Chick mortality, which commonly occurs in commercial feeding trials, related to starveouts, dehydration, etc. was observed during the first 7 days of the study (Appendix 1). This mortality was randomly distributed across all treatments without any relationship to treatment. During the remainder of the study, pen sizes were normalized to 10 broilers/pen. The distribution of the broilers that died from day 7 to study termination was random across treatments (deaths per treatments averaged 2.3% and ranged from 0% to 7% across all treatments). Most of the apparent causes of death were identified at necropsy and occur commonly in broilers (sudden death syndrome and ascites). The broilers in all treatments were in good health based on pen observations made twice daily.

### **5.2 Performance Parameters**

All performance parameters measured in study 00-01-39-38 were similar across the broilers fed diets of MON 863 corn, parental corn, and reference lines of corn and comparable to literature values for Ross broiler strains (Table 1). The starting and final body weights of the chicks were normal and the average pen body weights were comparable between treatments. Live weight at day 0 (g/bird or kg/pen), live weight at day 42 (kg/bird or kg/pen), and total feed intake (kg/bird or kg/pen) showed that there were no statistically significant differences between treatments. Broilers fed diets containing MON 863 corn had similar feed efficiency with its parental (LH82 x A634) and all six reference lines. Broilers fed diets containing MON 863 corn had adjusted feed efficiency with its parental and two of the six reference lines (RX826 and DK539). Diets containing the other four reference corn lines had slightly increased adjusted feed efficiencies (on average, 1.9% greater than MON 863). However, all feed efficiency and adjusted feed efficiency values fell within historical ranges for previous broiler studies and literature ranges reported for feed efficiency (Smith et al., 1998; Lei and Van Beek, 1997; Farran et al., 2000; and Esteve-Garcia and Llaurado, 1997).

### 5.3 Carcass Measurements

Carcass measurements of live weight, chill weight, fat pad (on a weight basis and expressed as a percentage of live weight) and thigh, drum, and wing (all on a weight basis) showed that there were no statistically significant differences between treatments ( $P > 0.05$ ) and were comparable to historical ranges for previous broiler studies and literature values for Ross broiler strains (Table 1). When expressed as a percentage of the live weight, the chill weight of broilers fed diets containing MON 863 were not different from the chill weight of broilers fed the nontransgenic parental line and four of the reference lines. When expressed as a percentage of the chill weight, thigh, drum, and wing weights were not different from the nontransgenic parental line and multiple reference lines. Any variation in the values from study 00-01-39-38 fell within the ranges including historical values from previous broiler studies and literature values of Ross x Ross broiler strains (Kidd and Kerr, 1997, and Peak et al., 2000) reported for thigh, drum, and wing meat yield (12.80-20.65% thigh yield, 10.5-14.3% drum yield, and 8.4-12.0% wing yield, all on a percent weight basis). No differences were observed in the percent of moisture, protein, and fat in breast meat or thigh meat across treatment diets (Table 1).

When expressed on a weight basis, breast meat weights of the MON 863 fed broilers were not different from the breast meat weights of broilers fed the nontransgenic parental line and four of the reference lines (Table 1). However, breast meat weights of the broilers fed MON 863 diets were statistically significantly less than two of the reference lines (DK521 and DK539) when expressed on a weight basis and statistically significantly less than these and three additional reference lines (RX826, DK493, and DK537) when expressed on a percent chill weight basis. This was the only instance, breast weight on a percent chill weight basis, for which a statistically significant diet by sex interaction was observed. However, when individual sex (male and female) comparisons were made for this parameter, no statistically differences were observed in the females, and the MON 863 was not statistically different than the nontransgenic parental line, LH823 A634 or one reference line, BX86 (Appendix 2). The statistically significant differences due to diets were between MON 863 and the other five reference lines. All mean values from study 00-01-39-38 fell within the reported literature ranges reported for breast meat yield of 0.225-0.551 kg (11.19-32.62% of chill weight) using Ross x Ross broiler strains (Smith et al., 1998; Lei and Van Beek, 1997; Esteve-Garcia and Llauro, 1997; and Kidd and Kerr, 1997). Therefore, this difference was not considered biologically significant as it falls within the natural variability of breast meat weight measurements of broiler chickens.

#### **5.4 Population Statistical Analyses**

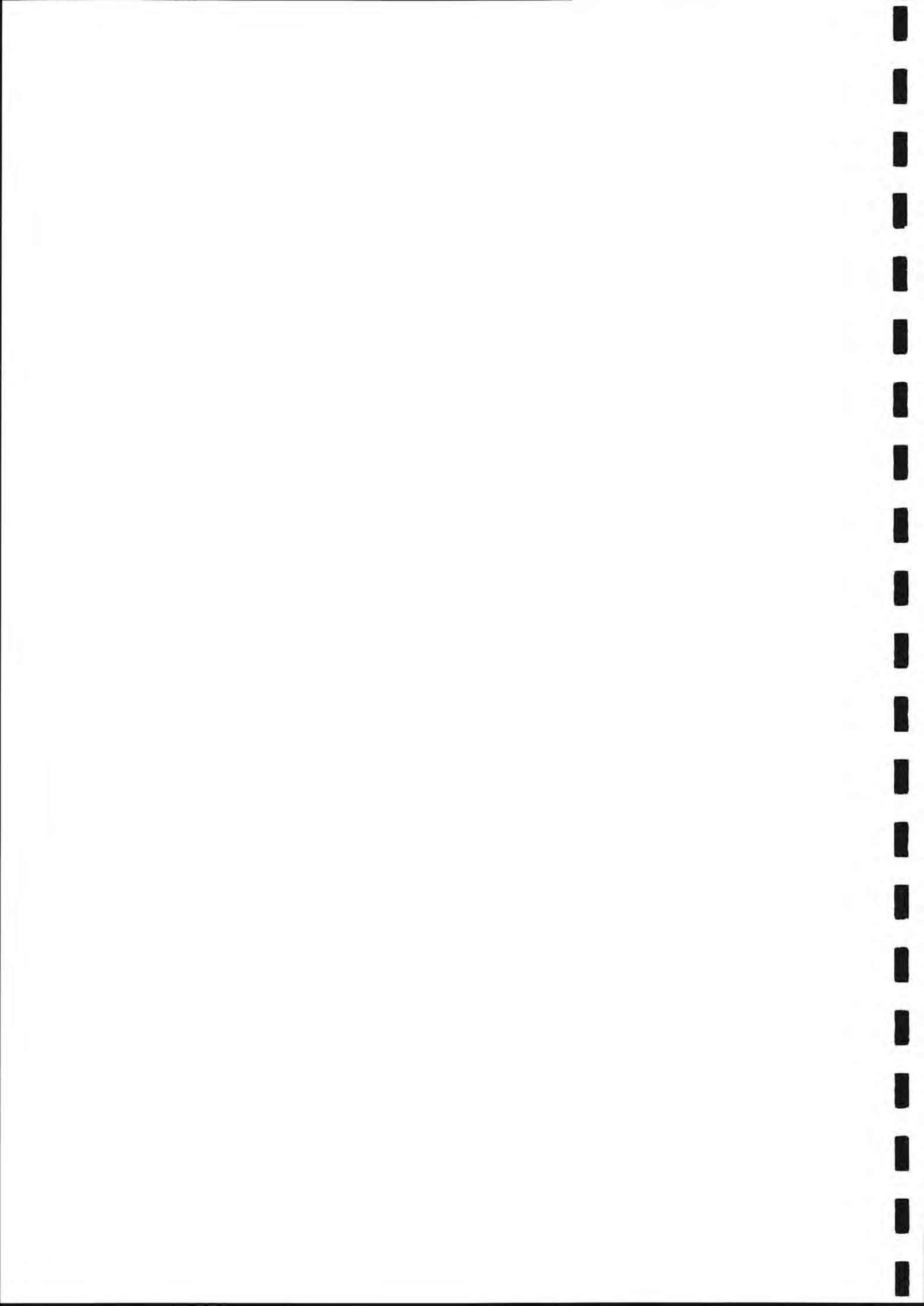
Comparison of the MON 863 corn event to the population of reference diets showed no differences in all performance and meat quality parameters and in most carcass yield parameters measured (Appendix 2). There was a significant difference ( $P < 0.05$ ) in the fat pads of females (on a weight basis and percent of live weight basis). These minor differences in the females were not observed in the males, and all mean values (Appendix 2) fell within the historical range of previous broiler studies (0.0300-0.0441 kg and 1.42-2.18% of live weight) and literature ranges (0.0242-0.0632 kg and 1.14-3.60 % of live weight) reported for fat pad measurements (Smith et al., 1998; Lei and Van Beek, 1997; Farran et al., 2000; Esteve-Garcia and Llaurodo, 1997; Kidd and Kerr, 1997; and Peak et al., 2000). Therefore, this difference was not considered biologically significant as it falls within the natural variability of fat pad measurements of broiler chickens.

#### **6.0 Conclusion**

The results of the broiler feeding study 00-01-39-38 show that there were no biologically relevant differences in parameters tested between broilers fed corn event MON 863 and its parent, LH82 x A634. In addition, when individual treatment comparisons were made, broilers in general performed and had similar carcass yield and meat composition with diets containing MON 863, the parental control, and six commercially available reference lines. Corn event MON 863 is as wholesome as its corresponding nontransgenic parental line and six commercially available reference lines regarding ability to support the rapid growth of broiler chickens.

## 7.0 References

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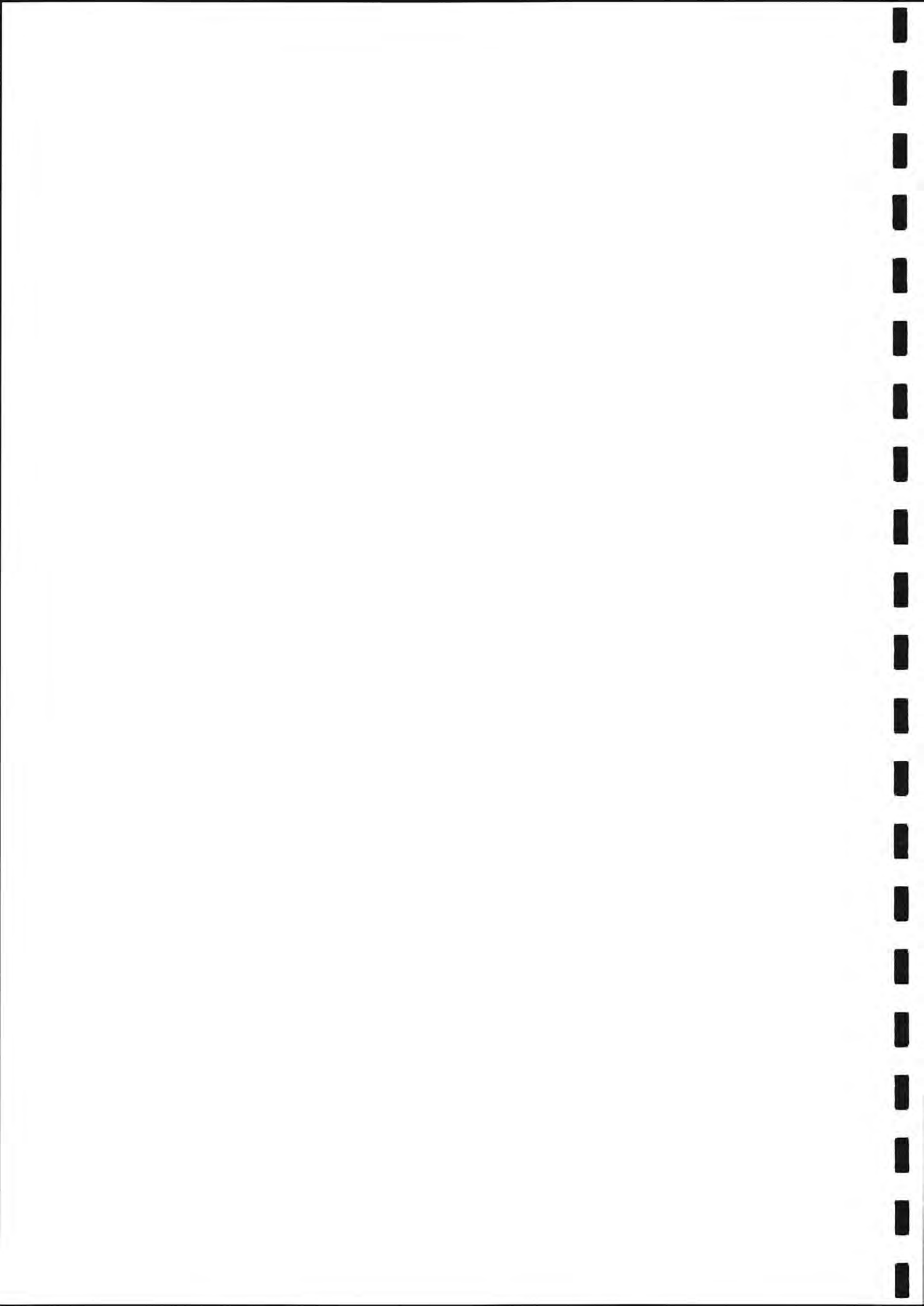


**Table 1.** Performance of broilers, carcass yield and meat quality of breast and thigh (mean values of males and females).  
Comparison of transgenic corn line MON 863 with control and reference lines.

CQR Project No. MN-00-1  
(Monsanto Study No. 00-01-39-38)

CQR Treatment ID Monsanto Corn ID			8 MON 863	7 LH82 x A634	1 RX 826	2 DK 493	3 DK 521	4 DK 539	5 BX 86	6 DK 537	Treatments (T) SSD <sup>1</sup>	LSD <sup>2</sup> 5.0%	Historical Range <sup>3</sup>	Literature Range <sup>4</sup>
<b>Performance</b>														
Live weight	(g/bird)	Day 0	39.000	39.383	39.517	39.233	39.450	39.550	39.500	39.067	NS	0.935	35.25-38.50	NA
Live weight	(kg/pen)	Day 0	0.468	0.473	0.474	0.471	0.473	0.475	0.474	0.469	NS	0.011	0.423-0.460	NA
Live weight	(kg/bird)	Day 42	2.253	2.211	2.272	2.281	2.298	2.327	2.302	2.308	NS	0.081	1.891-2.346	1.79-2.43 <sup>a,f</sup>
Live weight	(kg/pen)	Day 42	21.800	21.880	22.470	22.070	22.980	21.250	23.020	22.370	NS	1.165	14.73-23.37	NA
Feed intake	(kg/bird)		3.754	3.636	3.723	3.687	3.686	3.981	3.699	3.754	NS	0.225	3.54-3.93	NA
Feed intake	(kg/pen)		36.250	35.960	36.790	35.680	36.860	36.010	36.990	36.360	NS	1.395	25.44-36.94	NA
Feed efficiency	(kg/kg)		1.666 <sup>ab</sup>	1.645 <sup>ab</sup>	1.641 <sup>b</sup>	1.619 <sup>b</sup>	1.607 <sup>b</sup>	1.703 <sup>a</sup>	1.610 <sup>b</sup>	1.629 <sup>b</sup>	*	0.061	1.543-1.844	1.60-2.07 <sup>a,b,c,d</sup>
Adjusted Feed Efficiency	(kg/kg)		1.620 <sup>a</sup>	1.622 <sup>a</sup>	1.613 <sup>ab</sup>	1.592 <sup>bc</sup>	1.59 <sup>bc</sup>	1.602 <sup>ab</sup>	1.594 <sup>bc</sup>	1.588 <sup>c</sup>	*	0.023	1.528-1.724	NA
<b>Carcass Yield</b>														
Live weight	(kg)		2.239	2.198	2.270	2.266	2.278	2.313	2.287	2.290	NS	0.076	2.195-2.299	NA
Chill weight	(kg)		1.591	1.557	1.619	1.621	1.633	1.645	1.637	1.638	NS	0.062	1.440-1.637	NA
Chill weight	(% of live weight)		71.0 <sup>bc</sup>	70.8 <sup>c</sup>	71.3 <sup>ab</sup>	71.5 <sup>ab</sup>	71.6 <sup>a</sup>	71.2 <sup>abc</sup>	71.6 <sup>a</sup>	71.5 <sup>ab</sup>	*	0.006	68.4-71.2	67.1-76.0 <sup>a,c,d,e</sup>
Fat pad weight	(kg)		0.033	0.036	0.034	0.036	0.036	0.036	0.036	0.038	NS	0.004	0.0300-0.0441	0.0242-0.0632 <sup>a,f</sup>
Fat pad weight	(% of live weight)		1.500	1.600	1.500	1.600	1.600	1.600	1.600	1.700	NS	0.002	1.42-2.18	1.14-3.60 <sup>a,f</sup>
Breast meat weight	(kg)		0.405 <sup>bc</sup>	0.392 <sup>c</sup>	0.423 <sup>ab</sup>	0.423 <sup>ab</sup>	0.428 <sup>a</sup>	0.432 <sup>a</sup>	0.420 <sup>ab</sup>	0.426 <sup>ab</sup>	**	0.021	0.338-0.423	0.225-0.551 <sup>a,b,d,e</sup>
Breast meat weight	(% of chill wt.)		25.4 <sup>bc</sup>	25.1 <sup>c</sup>	26.1 <sup>a</sup>	26.1 <sup>a</sup>	26.2 <sup>a</sup>	26.2 <sup>a</sup>	25.7 <sup>ab</sup>	26.0 <sup>a</sup>	**	0.005	23.4-25.8	11.19-32.62 <sup>a,d,e</sup>
Thigh weight	(kg)		0.272	0.269	0.274	0.273	0.276	0.280	0.279	0.275	NS	0.012	0.252-0.282	0.258-0.318 <sup>a,f</sup>
Thigh weight	(% of chill wt.)		17.1 <sup>ab</sup>	17.3 <sup>a</sup>	16.9 <sup>bc</sup>	16.8 <sup>bc</sup>	16.9 <sup>bc</sup>	17.0 <sup>abc</sup>	17.0 <sup>abc</sup>	16.8 <sup>c</sup>	*	0.003	17.1-17.5	12.80-20.65 <sup>a,f</sup>
Drum weight	(kg)		0.227	0.221	0.228	0.225	0.229	0.229	0.231	0.227	NS	0.009	0.201-0.231	0.213 <sup>f</sup>
Drum weight	(% of chill wt.)		14.3 <sup>a</sup>	14.2 <sup>a</sup>	14.0 <sup>abc</sup>	13.9 <sup>c</sup>	14.0 <sup>abc</sup>	13.9 <sup>bc</sup>	14.1 <sup>ab</sup>	13.9 <sup>c</sup>	**	0.002	13.9-14.3	10.50 <sup>f</sup>
Wing weight	(kg)		0.186	0.184	0.189	0.188	0.188	0.190	0.188	0.191	NS	0.006	0.171-0.191	0.170 <sup>f</sup>
Wing weight	(% of chill wt.)		11.7 <sup>ab</sup>	11.9 <sup>a</sup>	11.7 <sup>b</sup>	11.6 <sup>b</sup>	11.5 <sup>b</sup>	11.6 <sup>b</sup>	11.5 <sup>b</sup>	11.7 <sup>ab</sup>	**	0.002	11.6-12.0	8.40 <sup>f</sup>

(continued)

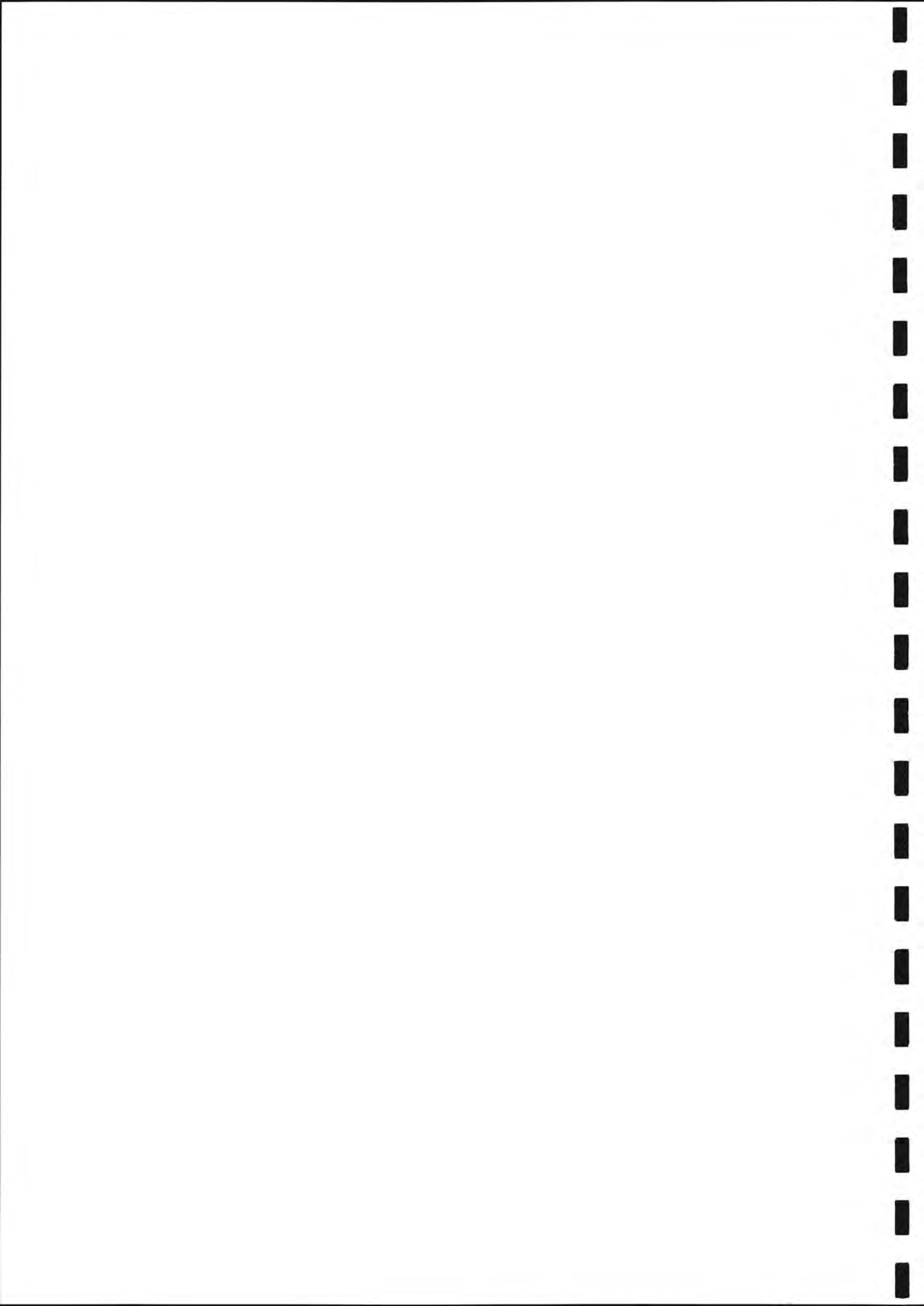


**Table 1. (con't.)** Performance of broilers, carcass yield and meat quality of breast and thigh (mean values of males and females).  
Comparison of transgenic corn line MON 863 with control and reference lines.

CQR Project No. MN-00-1  
(Monsanto Study No. 00-01-39-38)

CQR Treatment ID	8	7	1	2	3	4	5	6	Treatments	LSD <sup>2</sup>	Historical	Literature	
Monsanto Corn ID	MON	LH82	RX	DK	DK	DK	BX	DK	(T)	5.0%	Range <sup>3</sup>	Range <sup>4</sup>	
	863	x	826	493	521	539	86	537	SSD <sup>1</sup>				
		A634											
Breast Meat Analysis													
Moisture	(%)	75.258	75.080	75.100	74.908	75.069	75.212	75.212	75.120	NS	0.322	74.4 - 75.1	72.7 - 74.3 <sup>g</sup>
Protein	(%, as is basis)	23.632	23.942	23.888	24.076	23.943	23.766	23.751	23.667	NS	0.475	22.35 - 24.35	22.9 - 24.3 <sup>g</sup>
Fat	(%, as is basis)	0.792	0.780	0.780	0.873	0.801	0.891	0.812	0.801	NS	0.194	0.80 - 1.19	0.770 - 1.80 <sup>g</sup>
Thigh Meat Analysis													
Moisture	(%)	76.820	76.210	76.504	76.727	76.620	76.699	76.901	76.703	NS	0.739	75.8 - 76.8	70.0 - 72.4 <sup>g</sup>
Protein	(%, as is basis)	20.710	21.013	21.021	21.164	21.438	21.032	20.307	20.998	NS	0.998	19.89 - 21.34	17.7 - 19.2 <sup>g</sup>
Fat	(%, as is basis)	1.791	2.114	2.132	2.380	2.261	1.959	2.505	2.058	NS	0.807	1.83 - 2.72	7.50 - 11.6 <sup>g</sup>

<sup>1</sup> SSD, statistical significance of differences: NS, not significant; \*, P<0.05; \*\*, P<0.01; Individual treatment means with the same superscript letter in the same row are not statistically different (P>0.05). <sup>2</sup> LSD, least significant difference between two means (P<0.05). <sup>3</sup> 38-42 day Monsanto studies numbered XX-97-252 (Ross x Arbor Acres), XX-98-081 (Ross x Ross), 2000-01-39-02 (Ross x Ross), and 2000-01-39-01 (Cobb x Cobb). <sup>4</sup> a) Smith et al., 1998 (Ross x Ross); b) Lei and Van Beek, 1997 (Ross x Ross); c) Farran et al., 2000 (Ross); d) Esteve-Garcia and Llauroado, 1997 (Ross); e) Kidd and Kerr, 1997 (Ross x Ross); f) Peak et al., 2000 (Ross x Ross, Cobb x Cobb, and Ross x Cobb); and g) Grey et al., 1983 (Ross).



## **Appendix 1**

### **Colorado Quality Research Final Report and QA Statement**

**pp. 12-102**

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**CQR FINAL REPORT**

***Comparison of Broiler Performance When Fed Diets Containing  
Events MON 863, Parental Line or Commercial Corn***

**Project No. MN-00-1  
(Monsanto Study No. 00-01-39-38)**

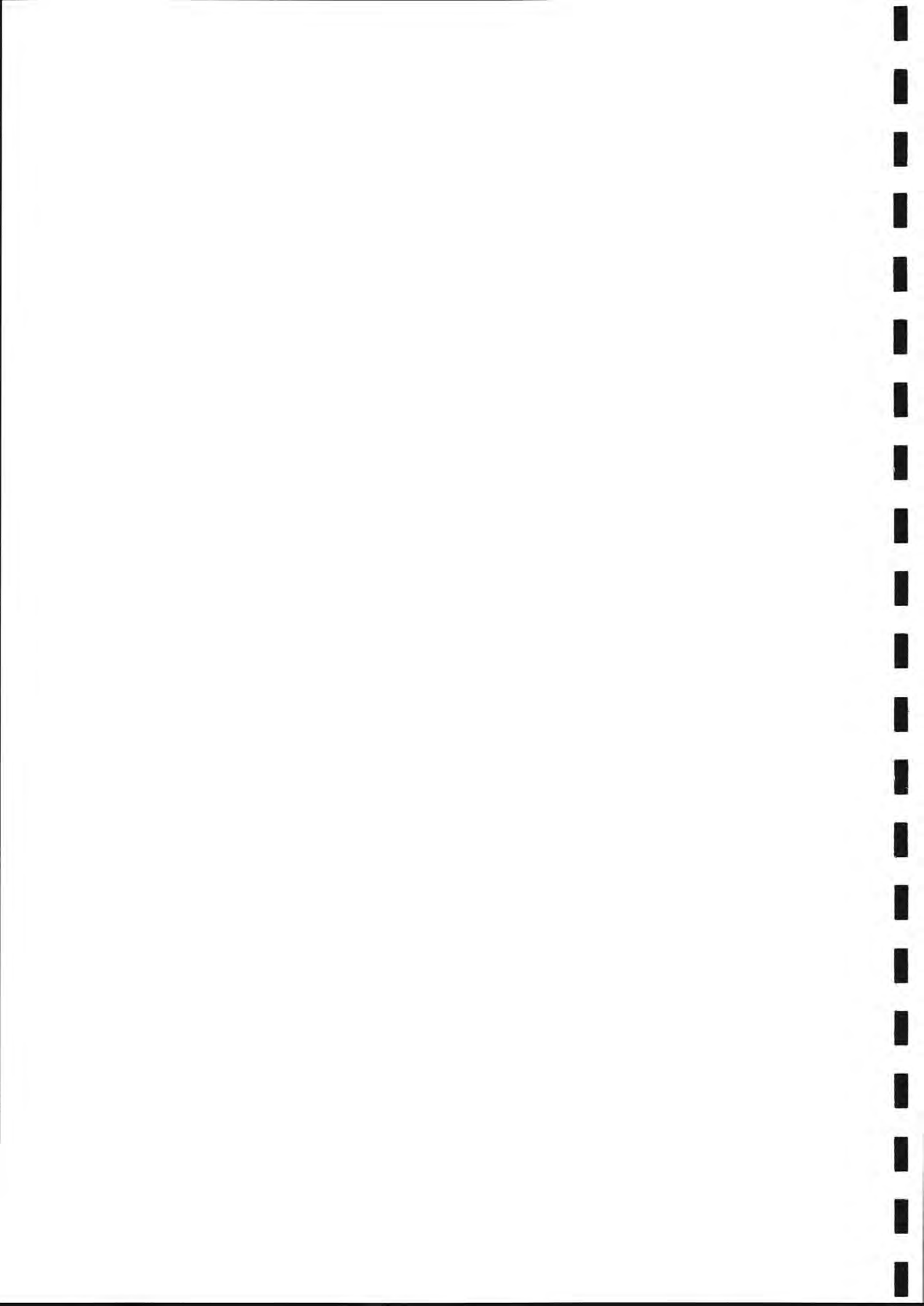
**SPONSOR**

**MONSANTO COMPANY**  
800 N. Lindbergh Blvd.  
St. Louis, Missouri 63167

**STUDY DIRECTOR**

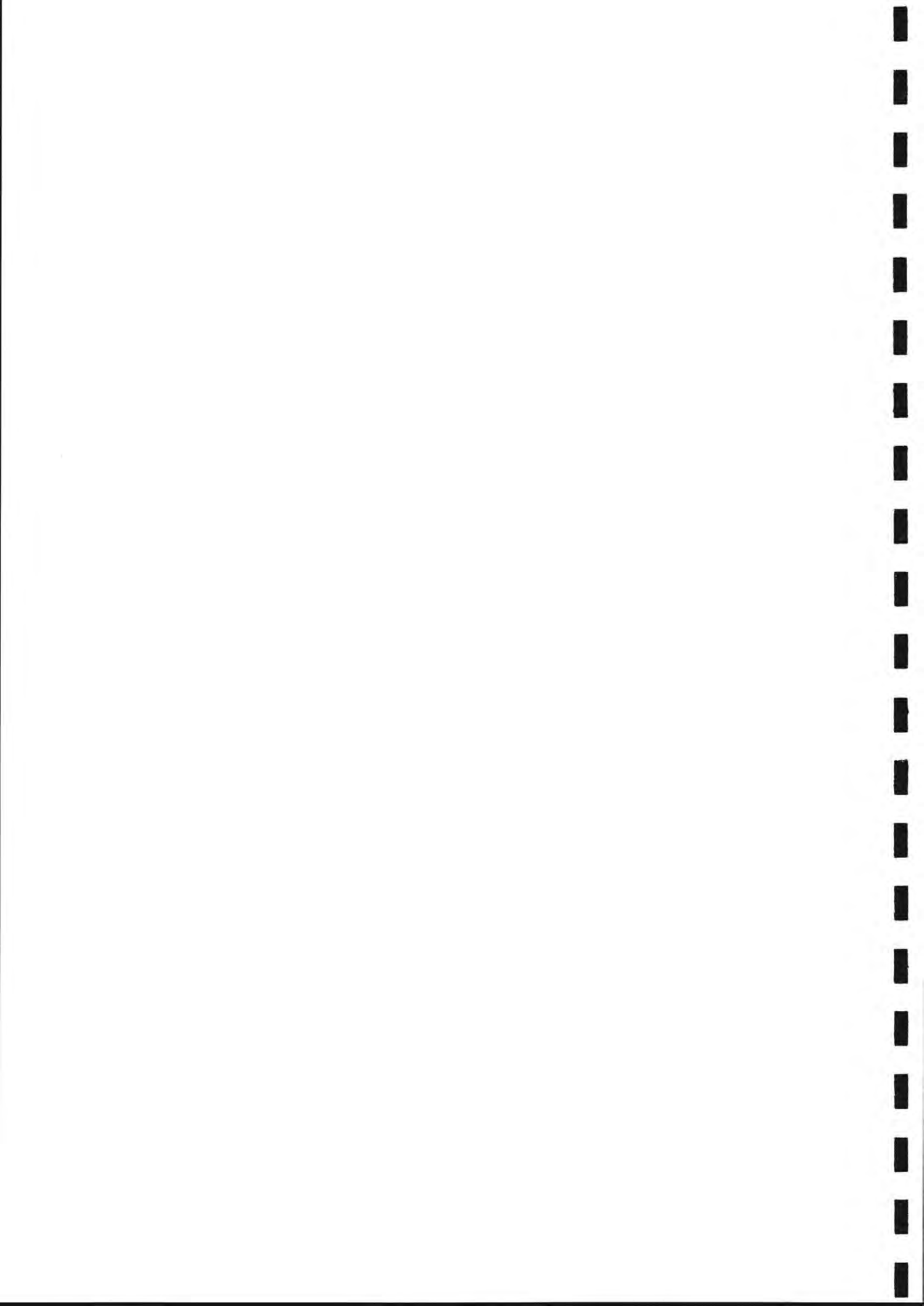
**COLORADO QUALITY RESEARCH, INC.**  
400 East County Road 72  
Wellington, Colorado 80549

**July 2001**



**TABLE OF CONTENTS****Comparison of Broiler Performance When Fed Diets Containing Events MON 863,  
Parental Line or Commercial Corn**Project No. MN-00-1  
(Monsanto Study No. 00-01-39-38)

Section	Title	Page No.
	Cover Page	1
	Table of Contents	2
I.	Title, Sponsor, Study Director, Dates	3
II.	Objective	3
III.	Materials and Methods	4
	A. Testing/Support Facilities	4
	B. Test & Control Articles	5
	C. Test System	6
IV.	Experimental Design	7
V.	Feed and Water	8
	A. Corn - Preparation and Samples	8
	B. Treatment Diets - Formulation & Preparation & Samples	8
	C. Assays	12
	D. Water	13
VI.	Housing and Management	13
	A. Housing	13
	B. Management	14
VII.	Processing - Yield data and Samples for Analysis	16
VIII.	Statistical Analysis	17
IX.	Dispositions	18
X.	Conduct of Study and Test Monitoring	18
XI.	Personnel	19
XII.	Results & Conclusion	19
XIII.	Study Director's Comments/Certification Statement	21
XIV.	Listing of Report Data Tables	22
XV.	Listing of Applicable SOPs	23
XVI.	Listing of Report Appendices	24



## CQR FINAL REPORT

Project No. MN-00-1  
(Monsanto Study No. 00-01-39-38)

### I. TITLE

Comparison of Broiler Performance When Fed Diets Containing Events MON 863, Parental Line or Commercial Corn

#### SPONSOR:

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St. Louis, Missouri 63167  
314-694-8521 phone  
314-694-8562 fax

#### SPONSOR MONITOR:

Mary Taylor  
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#### SPONSOR MANAGEMENT PERSONNEL:

Gary F. Hartnell, Ph.D.  
Sponsor Representative  
  
Patrick Weston  
Test Facility Management

Dr. James D. Astwood  
Director, Product Safety Center

#### STUDY DIRECTOR:

Beverly George, Ph.D.  
Colorado Quality Research, Inc.  
400 East County Road 72  
Wellington, Colorado 80549  
970-568-7738 phone  
970-568-7719 fax  
e-mail: [cqbamg@frii.com](mailto:cqbamg@frii.com)

#### IN-LIFE STUDY DATES:

Starting Date: September 13, 2000 (chicks placed – Day 0)  
In-life Completion: October 25, 2000 (day 42 - weights)  
October 26 & 27, 2000 (days 43 and 44 – processing)

### II. OBJECTIVE

This study was conducted to evaluate the nutritional value of diets containing Events MON 863 corn, parental and commercial lines of corn on broiler performance and carcass yield. This study was conducted according to FDA Good Laboratory Practice (GLP) Regulations (21CFR Part 58).

### III. MATERIALS AND METHODS

#### A. TESTING/SUPPORT FACILITIES

##### *Facility*

Colorado Quality Research, Inc.  
400 E. County Road 72  
Wellington, CO 80549

Agland, Inc.  
260 Factory Road  
Eaton, CO 80615

Monsanto Company  
700 Chesterfield Parkway  
St. Louis, Missouri 63198

Covance  
3301 Kinsman Blvd  
Madison, WI 53704  
(608) 242-2615

Dairy One Laboratory  
DHI Forage Analytical Lab  
730 Warren Road  
Ithaca, NY 14850

Joelyn Knoll-Brown  
3282 West County Road 72  
Ft. Collins, CO 80524

Dr. Wayne McWard  
Global Poultry Consulting, Inc.  
2602 Lindsey Grace Lane  
Buford, GA 30518

Experiment Station Chemical Laboratories  
University of Missouri  
Room 4, Agriculture Building  
Columbia, MO 65211-7170  
Dr. Thomas P. Mawhinney

Romer Labs, Inc.  
1301 Stylemaster Drive  
Union, Missouri 63084

##### *Purpose*

Office, Test & Control Article  
Storage, Feed preparation, Archives  
Test Animal Housing

Supplier of feed ingredients  
(except corn)

Supplier of varieties of corn  
Identification of test and  
control articles, Statistical analysis

Nutrient analysis of corn  
Amino acid, crude protein & moisture  
analysis of diets,  
Pesticide analysis of corn  
(FDA PAM 304 modified screen)

Treatment Diets – nutrient assays  
(except amino acids)

Quality Assurance

Nutrition consultant

Meat analysis (protein, fat, moisture)

Mycotoxin assays - corn

**B. TEST & CONTROL ARTICLES**

Test Article	MON 863 (produces a variant of the wild-type Cry3Bb1 protein)
Control Article	LH82 x A634 (parental control for MON 863)
Commercial controls	Non-genetically modified corn (commercial varieties) <ol style="list-style-type: none"><li>1. RX 826</li><li>2. DK 493</li><li>3. DK 521</li><li>4. DK 539</li><li>5. BX 86</li><li>6. DK 537</li></ol>

Information on growing conditions, herbicide application, harvest, storage and processing is available from Monsanto and is archived at Monsanto under studies 00-01-50-04 and 00-01-39-35.

Classification:	Feed ingredient
Chain of Custody:	Monsanto provided the chain-of-custody records for each variety delivered.
Shipping:	Monsanto was responsible for shipping of the test and control articles. All products were shipped in compliance with existing regulations.
Storage Conditions:	Ambient temperature during shipment and upon storage at CQR, in a secure area
Method of Administration:	Orally via complete feed
Frequency of Administration:	<i>Ad libitum</i> for 42 days starting at receipt of chicks (approximately 1 day of age)
Justification:	Feed was the standard route of administration
Preparation Before Use:	The total quantity of the corn added to the feed was thoroughly mixed in the feed to assure uniform dispersion. Starter diets were pelleted and crumbled and grower/finisher diets were pelleted.
Analyses:	Test and control articles were characterized by Monsanto under Monsanto Study Nos. 00-01-50-04 and 00-01-39-35. The compositional analysis of the corn grain conducted by Covance and mycotoxin analysis conducted by Romer Labs also were conducted under Monsanto Study Nos. 00-01-50-04 and 00-01-39-35.

**Accounting:**

All quantities of test & control article (corn) received, used and disposed of, were documented. Excess test and control products were disposed of according to the Sponsor's directions. Documentation is provided in the study records appended to this report.

**C. TEST SYSTEM****1. Justification:**

Commercial broiler chickens were the target animals and feed was the proposed route of administration.

**2 Specifications:**

Normal, healthy day-old chicks were obtained from Hoover's Hatchery for use in this test. Birds were transported from the hatchery location to the test facility via commercial airlines and ground transportation.

Species	Chicken ( <i>Gallus domesticus</i> )
Breed	Commercial broiler
Strain	Ross x Ross 508
Sex	Male & Female (sexed)
Supplier	Hoover's Hatchery, Rudd, Iowa
Age	~1 day of age upon receipt (study day 0) 42 days of age at final weights
Identification	Pen cards Birds were individually identified with wingbands prior to obtaining individual weights for yield data
Number of birds:	400 Males, 400 Females
Number of treatments:	8
Number of pens/treatment:	10 (5 pens of males and 5 pens of females)
Number of birds/pen:	10 (12 started and reduced to 10/pen at 7 days of age)
Number of birds/treatment:	100 (50 males, 50 females)
Total number of pens	80

**Day 7:**

On day 7, all birds within a pen were counted. When greater than 10 males or 10 females were present the extras were removed. Where extras were present, any unthrifty birds were removed first to bring the count to 10/pen. Removed birds were killed by cervical dislocation. All removed birds were weighed and recorded. There were 16 mortality during study days 0 - 7. Additionally, 144 extra birds were removed on day 7.

#### IV. EXPERIMENTAL DESIGN

Treatments were assigned to pens using a randomized complete block design. Birds were assigned to the pens randomly according to CQR SOP B-10. Specific treatments were designated as follows:

Treatment	Corn ID*	No. of Male Pens	No. of Female Pens	**No. of Males /Pen	**No. of Females /Pen	Total No. of Males	Total No. of Females	Total No. Birds/ Treatment
1	RX 826	5	5	10	10	50	50	100
2	DK 493	5	5	10	10	50	50	100
3	DK 521	5	5	10	10	50	50	100
4	DK 539	5	5	10	10	50	50	100
5	BX 86	5	5	10	10	50	50	100
6	DK 537	5	5	10	10	50	50	100
7	LH82 x A634	5	5	10	10	50	50	100
8	MON 863	5	5	10	10	50	50	100
TOTAL		40	40			400	400	800

\*The test and control articles were assigned to a specific treatment group by the Study Director. The assignment was placed in the study file. Only the Study Director and Feed Mill Manager had access to the treatment identification during the in-life phase of the study. Personnel conducting day-to-day management of birds were blinded to the treatment identification.

\*\*Two extra birds were started in each pen to compensate for losses incurred due to mortality, starve-outs and culls during days 0-7. On day 7, any extra birds remaining were removed as described above. This is a standard practice for research trials when feed conversion and body weights are the primary study data. Mortality due to starve-outs and cull chicks commonly occur in chicken feeding trials.

## **V. FEED AND WATER**

### **A. Corn - preparation and samples**

The corn used in this study was subjected to analysis as directed in Monsanto's Study Nos. 00-01-50-04 and 00-01-39-35. Copies of the analytical results, received from Monsanto, are appended to this report. Assays for pesticides, moisture, protein and amino acids were conducted by Covance Laboratory. Mycotoxin assays were conducted by Romer Labs. A copy of their results is appended to this report. The corn samples for analysis were submitted from the bulk grain lot and submitted to the Sponsor from the corn's point of origin. Subsequent sample submission to the labs for analysis was conducted by the Sponsor.

Corn was shipped to Colorado Quality Research, Inc. (CQR) in feed sacks, or bulk containers, contained on a pallet. Upon receipt, CQR maintained the identity of the different varieties of corn and conducted procedures (SOP FM-2) to assure there was no crossover or cross-contamination among the different varieties. Whole corn and ground corn was stored in a secure area at ambient temperature and humidity. When grinding the corn, the corn was sampled (subsamples from several different sacks, or areas within a container, of each corn variety were collected and composited). The corn was sampled prior to and after grinding. Sample size was approximately 500 g. At the completion of the in-life phase of the study the samples (before and after grinding samples) were sent to the Sponsor for long term storage.

The corn was ground at the CQR research feed mill using a Skyline Grinder (documentation is appended to this report). The commercial controls were ground first, followed by the control article and the test article last. Corn was ground through an  $\sim\frac{3}{4}$  inch screen. The grinder was flushed (either by running locally obtained commercial corn through the grinder and/or by blowing the grinder out with an air compressor) between each batch of corn that was being ground for this study (SOP FM-7). Each test and control article was labeled and packaged to preserve identity throughout the study. Labeling included Project No. and corn identification.

### **B. Treatment diets - formulation and preparation and samples**

After the nutrient and mycotoxin analyses of the corn varieties were completed (Tables 1 and 2 attached to this report), Dr. Wayne McWard of Global Poultry Consulting, Inc. formulated the diets based on the assay results of each variety of corn. The diets were formulated as shown below (Tables 3 and 4). Refer to the Experimental Design for the test or control corn assigned to each treatment. The complete printout of the diet formulations can be found in the appendix to this report.

**Table 3. Starter Diet Formulation (as-is basis)**

Ingredient	% of Each Ingredient in each of the Treatment Diets							
	1	2	3	4	5	6	7	8
Corn	56.34%	55.17%	54.89%	54.87%	57.29%	56.06%	62.64%	60.54%
Soybean Meal	36.70%	37.65%	37.95%	37.95%	35.85%	36.95%	31.45%	33.20%
Soy Oil	3.50%	3.70%	3.75%	3.75%	3.35%	3.55%	2.45%	2.80%
Deflourinated Phosphate	1.85%	1.85%	1.85%	1.85%	1.85%	1.80%	1.75%	1.75%
Limestone	0.70%	0.70%	0.65%	0.65%	0.75%	0.70%	0.80%	0.80%
Salt	0.27%	0.28%	0.27%	0.27%	0.28%	0.28%	0.29%	0.29%
DL-Methionine	0.24%	0.25%	0.24%	0.26%	0.23%	0.26%	0.22%	0.22%
Choline Chloride-60%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%
Trace Minerals	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%
Vitamins	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%
Sacox (coccidiostat)	0.05%	0.05%	0.05%	0.05%	0.05%	0.05%	0.05%	0.05%

**Table 4. Grower/Finisher Diet Formulation (as-is basis)**

Ingredient	% of Each Ingredient in each of the Treatment Diets							
	1	2	3	4	5	6	7	8
Corn	61.80%	60.58%	60.26%	60.25%	62.85%	61.52%	64.92%	64.46%
Soybean Meal	31.55%	32.60%	32.93%	32.90%	30.60%	31.85%	29.00%	29.40%
Soy Oil	3.40%	3.60%	3.65%	3.65%	3.25%	3.40%	2.90%	2.95%
Deflourinated Phosphate	1.75%	1.70%	1.75%	1.75%	1.75%	1.70%	1.60%	1.60%
Limestone	0.60%	0.60%	0.55%	0.55%	0.65%	0.60%	0.70%	0.70%
Salt	0.29%	0.29%	0.29%	0.29%	0.29%	0.30%	0.31%	0.31%
DL-Methionine	0.25%	0.27%	0.26%	0.28%	0.25%	0.28%	0.20%	0.22%
Choline Chloride-60%	0.11%	0.10%	0.10%	0.10%	0.11%	0.11%	0.12%	0.12%
Trace Minerals	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%
Vitamins	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%
Sacox (coccidiostat)	0.05%	0.05%	0.05%	0.05%	0.05%	0.05%	0.05%	0.05%

Note: values in Tables 3 and 4 are rounded to the nearest hundredth, therefore the totals may vary by  $\pm 0.01\%$

The formulated compositions of the starter (Table 5) and grower/finisher (Table 6) diets were as follows.

**Table 5. Starter Diets – Calculated Nutrient Composition**  
(see “Experimental Design” for corn ID associated with each Treatment No.)

Item <sup>a</sup>	Treatment Number							
	1	2	3	4	5	6	7	8
ME (cal/lb)	1399.73	1399.86	1400.40	1400.47	1399.48	1400.52	1400.05	1399.85
Dig. Arginine %	1.4322	1.4382	1.4513	1.4382	1.4052	1.4265	1.3569	1.3675
Dig. Lysine %	1.1718	1.1906	1.1951	1.1928	1.1492	1.1861	1.1132	1.1192
Dig. Methionine %	0.5600	0.5632	0.5621	0.5662	0.5637	0.5699	0.5550	0.5553
Dig. Met+cystine %	0.8613	0.8593	0.8631	0.8589	0.8609	0.8618	0.8624	0.8595
Dig. Tryptophan %	0.2387	0.2435	0.2433	0.2437	0.2367	0.2394	0.1989	0.2065
Dig. Threonine %	0.8018	0.8058	0.8057	0.8088	0.7958	0.8093	0.7852	0.7875
Crude Protein %	21.98	21.98	21.97	21.99	21.99	21.98	22.21	21.97
Moisture %	12.33	12.28	12.28	12.27	12.36	12.32	12.57	12.49
Arginine %	1.5106	1.5164	1.5304	1.5164	1.4868	1.5042	1.4313	1.4423
Lysine %	1.2386	1.2579	1.2625	1.2600	1.2179	1.2537	1.1797	1.1846
Methionine %	0.5765	0.5788	0.5781	0.5816	0.5831	0.5851	0.5729	0.5730
Met + Cystine %	0.9355	0.9309	0.9361	0.9293	0.9403	0.9323	0.9408	0.9370
Tryptophan %	0.2525	0.3444	0.2573	0.2577	0.2514	0.2533	0.2097	0.2176
Glycine %	0.9345	0.9354	0.9404	0.9351	0.9219	0.9383	0.9123	0.9094
Threonine %	0.8504	0.8494	0.8491	0.8524	0.8430	0.8534	0.8299	0.8316
Proline %	1.3192	1.2704	1.2512	1.2736	1.3342	1.3066	1.3973	1.3658
Crude Fat %	4.9505	5.2108	5.5009	5.3687	5.3152	4.9939	4.2628	4.9253
Crude Fiber %	2.2296	2.2203	2.1875	2.2860	2.1363	2.5978	2.4318	2.1868
Ash %	3.9856	4.0125	3.8823	4.0233	4.0554	3.8454	4.0900	4.0769
Calcium %	0.9515	0.9634	0.9410	0.9402	0.9585	0.9513	0.9477	0.9517
Phosphorus – Total %	0.7267	0.7368	0.7034	0.7006	0.7135	0.7163	0.7502	0.7520
Phosphorus – Avail. %	0.4510	0.4541	0.4479	0.4470	0.4517	0.4464	0.4526	0.4529
Salt %	0.3850	0.3864	0.3813	0.3808	0.3864	0.3879	0.4055	0.4035
Sodium %	0.2202	0.2212	0.2193	0.2191	0.2204	0.2189	0.2207	0.2208
Potassium %	0.9595	1.0060	0.9798	0.9628	0.9117	0.9683	0.9029	0.9279
Manganese ppm	135.67	136.65	135.53	135.21	135.58	135.75	135.79	135.93
Zinc ppm	126.52	129.05	126.83	125.29	125.99	127.49	128.31	128.45
Copper ppm	16.07	16.30	16.32	16.28	16.81	16.48	15.71	16.06
Selenium ppm	0.4664	0.4667	0.4669	0.4669	0.4660	0.4664	0.4644	0.4651

<sup>a</sup> ME = metabolizable energy, cal = calories, Dig. = digestible, Met = methionine  
All values are expressed on an as-is basis

**Table 6. Grower/Finisher Diets – Calculated Nutrient Composition**

(see "Experimental Design" for corn ID associated with each Treatment No.)

Item <sup>a</sup>	Treatment Number							
	1	2	3	4	5	6	7	8
ME (cal/lb)	1424.92	1425.45	1424.99	1425.32	1425.08	1424.36	1425.60	1424.96
Dig. Arginine %	1.2796	1.2867	1.3015	1.2856	1.2494	1.2743	1.2859	1.2569
Dig. Lysine %	1.0384	1.0594	1.0648	1.0609	1.0132	1.0549	1.0518	1.0229
Dig. Methionine %	0.5489	0.5561	0.5509	0.5587	0.5534	0.5576	0.5287	0.5381
Dig. Met+cystine %	0.8271	0.8287	0.8290	0.8273	0.8270	0.8256	0.8257	0.8262
Dig. Tryptophan %	0.2112	0.2166	0.2165	0.2166	0.2090	0.2122	0.1852	0.1852
Dig. Threonine %	0.7225	0.7271	0.7272	0.7298	0.7136	0.7312	0.7489	0.7312
Crude Protein %	19.95	19.96	19.96	19.96	19.95	19.96	21.29	20.55
Moisture %	12.47	12.43	12.42	12.42	12.50	12.47	12.60	12.58
Arginine %	1.3499	1.3567	1.3726	1.3557	1.3232	1.3439	1.3566	1.3258
Lysine %	1.0986	1.1202	1.1257	1.1216	1.0755	1.1160	1.1153	1.0836
Methionine %	0.5645	0.5706	0.5659	0.5730	0.5720	0.5717	0.5462	0.5551
Met + Cystine %	0.8962	0.8950	0.8969	0.8924	0.9018	0.8907	0.9019	0.9003
Tryptophan %	0.2238	0.3247	0.2292	0.2293	0.2224	0.2248	0.1954	0.1953
Glycine %	0.8453	0.8467	0.8524	0.8457	0.8312	0.8501	0.8713	0.8454
Threonine %	0.7679	0.7671	0.7670	0.7698	0.7594	0.7717	0.7921	0.7728
Proline %	1.2324	1.1794	1.1585	1.1821	1.2484	1.2194	1.3596	1.3075
Crude Fat %	4.9519	5.2203	5.5323	5.3883	5.3661	4.9472	4.7463	5.1779
Crude Fiber %	2.1452	2.1364	2.1000	2.2072	2.0424	2.5507	2.3963	2.1230
Ash %	3.6409	3.6715	3.5345	3.6860	3.7116	3.4893	3.8900	3.8111
Calcium %	0.8698	0.8678	0.8601	0.8591	0.8755	0.8710	0.8582	0.8586
Phosphorus – Total %	0.6902	0.6926	0.6648	0.6615	0.6756	0.6799	0.7156	0.7146
Phosphorus – Avail. %	0.4274	0.4219	0.4241	0.4231	0.4282	0.4233	0.4236	0.4231
Salt %	0.4044	0.4058	0.4007	0.3996	0.4058	0.4078	0.4240	0.4233
Sodium %	0.2206	0.2192	0.2198	0.2194	0.2208	0.2196	0.2196	0.2195
Potassium %	0.8695	0.9208	0.8923	0.8727	0.8166	0.8797	0.8601	0.8628
Manganese ppm	134.12	135.20	133.97	133.61	134.01	134.21	135.10	134.86
Zinc ppm	124.97	127.75	125.31	123.61	124.37	126.05	127.64	127.47
Copper ppm	15.37	15.62	15.65	15.60	16.18	15.83	15.38	15.58
Selenium ppm	0.4633	0.4638	0.4640	0.4639	0.4629	0.4636	0.4625	0.4627

<sup>a</sup> ME = metabolizable energy, cal = calories, Dig. = digestible, Met = methionine

All values are expressed on an as-is basis

Each treatment diet was assigned a code, 1, 2, 3, 4, 5, 6, 7, and 8. Personnel involved in the day-to-day management of the birds were blinded to the treatment descriptions.

The only sources of dietary protein used in this study were corn and soybean meal and supplemental methionine and lysine. All test diets were formulated to contain approximately equal amounts of the first six dietary essential amino acids (methionine, cystine, lysine, arginine, tryptophan, threonine), calcium, available phosphorus (estimated from NRC values), sodium and chloride. All diets conformed with the industry standards and/or met or exceeded the nutritional recommendations set forth in the publication "Nutritional Requirements of Poultry, 9th revision" by the National Research Council, 1994. A coccidiostat (Sacox-60 premix) was used at 60 g/ton in the feed to control coccidiosis. Basal diets (premixes without the test corn added) were not assayed for any growth promoters or contaminants that would interfere with the study objectives. However, none were expected to be present.

Treatment diets were mixed at the CQR feed mill according to the formulations provided by Dr. Wayne McWard. A 500 lb and 4000 lb capacity vertical mixer and a California Pellet Mill system were used to prepare the diets. Feed was pelleted through a 5 mm die with live steam addition. For each treatment, 400 lbs of starter and 1000 lbs of grower/finisher feed were mixed. The starter was prepared as crumbles and the grower/finisher was prepared as pellets. Prepared diets were stored at ambient temperature and humidity.

After the diets were crumbled or pelleted, samples were collected from the cooler prior to final bagging of the feed (or concurrent with bagging the feed). For each treatment and diet type (starter and grower/finisher) the samples (16) were composited, mixed and subsamples taken of about 300 g (3 samples) and 50 g (1 sample). The ~50 g samples were sent to Monsanto for line identification. An ~300 g sample of each was sent to Covance for crude protein, moisture and amino acid analysis; one ~300 g sample of each was sent to Dairy One Laboratory for nutrient analysis. The remaining ~300 g samples were retained at CQR and were stored in a secure area at ambient temperature and humidity. Upon completion of the in-life phase of the study, the samples were sent to Monsanto for long-term storage. All samples were sent under ambient temperature and humidity conditions.

### C. Assays

The following is a summary of the assays conducted by specific labs. However, the assay labs may have conducted and reported additional assays if they were included as part of an "assay package". Treatment diets were not assayed for salinomycin.

The treatment diets (after pelleting or crumbling) were assayed as follows. Both the starter and grower/finisher diets were assayed (16 samples total).

- Covance – amino acid profile (including tryptophan), moisture, crude protein (results are reported in Tables 7 and 8)

- Dairy One Laboratory – nutrient analysis as follows:  
(results are reported in Tables 7 and 8)

<ul style="list-style-type: none"> <li>• Crude protein by kjeldahl</li> <li>• Moisture</li> <li>• Fat</li> <li>• Crude fiber</li> <li>• Acid detergent fiber</li> <li>• Neutral detergent fiber</li> <li>• Ash</li> <li>• Calcium</li> <li>• Carbohydrates</li> </ul>	<ul style="list-style-type: none"> <li>• Phosphorus</li> <li>• Potassium</li> <li>• Sodium</li> <li>• Chloride</li> <li>• Magnesium</li> <li>• Sulfur</li> <li>• zinc</li> <li>• iron</li> <li>• manganese</li> <li>• copper</li> </ul>
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- Treatment diets were assayed by event specific PCR by Monsanto for line identification under CQR Protocol No. MN-00-1 (Monsanto No. 00-01-39-38). Although some runs were rejected due to contamination and no amplification of the endogenous gene, the accepted runs for MON 863 test diets confirmed positive for the Cry3Bb1 protein and the parental and commercial controls confirmed negative for the Cry3Bb1 protein.

Covance and Dairy One Laboratory assays of the starter and grower/finisher diets were conducted under CQR Project No. MN-00-1 (Monsanto Study No. 00-01-39-38).

#### D. Water

A copy of Colorado Quality Research, Inc. research facility semi-annual water analyses is appended to this final report. The water source was from the Northern Colorado Water Association. A copy of the Northern Colorado Water Association yearly water analysis report is also appended to this report. The water analysis results show that the water was potable and suitable for human and animal consumption.

## VI. HOUSING AND MANAGEMENT

### A. Housing

Assignment of treatments to pens was conducted using a computer (Excel) random numbers generator. The computer-generated assignment was as follows. Facility diagram showing pen layout is appended to this report.

Treatment	Pen Numbers	
	Female	Male
1	5, 24, 41, 51, 76	1, 26, 47, 56, 70
2	14, 25, 38, 63, 73	4, 30, 34, 54, 79
3	13, 23, 35, 60, 80	16, 19, 40, 62, 77
4	15, 18, 43, 53, 72	9, 17, 39, 64, 69
5	3, 22, 46, 52, 65	12, 32, 45, 49, 78
6	6, 20, 44, 57, 74	8, 27, 48, 58, 75
7	7, 21, 37, 61, 68	11, 28, 36, 55, 71
8	10, 29, 33, 59, 66	2, 31, 42, 50, 67

Birds were housed within an environmentally controlled facility in concrete floor pens (~5' x 3') providing ~0.9 ft<sup>2</sup> per bird. All birds were placed in clean pens containing approximately 4-5" of clean pine wood shavings. Lighting was via incandescent lights and the lighting program was similar to industry. The schedule was as shown below.

Bird ~ Age	~Hours of Light
0 - 6 days	23
6 - 11 days	10
11 - 19 days	12
19 - 42 days	16

Environmental conditions for the birds (i.e. floor space, temperature, lighting, bird density, feeder and water space) were similar for all experimental groups.

## B. Management

### Vaccinations:

Birds were vaccinated for Mareks at the hatchery. Birds were vaccinated for Newcastle and Infectious Bronchitis, via the drinking water, at 7 days of age. The vaccine was obtained from Fort Dodge Animal Health and identified as B<sub>1</sub> type, B<sub>1</sub> strain, Mass. and Conn. types, live virus (lot number 108810, expiration dated 3/28/01). A record of the vaccination is appended to this report. No other vaccinations or treatments (except the coccidiostat indicated above) were administered during the study.

### Water:

Water was provided *ad libitum* throughout the study via one hanging, ~14-inch diameter automatic bell drinker per pen. Drinkers were checked twice daily and cleaned as needed to assure a clean and constant water supply to the birds.

### Feed:

Feed was provided *ad libitum* throughout the study via one hanging, ~17-inch diameter tube feeder per pen. A chick feeder tray was also placed in each pen for the first 6 days. All birds were placed on their respective treatment diets upon receipt (study day 0) and diets were fed continuously for 42 days at which time the birds were weighed. After the body weights were taken, the feed was returned to the pens until the birds were processed.

All feed added and removed from pens was weighed and recorded. The change from starter to grower/finisher diet was conducted at the same time for all pens. The starter diet was fed from days 1 - 20 and the grower/finisher diet was fed for the remainder of the study.

**Daily observations:**

The test facility, pens and birds were observed at least twice daily for general flock condition, lighting, water, feed, ventilation and unanticipated events. There were no abnormal conditions or abnormal behavior observed throughout the study period. The minimum-maximum temperature of the test facility was recorded once daily. Observations and temperatures were recorded on the House Observation Record.

**Mortality:**

Starting on day 0, any bird that was removed, found dead or was sacrificed was weighed and recorded on the pen mortality record. All mortalities were necropsied to determine the probable cause of death. Probable cause of death and necropsy findings were recorded on the pen mortality record. Over all treatments the mortality averaged 2.3% for days 7 - 42. The majority of the mortality occurred with the male birds (16 males, 2 females).

**Body Weights & Feed Intake:**

Birds were weighed, by pen, on study day 0 (receipt of chicks) and at study end (day 42). Pens were selected and weighed in successive order within a block. Feed remaining in pen feeders was weighed concurrent with the day 42 body weights. Feed intake was calculated by taking the total amount of feed added to the pen minus the amount remaining. Birds were individually weighed immediately prior to slaughter for processing.

**Weight Gains and Feed Conversion:**

Performance data was summarized by average weight per bird on day 0 and 42. The average feed conversion was calculated for days 0 - 42 using the total feed consumption in a pen divided by the total weight of surviving birds. Adjusted feed conversion was calculated using the total feed consumption in a pen divided by the total weight of surviving birds and weight of birds that died or were removed from that pen.

**Scales:**

All scales used in preparation of feed and weighing of feed, birds and test and control articles were licensed by the State of Colorado. At each use, the scales were checked using standard weights according to CQR Standard Operating Procedures. A copy of the State scale inspection and license is provided in the appendix.

## VII. PROCESSING – YIELD DATA AND SAMPLES FOR ANALYSIS

After the final weights were obtained (day 42), all birds were individually wing banded with a unique number. After an approximately 12 hour feed withdrawal period, all birds from each pen were individually weighed and removed for processing. The males were processed on day 43 and the females were processed on day 44.

Birds were processed by first killing the bird (by severing the jugular). The birds were then scalded, plucked and eviscerated. The eviscerated bird was placed in an aerated chill tank (ice and water). The fat pads were removed and weighed during the eviscerating process. After the birds were chilled to ~6-8° C (~45 minutes in chill tank), the birds were removed from the chill tank and placed upright into a 50-gallon container. The birds were allowed to drain for at least 15 minutes (birds were maintained chilled by placing a bag of ice at the bottom and top of the 50-gallon container). After the birds had drained, the individual bird chill weight was obtained and then the bird was deboned and the individual parts were weighed and recorded.

1. Processing - yield data included the following (\*=bone in, skin on).

- Live weight (individual)
- Fat pad weight (individual)
- Chill weight (individual)
- Breast meat weight –skinless, boneless (individual)
- Wings\* (individual)
- Thighs\* (individual)
- Drums\* (individual)

Units of measure for the individual weights were recorded in either gram or kilogram and are reflected on the data collection form. Additional calculations were conducted to express parts on a percentage basis. Percentage calculations were conducted by taking the weight of the part and dividing it by the weight of the part it was expressed as a percentage (i.e. fat pad as a percentage of live weight = fat pad weight divided by live weight x 100 = % fat pad). The data tables also indicate where the percentage values are taken from.

2. Processing - samples for analysis.

After the birds were further processed and parts had been weighed, two birds from each pen were selected for collection of meat samples. The two birds were selected arbitrarily, i.e., for each pen the birds were sent through the processing line in no particular order and the meat was collected from birds in whatever order that was convenient for the procedure.

One bird was used for retention samples and the other bird was used for analysis samples. From each bird used for retention or analysis the breast (boneless, skinless) and both thighs (bone in, skinless) were collected.

### Retention Samples

From the birds used for retention samples, the entire breast was placed in one bag and both thighs were placed in another bag. The samples were labeled with the Study Number, pen number, treatment number, bird number, sex, date of collection and either breast or thigh meat. The retention samples were kept frozen (~-20° C) at CQR until the samples for analysis were delivered, at which time the retention samples were sent to the Sponsor (with wet ice) for long term storage.

### University of Missouri Samples

From the birds used for analysis, one-half breast and one thigh from each bird was placed in separate bags. The samples were labeled with the Study Number, pen number, treatment number, bird number, sex, date of collection and either breast or thigh meat. The samples were held refrigerated ( $\sim 5^{\circ}\text{C}$ ) for 2 – 3 days. The chilled samples were then sent (nonfrozen, with wet ice) to the University of Missouri for protein, fat and moisture analysis. Eighty breast samples and 80 thigh samples were sent to the University of Missouri.

### Monsanto Samples

The remaining one half breast and one thigh collected from the birds selected for analysis (only from the parental and test corn groups) were placed in separate bags. [Note: the remaining breast and thigh from birds fed the commercial corn were discarded.] The collected samples were labeled with the Study Number, pen number, treatment number, bird number, sex, date of collection and either breast or thigh meat. The samples were held frozen ( $\sim 20^{\circ}\text{C}$ ) for 2 – 3 days. The 40 frozen samples (20 each of breast and thigh meat) were sent (frozen, with wet ice) to Monsanto Company for DNA and/or protein analysis. The samples were sent to Ralph Simmons, Monsanto Company, Mail Stop BB5G, 700 Chesterfield Parkway North, St. Louis, MO 63198. The breast and thigh meat samples submitted to Monsanto for DNA and/or protein analyses were for a different study. The samples were analyzed for plant DNA and/or protein under the direction of James Jennings, Product Characterization Center, Monsanto, as part of non-GLP studies. The results of the analysis of the meat samples are not part of this study.

## VIII. STATISTICAL ANALYSIS

The Sponsor conducted the statistical analyses of the data and their detailed procedures and results are provided in their report, which is included in the appendix to this report. The Sponsor provided the Study Director with the statistical analysis for incorporation into this final report.

Statistical analyses were performed on starting and final live weights, feed consumption, feed efficiency, adjusted feed efficiency, chill weight, percent chill weight (chill weight/live weight), breast weight, percent breast weight (breast weight/chill weight), wing weight, percent wing weight (wing weight/chill weight), thigh weight, percent thigh weight (thigh weight/chill weight), drum weight, percent drum weight (drum weight/chill weight), fat pad weight, fat pad as a percentage of live weight, and moisture, protein, and fat for breast and thigh meat. Statistical analyses were also conducted on the mortality and removed birds' body weights, however that data is not included in this report because it is not appropriate. The mortality/removal bird weight data is used solely to calculate the adjusted feed conversion.

Since the pens were set up as a randomized complete block design with the diet treatments in each of five replicated blocks of pens, the standard randomized block analysis of variance (ANOVA) statistical model was used to analyze the data. Means were compared to each other at the 5% level of significance. An additional analysis was done to compare the fit of corn event MON863 to the population of responses from the reference varieties. The test was to determine if the responses obtained from animals in the corn event MON863 treatment group were consistent with the expected variation of responses of animals fed the other corn varieties. This analysis was carried out using a linear mixed model procedure ( $P < 0.05$ ) from SAS Institute, Cary, NC.

## IX. DISPOSITIONS

### *Excess Test and Control Article, Duplicate meat samples*

An accounting of all corn received and used was documented. Any corn not used to mix the complete feed was disposed of by burial at a local commercial landfill, or was used or discarded as directed by the Sponsor. Documentation of the disposition of corn is appended to this report. Retention corn samples were sent (at ambient temperature and humidity) to the Sponsor for archiving at study end. The retention duplicate meat samples were sent (frozen, with wet ice) to the Sponsor at study end.

### *Feed*

An accounting was maintained of all treatment diets. The amount mixed, used and discarded was documented. Unused feed was disposed of by placing into a dumpster for commercial transport to a local landfill for burial. Retention feed samples were sent (at ambient temperature and humidity) to the Sponsor for archiving at study end.

### *Test Animals*

An accounting was maintained of all birds received for the study. All surviving birds were sacrificed at study end for processing data. All mortalities, removed birds and the carcasses and meat from birds processed at study end were disposed of by placing into a dumpster for commercial pick up and transport to a local landfill for burial.

### *Records and Report*

Audited data was sent to the Sponsor for statistical analyses. After review of draft reports and after the statistician's signed report, a signed final report, including all information required by FDA GLP regulations was prepared by the Study Director and sent to the Sponsor. A signed QA statement was attached to the final report. Any further revision to the report will be documented as Report Amendment(s).

An exact copy of the final report and all records on the study are being kept for 5 years at the CQR archive. The CQR archive is located at 400 East County Road 72, Wellington, Colorado. The original records and report have been sent to the Sponsor. The Sponsor has been provided with a copy of the data in Excel files. The Sponsor's reports (statistical analysis, line identification and compositional analysis of the grain) are stored at the archives of the Monsanto Company, St. Louis, Missouri.

## X. CONDUCT OF STUDY AND TEST MONITORING

This study was conducted in accordance with this protocol, protocol amendments and CQR Standard Operating Procedures. This study was conducted in compliance with the Food and Drug Administration's "Good Laboratory Practice Regulations for Nonclinical Laboratory Studies" (21CFR, Part 58), and monitored for such compliance by Joelyn K. Brown, Quality Assurance Officer. Specific items that were not conducted under GLP were: nutrient assays at Dairy One Laboratory; Covance assays of treatment diets (amino acids, moisture and

protein), semi-annual water analysis; Agland ingredient preparation, Global Poultry Consulting, Inc. starter and grower/finisher diet formulations, University of Missouri analysis of breast and thigh meat, and yearly scale licensing by the State of Colorado. If this study is reviewed by any government agency the Study Director will immediately notify the study monitor.

## XI. PERSONNEL

Key personnel involved in this study were as follows:

Sponsor Monitor	Mary L. Taylor
Test Facility Management	Patrick Weston
Sponsor Representative	Gary F. Hartnell, Ph.D.
Sponsor Quality Assurance	Paula Price
Statistician	David Mark Carpenter, Ph.D.
Molecular Analyst	Chad Powell
CQR Management	Carey L. Charles, Ph.D.
Study Director	Beverly George, Ph.D.
Research Farm Director	David C. Doerr, M.S.
Research Technician	Becky Alps, B.S.
Research Technician	Charles Ashlock, B.S.
Research Technician	Steve Nixon, B.S.
Research Technician	Gabriel Yanez
Processing Supervisor	William Adrian, Ph.D.
Quality Assurance Officer	Joelyn Knoll-Brown
Nutritionist	Wayne McWard, Ph.D.
Processing	Brenda Moody
Processing	Elsa Adrian
Processing	Stephen Kerr, DVM
Processing	Dennis Madden, B.S.
Processing	Danny Walker, Ph.D.
Processing	Terry Spraker, DVM
Processing	Denise Spraker
Processing	Gene Schoonveld, M.S.

## XII. RESULTS AND CONCLUSION

### Results

Ground corn assay results are presented in Table 1 and 2. No unusual values were reported. The levels of fumonisin reported for the corn in Table 2 were very low (<1 ppm) and considered insignificant. The line identifications of the corn grain and treatment diets were confirmed as expected at Monsanto and are archived under Monsanto study numbers 00-01-50-04, 00-01-39-35 and 00-01-39-38. The assay results of the starter and grower/finisher treatment diets are presented in Tables 7 and 8 respectively. The nutrient assay results for the starter and grower/finisher diets met industry standards based on a review conducted by the consulting nutritionist, Dr. McWard of Global Poultry Consulting, Inc. A few assay values were slightly above or below NRC values, but this was attributed to assay method variability and the different moisture level of the various diets and not to the corn lines specifically.

Individual pen and/or individual bird performance data for the study are presented in Appendix Tables 1 through 4. Appendix Tables 5 and 6 summarize the moisture, protein and fat analysis of chicken thighs and breasts, respectively. Appendix Table 7 shows the date, study day and weight of birds that died or were removed during the study. Processing data is presented in Appendix Tables P1, P2 and P3.

Expected chick mortality (16 birds, 1.8%) related to starve-outs, dehydration, or generally being unthrifty was observed during the first 7 days of the study. This mortality, which occurs commonly in chicks in commercial feeding trials, was randomly distributed among all groups without any relationship to treatment. During the remainder of the study, pen sizes were normalized to a maximum of 10 birds/pen. The birds that died from day 7 to study termination (Appendix Table 3) were randomly distributed among different groups without any specific relationship to treatment (deaths per treatment group averaged 2.3% and ranged from 0% to 7% across all treatment groups). The greatest number of mortality occurred with the males (4% males Vs 0.5% females); this is expected since the males grow faster and are heavier. Most of the apparent causes of death were identified at necropsy and occur commonly in chickens (sudden death syndrome and ascites). The birds in all groups were in good health based on twice daily pen observations. The starting and final body weights of the chicks were normal and the average pen body weights were comparable between treatments.

All detailed statistical methods and results can be found in the statistician's report located in the appendix, "supporting reports" section. Table 9 of this report presents the summary of the male and female data combined. Results on males and females separately can be found in the statistical report.

As shown in Table 9 of this report all performance parameters measured were similar ( $P>0.05$ ) across the broilers fed diets of MON 863 corn, parental control corn, and corn from commercially available reference varieties. In addition, broilers fed diets containing MON 863 corn had similar feed efficiency to the parental (LH82 x A634) and all reference lines and similar adjusted feed efficiency to the parental and two of the six commercially available reference lines (RX826 and DK539). The other four reference corn line diets had slightly better adjusted feed efficiencies (on average, 1.9% better than MON 863).

In addition, breast and thigh meat quality values and carcass measurements of live weight, chill weight on a weight basis, fat pad (on a weight basis or as a percentage of the live weight) and thigh, drum, and wing (all on a weight basis) showed that there were no statistically significant differences between treatments ( $P>0.05$ ). When expressed as a percentage of the live weight, the chill weight of broilers fed diets containing MON 863 were not different from the chill weight of broilers fed the nontransgenic parental line and four of the reference lines. When expressed as a percentage of the chill weight, thigh, drum, and wing weights were not different from the nontransgenic parental line and multiple reference lines.

When expressed on a weight basis, breast meat weights of the MON 863 fed broilers were not different from the breast meat weights of broilers fed the nontransgenic parental line and four of the reference lines. However, breast meat weights of the broilers fed MON 863 diets were statistically significantly less than two of the reference lines (DK521 and DK539) when expressed on a weight basis and statistically significantly less than these and three additional reference lines (RX826, DK493, and DK537) when expressed on a percent chill weight basis.

This was the only instance, breast weight on a percent chill weight basis, for which a statistically significant diet by sex interaction was observed. However, when individual sex (male and female) comparisons were made for this parameter, no statistically differences were observed in the females, and the MON 863 was not statistically different from the nontransgenic parental line, LH82 x A634, or one of the reference lines, BX86. The statistically significant differences due to diets were between MON 863 and the other five reference lines.

Comparison of the MON 863 corn event to the population of reference diets showed no differences in all performance and meat quality parameters and in most carcass yield parameters measured. There was a significant difference ( $P < 0.05$ ) in the fat pads of females (on a weight basis and percent of live weight basis) between MON863 and the population of reference diets. These minor differences in the females were not observed in the males.

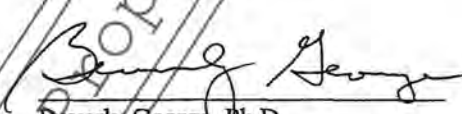
### Conclusion

There were no biologically relevant differences in the parameters tested between broilers fed the corn event MON 863 and its parent, LH82xA634. In addition, when individual treatment comparisons were made, broilers in general performed and had similar carcass yield and meat composition with diets containing MON 863, the parental control, or five commercially available reference lines. As a result, it was concluded that corn containing the MON 863 event was as wholesome as its corresponding nontransgenic parental line and six commercially available reference lines regarding its ability to support the rapid growth of broilers.

### XIII. STUDY DIRECTOR'S COMMENTS/CERTIFICATION STATEMENT

No adverse effects were observed. There were no known circumstances that may have affected the data quality or integrity. There were no unanticipated events observed during the study. The birds in this study performed as expected. All body weight, feed conversion, and yield data were within normal ranges for broilers of this age. A Quality Assurance statement is attached to this report.

I, Dr. Beverly George, Study Director, attest that Study No. MN-00-1 (Monsanto No. 00-01-39-38) was conducted according to the Protocol and Protocol Amendments and that the data were collected and recorded in accordance with the applicable Food and Drug Administration, Center for Veterinary Medicine (CVM) Guidelines.

  
Beverly George, Ph.D.  
Study Director

7-11-01  
Date

**XIV. LISTING OF DATA TABLES** (in or attached to this report)

Table 1. Pesticide, nutrient and amino acid assays of corn (as-is basis)

Table 2. Mycotoxin assays of corn (as-is basis)

Table 3. Starter Diet Formulation (page 9 of text)

Table 4. Grower/Finisher Diet Formulation (page 9 of text)

Table 5. Starter Diets – Calculated Nutrient Composition (page 10 of text)

Table 6. Grower/Finisher Diets – Calculated Nutrient Composition (page 11 of text)

Table 7. Nutrient composition of the starter treatment diets (as-is basis)

Table 8. Nutrient composition of the grower/finisher treatment diets (as-is basis)

Table 9. Performance of broilers, carcass yield and protein and fat composition of breast and thighs (mean values of males and females). Comparison of transgenic corn line MON 863 with its parental control LH82 x A634 and six reference lines.

## XV. LISTING OF CQR'S APPLICABLE SOPS (in Appendix to this report)

SOP No.	Title	Revision Number	Effective Date
B-1	House Preparation	3	1-26-98
B-2	Care and Management of Poultry	7	1-24-98
B-6	Vaccination of Poultry	4	12-21-98
B-7	Feeding Poultry	4	12-21-98
B-9	Scale & Thermometer Accuracy Checks and Certification of Standard Weights	9	6-26-00
B-10	Randomization of Treatments to Pen and Test Animal to Pens	5	5-25-95
B-12	Emergency Power During Electrical Failure	9	12-27-99
B-13	Sanitation and Restricted Access	3	5-22-95
B-16	Necropsy of Mortality	4	12-21-98
B-21	Weighing Poultry	4	12-21-98
B-22	Euthanasia and Disposal of Avian Species	3	4-24-95
B-29	Probable Mortality Causes	3	11-3-94
B-34	Culling and Sacrifice of Moribund Test Animals	1	10-10-94
B-64	Facility Logs and Daily Observations	2	12-21-98
B-66	Lighting Program	2	6-10-99
B-71	Processing Poultry	-	1-10-00
M-11	Data Recording & Correction of Errors	1	4-8-96
FM-2	Test Article Receipt, Handling During Use, Accounting and Final Disposition	2	12-2-98
FM-5	Test Article Weighments and Premix Preparation	2	12-2-98
FM-3	Feed Receipt, Mixing and Storage	3	2-28-00
FM-4	Feed Sampling Procedures	2	12-2-98
FM-6	Flushing Feed Mill	2	12-2-98
FM-7	Grinding Corn and Other Ingredients	1	12-2-98

**XVI. LISTING OF REPORT APPENDICES****Tables & Graphs**

- Appendix Table 1. Day 0 body weights (9/13/00)
- Appendix Table 2. Performance data at 42 days of age (10/25/00)
- Appendix Table 3. Summary of mortality and probable cause of death from 7-42 days of age
- Appendix Table 4. Feed added, and weighed back, by pen
- Appendix Table 5. Moisture, protein and fat analysis of chicken thighs ('as-is' basis)
- Appendix Table 6. Moisture, protein and fat analysis of chicken breasts ('as-is' basis)
- Appendix Table 7. Individual mortality/removal weights, by date and study day of death
- Table P1. Summary, by pen, of processing data at 43 & 44 days of age (10/26 & 10/27/00)
- Table P2. Individual male bird processing data at 43 days of age (10/26/00)
- Table P3. Individual female bird processing data at 44 days of age (10/27/00)
- Graph G1. Summary of Day 7-42 mortality, by sex
- Graph G2. Summary of Day 42 Treatment Average Bird Weight and Adjusted Feed Conversion
- Graph G3. Summary of Day 43 and Day 44 Processing Data – Male & Female combined
- Graph G4. Summary analysis of thigh meat samples – Male & Female combined
- Graph G5. Summary analysis of breast meat samples – Male & Female combined

**Quality Assurance Statement****Supporting Reports****Test and Control Articles (Corn)**

- Receipt & accounting
- Grinding
- Assay reports and sample submission records

**Personnel, facility, protocol**

- Protocol, Protocol Amendments
  - w/ facility diagram with treatment assignment to pens
- Personnel signature list
  - w/ documentation of involved personnel
- Applicable SOPs
- Misc. – Notes to File, Correspondence, NRC table, Weather reports

**Diets**

- Diet code and formulations
- Mixing records, feed accounting summary and disposition
- Assay reports and sample submission records
- Global Poultry Consulting – diet formula printouts

**Test Birds**

- Receipt, accounting, disposition

**Scale Check Records, State Scale License, Water Assay Report****Data**

- Body Weights
- Feed Added and Weighed Back
- Mortality/Necropsy
- Daily logs, house observation/temperature
- Processing – yield data
- Processing – assay results of breast & thigh meat samples

# STATEMENT FROM CQR QUALITY ASSURANCE UNIT

Project No. MN-00-1  
(Monsanto No. 2000-01-39-38)

This study was conducted in compliance with the FDA Good Laboratory Practice Regulations 21CFR 58. Quality Assurance inspections of study phases were carried out on the following dates and results reported to Management and the Study Director.

Study Phase Inspected	Inspected By	Dates Inspected	Date Reported to Study Director/ Management
Draft Protocol	J. Knoll-Brown	8/21/00	8/31/00
Corn grinding & bagging and sampling	J. Knoll-Brown	8/21/00	8/31/00
Diet preparation phase	J. Knoll-Brown	8/22 & 9/1/00	11/9/00
Remove extra birds day 7	J. Knoll-Brown	9/20/00	11/9/00
Bird weights	J. Knoll-Brown	10/25/00	11/13/00
Processing males & females	J. Knoll-Brown	10/26 & 10/27/00	11/13/00
Data Audit	J. Knoll-Brown	10/4 & 10/9/00	11/9/00
Data Audit	J. Knoll-Brown	10/27, 10/30 & 11/1/00	11/13/00
Data Audit	J. Knoll-Brown	12/19/00	12/22/00
Draft Report review	J. Knoll-Brown	6/20 & 6/21/01	6/22/01
Final report review	J. Knoll-Brown	7/11/01	7/11/01

Joelyn Knoll-Brown  
Quality Assurance Officer

Date

Table 1. Pesticide, nutrient and amino acid assays of ground corn (as-is basis). CQR Project No. MN-00-1

CQR Treatment ID Monsanto Corn ID Covance Lab ID	1 RX 826 00105823	2 DK 493 00105818	3 DK 521 00105815	4 DK 539 00105816	5 BX 86 00105820	6 DK 537 00105821	7 LH82xA634 702792	8 MON 863 70293
<b>Pesticides (ppm)</b>								
Organophosphates	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Organonitrogens	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
Organochlorinated	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200
N-Methylcarbamates	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
<b>Nutrients (%)</b>								
Crude protein	7.85	7.22	6.99	7.02	8.18	7.63	9.93	11.30
Moisture	12.3	11.6	11.6	11.4	14.8	12.4	10.8	10.6
Total fat	2.37	2.53	2.98	2.74	3.23	2.37	3.32	2.71
Ash	1.10	1.06	0.892	1.15	1.21	0.822	1.35	1.50
Carbohydrates	76.4	77.6	77.5	77.7	72.6	76.8	74.6	73.9
Neutral Detergent Fiber (%)	7.94	9.21	9.11	8.07	7.89	10.3	11.6	9.16
Acid Detergent Fiber (%)	2.48	2.34	2.34	2.29	2.41	2.66	2.29	2.66
Crude Fiber (%)	1.71	1.67	1.60	1.78	1.57	2.36	1.72	2.15
<b>Minerals</b>								
Calcium, %	0.0031	0.0048	0.0040	0.0039	0.0014	0.0056	0.0033	0.0034
Magnesium, %	0.0957	0.1080	0.0922	0.0722	0.0831	0.1030	0.1260	0.1290
Phosphorus, %	0.2750	0.2880	0.2250	0.2220	0.2570	0.2710	0.3650	0.3680
Potassium, %	0.3330	0.3880	0.3310	0.3000	0.2750	0.3410	0.3790	0.3850
Sodium, %	<0.010	<0.010	<0.010	<0.010	0.0101	<0.010	<0.010	<0.010
Sulfur, %	0.076	0.069	0.047	0.069	0.063	0.064	0.093	0.088
Chloride, %	0.060	0.056	0.066	0.053	0.032	0.057	0.049	0.046
Copper, ppm	1.14	1.31	1.29	1.21	2.63	1.81	1.90	1.68
Iron, ppm	16.0	13.8	9.21	11.0	21.8	11.5	22.8	22.5
Manganese, ppm	4.83	6.09	3.89	3.31	5.11	4.83	6.96	7.49
Zinc, ppm	16.2	20.3	16.1	13.3	15.7	17.8	21.0	21.4

Table 1. Pesticide, nutrient and amino acid assays of ground corn (as-is basis). CQR Project No. MN-00-1

CQR Treatment ID Monsanto Corn ID Covance Lab ID	1 RX 826 00105823	2 DK 493 00105818	3 DK 521 00105815	4 DK 539 00105816	5 BX 86 00105820	6 DK 537 00105821	7 LH82xA634 702792	8 MON 863 70293
<b>Amino Acids (%)</b>								
Aspartic Acid	0.530	0.508	0.506	0.491	0.546	0.568	0.677	0.770
Threonine	0.272	0.254	0.244	0.251	0.276	0.279	0.335	0.374
Serine	0.367	0.343	0.340	0.349	0.392	0.370	0.463	0.527
Glutamic Acid	1.450	1.300	1.280	1.270	1.590	1.440	2.010	2.220
Proline	0.750	0.638	0.591	0.635	0.758	0.719	0.904	0.993
Glycine	0.320	0.295	0.294	0.285	0.306	0.319	0.370	0.420
Alanine	0.592	0.527	0.515	0.511	0.642	0.590	0.818	0.901
Cystine	0.177	0.151	0.165	0.146	0.172	0.153	0.211	0.230
Valine	0.409	0.363	0.356	0.338	0.408	0.404	0.524	0.588
Methionine	0.161	0.130	0.144	0.123	0.179	0.129	0.214	0.226
Isoleucine	0.282	0.253	0.243	0.233	0.310	0.287	0.409	0.452
Leucine	0.972	0.849	0.827	0.828	1.100	0.969	1.420	1.570
Tyrosine	0.259	0.248	0.229	0.239	0.280	0.249	0.363	0.363
Phenylalanine	0.374	0.342	0.332	0.331	0.420	0.389	0.534	0.607
Histidine	0.256	0.213	0.209	0.206	0.233	0.229	0.286	0.331
Lysine	0.258	0.249	0.242	0.238	0.248	0.273	0.319	0.384
Arginine	0.391	0.351	0.359	0.334	0.374	0.365	0.448	0.514
Tryptophan	0.0506	0.0509	0.0474	0.0482	0.0542	0.0498	0.0242	0.0279

% = percent of corn

Results reported here are from assays conducted under Monsanto Study No. 00-01-50-04 and 00-01-39-35.

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Table 2. Mycotoxin assays of corn (as-is basis). CQR Project No. MN-00-1

CQR Treatment ID Monsanto Corn ID		1 RX 826 Ground	2 DK 493 Ground	3 DK 521 Ground	4 DK 539 Ground	5 BX 86 Ground	6 DK 537 Ground	7 LH82xA634 Ground	8 MON 863 Ground
Detection Limit & Units									
Aflatoxin B1	1.0 ppb	ND	ND	ND	ND	ND	ND	ND	ND
Aflatoxin B2	1.0 ppb	ND	ND	ND	ND	ND	ND	ND	ND
Aflatoxin G1	1.0 ppb	ND	ND	ND	ND	ND	ND	ND	ND
Aflatoxin G2	1.0 ppb	ND	ND	ND	ND	ND	ND	ND	ND
Ochratoxin A	5 ppb	ND	ND	ND	ND	ND	ND	ND	ND
Citrinin	0.2 ppm	ND	ND	ND	ND	ND	ND	ND	ND
T-2 Toxin	0.1 ppm	ND	ND	ND	ND	ND	ND	ND	ND
HT-2 Toxin	0.1 ppm	ND	ND	ND	ND	ND	ND	ND	ND
Diacetoxyscirpenol	0.3 ppm	ND	ND	ND	ND	ND	ND	ND	ND
Neosolaniol	0.5 ppm	ND	ND	ND	ND	ND	ND	ND	ND
Fusarenon X	0.5 ppm	ND	ND	ND	ND	ND	ND	ND	ND
Deoxynivaenol	0.1 ppm	ND	ND	0.70	0.10	ND	ND	ND	ND
15 Acetyl-DON	0.1 ppm	ND	ND	0.10	ND	ND	ND	ND	ND
3 Acetyl-DON	0.1 ppm	ND	ND	ND	ND	ND	ND	ND	ND
Nivalenol	0.5 ppm	ND	ND	ND	ND	ND	ND	ND	ND
Zearalenone	100 ppb	ND	ND	ND	ND	ND	ND	ND	ND
Fumonisin B1	0.1 ppm	0.30	0.20	0.50	0.30	0.70	0.50	ND	ND
Fumonisin B2	0.1 ppm	ND	ND	ND	ND	ND	0.10	ND	ND
Fumonisin B3	0.1 ppm	ND	ND	ND	ND	ND	ND	ND	ND

ND = none detected

Results reported here are from assays conducted under Monsanto Study No. 00-01-50-04 and 00-01-39-35

**Table 3. Starter Diet Formulation (as-is basis)**

Ingredient	% of Each Ingredient in each of the Treatment Diets							
	1	2	3	4	5	6	7	8
Corn	56.34%	55.17%	54.89%	54.87%	57.29%	56.06%	62.64%	60.54%
Soybean Meal	36.70%	37.65%	37.95%	37.95%	35.85%	36.95%	31.45%	33.20%
Soy Oil	3.50%	3.70%	3.75%	3.75%	3.35%	3.55%	2.45%	2.80%
Deflourinated Phosphate	1.85%	1.85%	1.85%	1.85%	1.85%	1.80%	1.75%	1.75%
Limestone	0.70%	0.70%	0.65%	0.65%	0.75%	0.70%	0.80%	0.80%
Salt	0.27%	0.28%	0.27%	0.27%	0.28%	0.28%	0.29%	0.29%
DL-Methionine	0.24%	0.25%	0.24%	0.26%	0.23%	0.26%	0.22%	0.22%
Choline Chloride-60%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%
Trace Minerals	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%
Vitamins	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%
Sacox (coccidiostat)	0.05%	0.05%	0.05%	0.05%	0.05%	0.05%	0.05%	0.05%

**Table 4. Grower/Finisher Diet Formulation (as-is basis)**

Ingredient	% of Each Ingredient in each of the Treatment Diets							
	1	2	3	4	5	6	7	8
Corn	61.80%	60.58%	60.20%	60.23%	62.85%	61.52%	64.92%	64.46%
Soybean Meal	31.55%	32.60%	32.95%	32.90%	30.60%	31.85%	29.00%	29.40%
Soy Oil	3.40%	3.60%	3.65%	3.65%	3.25%	3.40%	2.90%	2.95%
Deflourinated Phosphate	1.75%	1.70%	1.75%	1.75%	1.75%	1.70%	1.60%	1.60%
Limestone	0.60%	0.60%	0.55%	0.55%	0.65%	0.60%	0.70%	0.70%
Salt	0.29%	0.29%	0.29%	0.29%	0.29%	0.30%	0.31%	0.31%
DL-Methionine	0.25%	0.27%	0.26%	0.28%	0.25%	0.28%	0.20%	0.22%
Choline Chloride-60%	0.11%	0.10%	0.10%	0.10%	0.11%	0.11%	0.12%	0.12%
Trace Minerals	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%
Vitamins	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%
Sacox (coccidiostat)	0.05%	0.05%	0.05%	0.05%	0.05%	0.05%	0.05%	0.05%

Note: values in Tables 3 and 4 are rounded to the nearest hundredth, therefore the totals may vary by  $\pm 0.01\%$ .

CQR Project No. MN-00-1 – Table 5 from Page 10 of this Report

**Table 5. Starter Diets – Calculated Nutrient Composition**  
(see “Experimental Design” for com ID associated with each Treatment No.)

Item <sup>a</sup>	Treatment Number							
	1	2	3	4	5	6	7	8
ME (cal/lb)	1399.73	1399.86	1400.40	1400.47	1399.48	1400.52	1400.05	1399.85
Dig. Arginine %	1.4322	1.4382	1.4513	1.4382	1.4052	1.4265	1.3569	1.3675
Dig. Lysine %	1.1718	1.1906	1.1951	1.1928	1.1492	1.1861	1.1132	1.1192
Dig. Methionine %	0.5600	0.5632	0.5621	0.5662	0.5637	0.5699	0.5550	0.5553
Dig. Met+cystine %	0.8613	0.8593	0.8631	0.8589	0.8609	0.8618	0.8624	0.8595
Dig. Tryptophan %	0.2387	0.2435	0.2433	0.2437	0.2367	0.2394	0.1989	0.2065
Dig. Threonine %	0.8018	0.8058	0.8057	0.8088	0.7958	0.8093	0.7852	0.7875
Crude Protein %	21.98	21.98	21.97	21.99	21.99	21.98	22.21	21.97
Moisture %	12.33	12.28	12.28	12.27	12.36	12.32	12.57	12.49
Arginine %	1.5106	1.5164	1.5304	1.5164	1.4868	1.5042	1.4313	1.4423
Lysine %	1.2386	1.2579	1.2625	1.2600	1.2179	1.2537	1.1797	1.1846
Methionine %	0.5765	0.5788	0.5781	0.5816	0.5831	0.5851	0.5729	0.5730
Met + Cystine %	0.9355	0.9309	0.9361	0.9293	0.9403	0.9323	0.9408	0.9370
Tryptophan %	0.2525	0.3444	0.2573	0.2577	0.2514	0.2533	0.2097	0.2176
Glycine %	0.9345	0.9354	0.9404	0.9351	0.9219	0.9383	0.9123	0.9094
Threonine %	0.8504	0.8494	0.8491	0.8524	0.8430	0.8534	0.8299	0.8316
Proline %	1.3192	1.2704	1.2512	1.2736	1.3342	1.3066	1.3973	1.3658
Crude Fat %	4.9505	5.2108	5.5009	5.3687	5.3152	4.9939	4.2628	4.9253
Crude Fiber %	2.2296	2.2203	2.1875	2.2860	2.1363	2.5978	2.4318	2.1868
Ash %	3.9856	4.0125	3.8823	4.0233	4.0554	3.8454	4.0900	4.0769
Calcium %	0.9515	0.9634	0.9410	0.9402	0.9585	0.9513	0.9477	0.9517
Phosphorus – Total %	0.7267	0.7368	0.7034	0.7006	0.7135	0.7163	0.7502	0.7520
Phosphorus – Avail. %	0.4510	0.4541	0.4479	0.4470	0.4517	0.4464	0.4526	0.4529
Salt %	0.3850	0.3864	0.3813	0.3808	0.3864	0.3879	0.4055	0.4035
Sodium %	0.2202	0.2212	0.2193	0.2191	0.2204	0.2189	0.2207	0.2208
Potassium %	0.9595	1.0060	0.9798	0.9628	0.9117	0.9683	0.9029	0.9279
Manganese ppm	135.67	136.65	135.53	135.21	135.58	135.75	135.79	135.93
Zinc ppm	126.52	129.05	126.83	125.29	125.99	127.49	128.31	128.45
Copper ppm	16.07	16.30	16.32	16.28	16.81	16.48	15.71	16.06
Selenium ppm	0.4664	0.4667	0.4669	0.4669	0.4660	0.4664	0.4644	0.4651

<sup>a</sup> ME = metabolizable energy, cal = calories, Dig. = digestible, Met = methionine  
All values are expressed on an as-is basis

**Table 6. Grower/Finisher Diets – Calculated Nutrient Composition**  
(see “Experimental Design” for corn ID associated with each Treatment No.)

Item <sup>a</sup>	Treatment Number							
	1	2	3	4	5	6	7	8
ME (cal/lb)	1424.92	1425.45	1424.99	1425.32	1425.08	1424.36	1425.60	1424.96
Dig. Arginine %	1.2796	1.2867	1.3015	1.2856	1.2494	1.2743	1.2859	1.2569
Dig. Lysine %	1.0384	1.0594	1.0648	1.0609	1.0132	1.0549	1.0518	1.0229
Dig. Methionine %	0.5489	0.5561	0.5509	0.5587	0.5534	0.5576	0.5287	0.5381
Dig. Met+cystine %	0.8271	0.8287	0.8290	0.8273	0.8270	0.8256	0.8257	0.8262
Dig. Tryptophan %	0.2112	0.2166	0.2165	0.2166	0.2090	0.2122	0.1852	0.1852
Dig. Threonine %	0.7225	0.7271	0.7272	0.7298	0.7156	0.7312	0.7489	0.7312
Crude Protein %	19.95	19.96	19.96	19.96	19.95	19.96	21.29	20.55
Moisture %	12.47	12.43	12.42	12.42	12.50	12.47	12.60	12.58
Arginine %	1.3499	1.3567	1.3726	1.3567	1.3232	1.3439	1.3566	1.3258
Lysine %	1.0986	1.1202	1.1257	1.1216	1.0755	1.1160	1.1153	1.0836
Methionine %	0.5645	0.5706	0.5659	0.5730	0.5720	0.5717	0.5462	0.5551
Met + Cystine %	0.8962	0.8950	0.8969	0.8924	0.9018	0.8907	0.9019	0.9003
Tryptophan %	0.2238	0.2247	0.2292	0.2293	0.2224	0.2248	0.1954	0.1953
Glycine %	0.8453	0.8467	0.8524	0.8457	0.8312	0.8501	0.8713	0.8454
Threonine %	0.7679	0.7671	0.7670	0.7698	0.7594	0.7717	0.7921	0.7728
Proline %	1.2324	1.1794	1.1585	1.1821	1.2484	1.2194	1.3596	1.3075
Crude Fat %	4.9519	5.2203	5.5323	5.3883	5.3661	4.9472	4.7463	5.1779
Crude Fiber %	2.1432	2.1364	2.1000	2.2072	2.0424	2.5507	2.3963	2.1230
Ash %	3.6409	3.6715	3.5345	3.6860	3.7116	3.4893	3.8900	3.8111
Calcium %	0.8698	0.8678	0.8601	0.8591	0.8755	0.8710	0.8582	0.8586
Phosphorus – Total %	0.6902	0.6926	0.6648	0.6615	0.6756	0.6799	0.7156	0.7146
Phosphorus – Avail. %	0.4274	0.4219	0.4241	0.4231	0.4282	0.4233	0.4236	0.4231
Salt %	0.4044	0.4058	0.4007	0.3996	0.4058	0.4078	0.4240	0.4233
Sodium %	0.2206	0.2192	0.2198	0.2194	0.2208	0.2196	0.2196	0.2195
Potassium %	0.8695	0.9208	0.8923	0.8727	0.8166	0.8797	0.8601	0.8628
Manganese ppm	134.12	135.20	133.97	133.61	134.01	134.21	135.10	134.86
Zinc ppm	124.97	127.75	125.31	123.61	124.37	126.05	127.64	127.47
Copper ppm	15.37	15.62	15.65	15.60	16.18	15.83	15.38	15.58
Selenium ppm	0.4633	0.4638	0.4640	0.4639	0.4629	0.4636	0.4625	0.4627

<sup>a</sup> ME = metabolizable energy, cal = calories, Dig. = digestible, Met = methionine  
All values are expressed on an as-is basis

Table 7. Nutrient composition of the starter treatment diets (as-is basis). CQR Project No. MN-00-1 (Monsanto Study No. 00-01-39-38)

CQR Treatment ID	1	2	3	4	5	6	7	8
Monsanto Corn ID	RX 826	DK 493	DK 521	DK 539	BX 86	DK 537	LH82xA634	MON 863
<b><u>Dairy One Lab Results</u></b>								
Moisture, %	11.4	10.3	10.3	9.1	10.5	10.6	9.7	9.1
Crude protein, %	19.9	19.1	20.0	21.2	20.5	20.2	23.9	20.8
Crude fat, %	6.0	6.8	6.5	6.6	6.3	6.6	6.3	6.1
Ash, %	6.49	7.36	7.09	6.72	7.20	6.40	6.20	5.99
Acid detergent fiber, %	3.5	4.4	2.2	3.4	4.2	3.0	3.1	2.7
Neutral detergent fiber, %	9.2	10.2	8.6	10.1	8.1	8.4	9.8	9.0
Crude fiber, %	2.2	2.4	2.3	2.7	2.4	2.0	2.2	2.0
Carbohydrates (starch), %	40.9	42.3	40.7	40.0	39.8	41.9	41.6	43
Calculated TDN, %	74	75	75	76	75	76	76	77
Calculated ME, (Mcal/lb)	1399.73	1399.86	1400.40	1400.47	1399.48	1400.52	1400.05	1399.85
Calcium, %	1.11	1.41	1.38	1.16	1.45	1.18	1.11	1.03
Phosphorus, %	0.76	0.89	0.89	0.79	0.94	0.77	0.79	0.73
Magnesium, %	0.20	0.20	0.21	0.22	0.22	0.20	0.21	0.20
Potassium, %	0.67	0.67	0.70	0.80	0.73	0.64	0.56	0.48
Sodium, %	0.253	0.387	0.369	0.313	0.350	0.317	0.233	0.251
Sulfur, %	0.24	0.25	0.24	0.25	0.25	0.25	0.25	0.25
Chloride, %	0.24	0.32	0.34	0.32	0.33	0.33	0.24	0.27
Iron, ppm	457	600	613	579	649	518	435	424
Zinc, ppm	174	179	180	163	192	173	192	178
Copper, ppm	22	26	29	27	31	23	25	25
Manganese, ppm	157	170	180	163	188	179	186	163
<b><u>Covance Lab Results</u></b>								
Aspartic Acid, %	1.940	1.950	2.020	2.530	1.910	2.070	2.160	2.060
Threonine, %	0.699	0.721	0.729	0.857	0.683	0.733	0.780	0.735
Serine, %	0.943	0.962	0.996	1.170	0.931	0.979	1.070	1.030
Glutamic Acid, %	3.460	3.380	3.490	4.290	3.460	3.610	4.020	3.890
Proline, %	1.150	1.090	1.100	1.150	1.140	1.200	1.300	1.290
Glycine, %	0.793	0.780	0.795	0.974	0.774	0.815	0.876	0.838
Alanine, %	0.973	0.931	0.952	1.120	0.983	0.994	1.180	1.150
Cystine, %	0.316	0.293	0.354	0.299	0.378	0.343	0.332	0.323
Valine, %	0.940	0.882	0.899	1.160	0.937	0.986	1.080	1.040
Methionine, %	0.491	0.577	0.557	0.552	0.587	0.592	0.576	0.497
Isoleucine, %	0.830	0.787	0.809	1.060	0.826	0.885	0.961	0.922
Leucine, %	1.670	1.610	1.640	1.960	1.690	1.730	2.050	2.000
Tyrosine, %	0.430	0.611	0.624	0.560	0.609	0.639	0.700	0.677
Phenylalanine, %	0.921	0.913	0.935	1.160	0.921	0.980	1.080	1.050
Histidine, %	0.524	0.497	0.508	0.626	0.501	0.528	0.573	0.554
Lysine, %	1.030	1.020	1.050	1.370	1.020	1.100	1.120	1.090
Arginine, %	1.110	1.200	1.230	1.460	1.180	1.270	1.130	1.250
Tryptophan, %	0.188	0.179	0.201	0.206	0.193	0.189	0.172	0.187

Table 8. Nutrient composition of the grower/finisher treatment diets (as-is basis). CQR Project No. MN-00-1 (Monsanto Study No. 00-01-39-38)

CQR Treatment ID Monsanto Corn ID	1 RX 826	2 DK 493	3 DK 521	4 DK 539	5 BX 86	6 DK 537	7 LH82xA634	8 MON 863
<b><u>Dairy One Lab Results</u></b>								
Moisture, %	8.3	9.5	8.6	10.2	10.5	10.1	9.0	7.5
Crude protein, %	21.5	19.2	20.0	20.0	19.2	19.3	20.2	21.3
Crude fat, %	5.3	6.4	6.2	6.3	7.4	6.2	6.2	5.6
Ash, %	5.31	5.56*	5.61	5.70	6.22	5.53	5.66	5.19
Acid detergent fiber, %	3.3	4.7	3.0	3.1	3.2	4.2	3.9	2.9
Neutral detergent fiber, %	8.1	7.9	7.9	8.2	8.0	7.2	9.4	9.9
Crude fiber, %	1.8	1.8	1.7	1.7	1.9	1.9	2.2	1.9
Carbohydrates (starch), %	44.7	44.5	44.1	44.1	42.5	44.4	43.8	44.8
Calculated TDN, %	77	78*	78	77	77	77	77	78
Calculated ME, (Mcal/lb)	1424.92	1425.45	1424.99	1425.32	1425.08	1424.36	1425.60	1424.96
Calcium, %	0.82	0.86	0.87	0.94	1.07	0.90	0.86	0.74
Phosphorus, %	0.64	0.64	0.63	0.69	0.74	0.66	0.69	0.62
Magnesium, %	0.18	0.18	0.18	0.18	0.19	0.18	0.19	0.19
Potassium, %	0.46	0.48	0.45	0.51	0.48	0.55	0.61	0.58
Sodium, %	0.191	0.247	0.243	0.246	0.257	0.225	0.246	0.200
Sulfur, %	0.24	0.24	0.24	0.24	0.25	0.25	0.23	0.24
Chloride, %	0.24	0.27	0.27	0.16	0.25	0.26	0.33	0.23
Iron, ppm	710	490	449	433	493	402	383	370
Zinc, ppm	125	136	134	133	163	138	137	117
Copper, ppm	19	19	21	20	21	20	18	20
Manganese, ppm	120	139	134	138	167	140	135	109
<b><u>Covance Lab Results</u></b>								
Aspartic Acid, %	2.080	2.250	2.070	2.070	1.940	1.980	1.960	2.010
Threonine, %	0.747	0.806	0.725	0.730	0.707	0.693	0.736	0.732
Serine, %	1.000	1.070	0.974	0.976	0.945	0.957	1.050	1.020
Glutamic Acid, %	3.700	3.830	3.570	3.610	3.570	3.470	3.790	3.860
Proline, %	1.240	1.240	1.130	1.180	1.170	1.160	1.280	1.310
Glycine, %	0.837	0.890	0.825	0.819	0.781	0.798	0.796	0.820
Alanine, %	1.030	1.030	0.980	0.981	1.020	0.980	1.130	1.160
Cystine, %	0.335	0.319	0.320	0.337	0.341	0.354	0.351	0.326
Valine, %	0.990	1.030	0.978	0.987	0.954	0.947	0.950	1.020
Methionine, %	0.493	0.562	0.573	0.539	0.517	0.541	0.491	0.470
Isoleucine, %	0.875	0.930	0.869	0.880	0.852	0.838	0.844	0.904
Leucine, %	1.770	1.780	1.680	1.710	1.780	1.690	1.980	2.020
Tyrosine, %	0.638	0.652	0.469	0.570	0.614	0.600	0.657	0.628
Phenylalanine, %	0.990	1.040	0.957	0.972	0.963	0.949	1.000	1.030
Histidine, %	0.546	0.560	0.523	0.527	0.512	0.506	0.523	0.544
Lysine, %	1.090	1.180	1.120	1.120	0.995	1.020	0.978	1.030
Arginine, %	1.270	1.390	1.200	1.250	1.190	1.200	1.170	1.210
Tryptophan, %	0.201	0.185	0.153	0.199	0.189	0.190	0.185	0.195

\*These are repeat assay values. The original % ash value was abnormally low and a repeat assay was requested (original value was 11.19% ash, 72 %TDN)

Table 9. Performance of broilers, carcass yield and protein and fat composition of breast and thighs (mean values of males and females).  
Comparison of transgenic corn line MON 863 with its parental control (LH82 x A634) and six reference commercial lines.

CQR Project No. MN-00-1  
(Monsanto No. 00-01-39-38)

CQR Treatment ID Monsanto Corn ID	8 MON 863	7 LH82 x A634	1 RX 826	2 DK 493	3 DK 521	4 DK 539	5 BX 86	6 DK 537	Treatment (T) SSD <sup>1</sup>	Sex (S) SSD	Block SSD	T x S SSD	LSD <sup>2</sup> 5%
<b>Performance</b>													
Live weight (g/bird) day 0	39.000	39.383	39.517	39.233	39.450	39.550	39.500	39.067	NS	NS	NS	NS	0.935
Live weight (kg/pen) day 0	0.468	0.473	0.474	0.471	0.473	0.475	0.474	0.469	NS	NS	NS	NS	0.011
Live weight (kg/bird) day 42	2.253	2.211	2.272	2.281	2.298	2.327	2.302	2.308	NS	**	NS	NS	0.081
Live weight (kg/pen) day 42	21.800	21.880	22.470	22.070	22.980	21.250	23.020	22.370	NS	**	NS	NS	1.165
Feed intake (kg/bird)	3.754	3.636	3.723	3.687	3.686	3.981	3.699	3.754	NS	**	NS	NS	0.225
Feed intake (kg/pen)	36.250	35.960	36.790	35.680	36.860	36.010	36.990	36.360	NS	**	NS	NS	1.395
Feed conversion (kg/kg)	1.666 <sup>ab</sup>	1.645 <sup>ab</sup>	1.641 <sup>b</sup>	1.619 <sup>b</sup>	1.607 <sup>b</sup>	1.703 <sup>a</sup>	1.610 <sup>b</sup>	1.629 <sup>b</sup>	*	NS	NS	NS	0.061
Adjusted Feed Conversion (kg/kg)	1.620 <sup>a</sup>	1.622 <sup>a</sup>	1.613 <sup>ab</sup>	1.592 <sup>bc</sup>	1.59 <sup>bc</sup>	1.602 <sup>abc</sup>	1.594 <sup>bc</sup>	1.588 <sup>c</sup>	*	**	*	NS	0.023
<b>Carcass Yield</b>													
Live weight (kg)	2.239	2.198	2.270	2.266	2.278	2.313	2.287	2.290	NS	**	NS	NS	0.076
Chill weight (kg)	1.591	1.557	1.619	1.621	1.633	1.645	1.637	1.638	NS	**	NS	NS	0.062
Chill weight (% of live weight)	71.0 <sup>bc</sup>	70.8 <sup>c</sup>	71.3 <sup>ab</sup>	71.5 <sup>ab</sup>	71.6 <sup>a</sup>	71.2 <sup>abc</sup>	71.6 <sup>a</sup>	71.5 <sup>ab</sup>	*	**	NS	NS	0.006
Fat pad weight (kg)	0.033	0.036	0.034	0.036	0.036	0.036	0.036	0.038	NS	**	NS	NS	0.004
Fat pad weight (% of live weight)	1.500	1.600	1.500	1.600	1.600	1.600	1.600	1.700	NS	**	NS	NS	0.002
Breast meat weight (kg)	0.405 <sup>bc</sup>	0.392 <sup>c</sup>	0.423 <sup>ab</sup>	0.423 <sup>ab</sup>	0.428 <sup>a</sup>	0.432 <sup>a</sup>	0.420 <sup>ab</sup>	0.426 <sup>ab</sup>	**	**	NS	NS	0.021
Breast meat weight (% of chill wt.)	25.4 <sup>bc</sup>	25.1 <sup>c</sup>	26.1 <sup>a</sup>	26.1 <sup>a</sup>	26.2 <sup>a</sup>	26.2 <sup>a</sup>	25.7 <sup>ab</sup>	26.0 <sup>a</sup>	**	NS	NS	*	0.005
Thighs weight (kg)	0.272	0.269	0.274	0.273	0.276	0.280	0.279	0.275	NS	**	*	NS	0.012
Thighs weight (% of chill wt.)	17.1 <sup>ab</sup>	17.3 <sup>a</sup>	16.9 <sup>bc</sup>	16.8 <sup>bc</sup>	16.9 <sup>bc</sup>	17.0 <sup>abc</sup>	17.0 <sup>abc</sup>	16.8 <sup>c</sup>	*	**	*	NS	0.003
Drums weight (kg)	0.227	0.221	0.228	0.225	0.229	0.229	0.231	0.227	NS	**	NS	NS	0.009
Drums weight (% of chill wt.)	14.3 <sup>a</sup>	14.2 <sup>a</sup>	14.0 <sup>abc</sup>	13.9 <sup>c</sup>	14.0 <sup>abc</sup>	13.9 <sup>bc</sup>	14.1 <sup>ab</sup>	13.9 <sup>c</sup>	**	**	NS	NS	0.002
Wings weight (kg)	0.186	0.184	0.189	0.188	0.188	0.190	0.188	0.191	NS	**	NS	NS	0.006
Wing weight (% of chill wt.)	11.7 <sup>ab</sup>	11.9 <sup>a</sup>	11.7 <sup>b</sup>	11.6 <sup>b</sup>	11.5 <sup>b</sup>	11.6 <sup>b</sup>	11.5 <sup>b</sup>	11.7 <sup>ab</sup>	**	NS	*	NS	0.002
<b>Breast Meat Analysis</b>													
Moisture (%)	75.258	75.080	75.100	74.908	75.069	75.212	75.212	75.120	NS	**	NS	NS	0.322
Protein (% as is basis)	23.632	23.942	23.888	24.076	23.943	23.766	23.751	23.667	NS	NS	NS	NS	0.475
Fat (% as is basis)	0.792	0.780	0.780	0.873	0.801	0.891	0.812	0.801	NS	**	**	NS	0.194
<b>Thigh Meat Analysis</b>													
Moisture (%)	76.820	76.210	76.504	76.727	76.620	76.699	76.901	76.703	NS	NS	NS	NS	0.739
Protein (% as is basis)	20.710	21.013	21.021	21.164	21.438	21.032	20.307	20.998	NS	NS	NS	NS	0.998
Fat (% as is basis)	1.791	2.114	2.132	2.380	2.261	1.959	2.505	2.058	NS	NS	NS	NS	0.807

<sup>1</sup> SSD, statistical significance of differences: NS, not significant; \*, P<0.05; \*\*, P<0.01; Individual treatment means with the same superscript letter in the same row are not statistically different (P>0.05).

<sup>2</sup> LSD, least significant difference between two means (P<0.05)

Appendix Table 1. Day 0 body weights (9/13/00) Project No. MN-00-1 (2000-01-39-38)

Treatment	Sex	Pen	No. Birds Weighed	Total Weight (g)	Average Weight (g)	Treatment	Sex	Pen	No. Birds Weighed	Total Weight (g)	Average Weight (g)
1	F	5	12	456	38	5	F	3	12	488	41
1	F	24	12	494	41	5	F	22	12	474	40
1	F	41	12	472	39	5	F	46	12	490	41
1	F	51	12	488	41	5	F	52	12	468	39
1	F	76	12	482	40	5	F	65	12	488	41
1	M	1	12	476	40	5	M	12	12	486	41
1	M	26	12	476	40	5	M	32	12	452	38
1	M	47	12	466	39	5	M	45	12	452	38
1	M	56	12	458	38	5	M	49	12	488	41
1	M	70	12	474	40	5	M	78	12	454	38
Total & Average			120	474	40	Total & Average			120	474	40
2	F	14	12	468	39	6	F	6	12	470	39
2	F	25	12	480	40	6	F	20	12	498	42
2	F	38	12	464	39	6	F	44	12	470	39
2	F	63	12	470	39	6	F	57	12	464	39
2	F	73	12	448	37	6	F	74	12	468	39
2	M	4	12	468	39	6	M	8	12	438	37
2	M	30	12	482	40	6	M	27	12	484	40
2	M	34	12	476	40	6	M	48	12	470	39
2	M	54	12	482	40	6	M	58	12	468	39
2	M	79	12	470	39	6	M	75	12	458	38
Total & Average			120	471	39	Total & Average			120	469	39
3	F	13	12	480	40	7	F	7	12	480	40
3	F	23	12	478	40	7	F	21	12	472	39
3	F	35	12	452	38	7	F	37	12	488	41
3	F	60	12	504	42	7	F	61	12	464	39
3	F	80	12	454	38	7	F	68	12	466	39
3	M	16	12	466	39	7	M	11	12	476	40
3	M	19	12	460	38	7	M	28	12	476	40
3	M	40	12	484	40	7	M	36	12	472	39
3	M	62	12	488	41	7	M	55	12	464	39
3	M	77	12	468	39	7	M	71	12	468	39
Total & Average			120	473	39	Total & Average			120	473	39
4	F	15	12	478	40	8	F	10	12	476	40
4	F	18	12	478	40	8	F	29	12	470	39
4	F	43	12	502	42	8	F	33	12	478	40
4	F	53	12	468	39	8	F	59	12	462	39
4	F	72	12	464	39	8	F	66	12	470	39
4	M	9	12	468	39	8	M	2	12	470	39
4	M	17	12	494	41	8	M	31	12	474	40
4	M	39	12	466	39	8	M	42	12	456	38
4	M	64	12	462	39	8	M	50	12	472	39
4	M	69	12	466	39	8	M	67	12	452	38
Total & Average			120	475	40	Total & Average			120	468	39

Appendix Table 2. Performance data at 42 days of age (10/25/00) Project No. MN-00-1 (Monsanto Study No. 2000-01-39-38)

Treatment	Sex	Pen	Number of Birds				Pen Net Wt. (kg)	Ave. Wt. (kg)	R/M Wt. (kg) <sup>b</sup>	Total Wt. (kg)	Kg Feed Consumption	Feed Conversion <sup>c</sup>	Adjusted Feed Conversion <sup>c</sup>
			Started	Mortality	Removed <sup>a</sup>	Weighed							
1	F	5	12	0	2	10	21.3	2.130	0.210	21.510	35.6	1.671	1.655
1	F	24	12	0	2	10	20.4	2.040	0.070	20.470	34.3	1.681	1.676
1	F	41	12	0	2	10	20.3	2.030	0.170	20.470	33.6	1.655	1.641
1	F	51	12	0	2	10	21.1	2.110	0.290	21.390	34.6	1.640	1.618
1	F	76	12	0	2	10	19.3	1.930	0.190	19.490	31.9	1.653	1.637
Female Total & Average			60	0	10	50		2.048				1.660	1.645
1	M	1	12	1	2	9	22.9	2.544	2.090	24.990	39.7	1.734	1.589
1	M	26	12	0	2	10	23.0	2.300	0.270	23.270	38.2	1.661	1.642
1	M	47	12	0	2	10	25.7	2.570	0.160	25.860	40.6	1.580	1.570
1	M	56	12	0	2	10	26.1	2.610	0.210	26.310	41.2	1.579	1.566
1	M	70	12	0	2	10	24.6	2.460	0.220	24.820	38.2	1.553	1.539
Male Total & Average			60	1	10	49		2.497				1.621	1.581
Treatment Total & Average			120	1	20	99		2.272				1.641	1.613
2	F	14	12	0	2	10	20.5	2.050	0.310	20.810	34.1	1.663	1.639
2	F	25	12	0	2	10	21.9	2.190	0.230	22.130	36.8	1.680	1.663
2	F	38	12	0	2	10	21.6	2.160	0.150	21.750	35.1	1.625	1.614
2	F	63	12	0	2	10	20.2	2.020	0.065	20.265	33.1	1.639	1.633
2	F	73	12	0	2	10	21.0	2.100	0.250	21.250	34.8	1.657	1.638
Female Total & Average			60	0	10	50		2.104				1.653	1.637
2	M	4	12	1	2	9	21.6	2.400	0.640	22.240	33.9	1.569	1.524
2	M	30	12	0	2	10	23.2	2.320	0.280	23.480	37.3	1.608	1.589
2	M	34	12	0	2	10	25.3	2.530	0.225	25.525	38.9	1.538	1.524
2	M	54	12	1	2	9	22.8	2.533	0.570	23.370	36.4	1.596	1.558
2	M	79	12	1	2	9	22.6	2.511	1.080	23.680	36.4	1.611	1.537
Male Total & Average			60	3	10	47		2.459				1.584	1.546
Treatment Total & Average			120	3	20	97		2.281				1.619	1.592

Appendix Table 2. Performance data at 42 days of age (10/25/00) Project No. MN-00-1 (Monsanto Study No. 2000-01-39-38)

Treatment	Sex	Pen	Number of Birds				Pen Net Wt. (kg)	Ave. Wt. (kg)	R/M Wt. (kg) <sup>b</sup>	Total Wt. (kg)	Kg Feed Consumption	Feed Conversion <sup>c</sup>	Adjusted Feed Conversion <sup>c</sup>
			Started	Mortality	Removed <sup>a</sup>	Weighed							
3	F	13	12	0	2	10	20.6	2.060	0.250	20.850	34.2	1.660	1.640
3	F	23	12	0	2	10	21.1	2.110	0.270	21.370	35.0	1.659	1.638
3	F	35	12	0	2	10	21.8	2.180	0.250	22.050	35.7	1.638	1.619
3	F	60	12	0	2	10	21.8	2.180	0.190	21.990	35.5	1.628	1.614
3	F	80	12	0	2	10	20.8	2.080	0.270	21.070	34.1	1.639	1.618
Female Total & Average			60	0	10	50		2.122				1.645	1.626
3	M	16	12	0	2	10	24.6	2.460	0.260	24.860	38.7	1.573	1.557
3	M	19	12	0	2	10	25.0	2.500	0.270	25.270	39.5	1.580	1.563
3	M	40	12	0	2	10	26.1	2.610	0.200	26.300	40.4	1.548	1.536
3	M	62	12	0	2	10	23.4	2.340	0.220	23.620	36.8	1.573	1.558
3	M	77	12	0	2	10	24.6	2.460	0.230	24.830	38.7	1.573	1.559
Male Total & Average			60	0	10	50		2.474				1.569	1.555
Treatment Total & Average			120	0	20	100		2.298				1.607	1.590
4	F	15	12	0	2	10	22.3	2.230	0.185	22.485	36.3	1.628	1.614
4	F	18	12	0	2	10	20.8	2.080	0.180	20.980	34.3	1.649	1.635
4	F	43	12	1	2	9	19.3	2.144	0.200	20.100	32.4	1.679	1.612
4	F	53	12	0	2	10	21.5	2.150	0.160	21.660	34.7	1.614	1.602
4	F	72	12	0	2	10	20.5	2.050	0.240	20.740	34.1	1.663	1.644
Female Total & Average			60	1	10	49		2.131				1.647	1.621
4	M	9	12	0	3	9	21.4	2.378	0.650	22.050	35.8	1.673	1.624
4	M	17	12	2	2	8	21.2	2.650	4.380	25.580	40.4	1.892	1.568
4	M	39	12	3	2	7	18.6	2.657	4.620	23.220	38.0	2.043	1.637
4	M	64	12	0	2	10	25.2	2.520	0.125	25.325	37.7	1.496	1.489
4	M	69	12	1	2	9	21.7	2.411	1.350	23.050	36.7	1.691	1.592
Male Total & Average			60	6	11	43		2.523				1.759	1.582
Treatment Total & Average			120	7	21	92		2.327				1.703	1.602

Appendix Table 2. Performance data at 42 days of age (10/25/00) Project No. MN-00-1 (Monsanto Study No. 2000-01-39-38)

Treatment	Sex	Pen	Number of Birds				Pen Net Wt. (kg)	Ave. Wt. (kg)	R/M Wt. (kg) <sup>b</sup>	Total Wt. (kg)	Kg Feed Consumption	Feed Conversion <sup>c</sup>	Adjusted Feed Conversion <sup>c</sup>
			Started	Mortality	Removed <sup>a</sup>	Weighed							
5	F	3	12	0	2	10	22.3	2.230	0.280	22.580	37.3	1.673	1.652
5	F	22	12	0	2	10	21.3	2.130	0.125	21.425	34.5	1.620	1.610
5	F	46	12	0	2	10	20.8	2.080	0.270	21.070	34.2	1.644	1.623
5	F	52	12	0	2	10	20.1	2.010	0.240	20.340	33.3	1.657	1.637
5	F	65	12	0	2	10	21.4	2.140	0.210	21.610	35.1	1.640	1.624
Female Total & Average			60	0	10	50		2.118				1.647	1.629
5	M	12	12	0	2	10	25.9	2.590	0.240	26.140	40.4	1.560	1.546
5	M	32	12	0	2	10	23.6	2.360	0.200	23.800	37.6	1.593	1.580
5	M	45	12	0	2	10	24.5	2.450	0.240	24.740	38.4	1.567	1.552
5	M	49	12	0	2	10	25.6	2.560	0.260	25.860	40.2	1.570	1.555
5	M	78	12	0	2	10	24.7	2.470	0.250	24.950	38.9	1.575	1.559
Male Total & Average			60	0	10	50		2.486				1.573	1.558
Treatment Total & Average			120	0	20	100		2.302				1.610	1.594
6	F	6	12	0	2	10	21.6	2.160	0.200	21.800	36.0	1.667	1.651
6	F	20	12	0	2	10	21.5	2.150	0.145	21.645	35.2	1.637	1.626
6	F	44	12	0	2	10	21.0	2.100	0.240	21.240	35.1	1.671	1.653
6	F	57	12	1	2	9	19.3	2.144	0.360	19.660	32.1	1.663	1.633
6	F	74	12	0	2	10	21.2	2.120	0.260	21.460	34.9	1.646	1.626
Female Total & Average			60	1	10	49		2.135				1.657	1.638
6	M	8	12	0	2	10	24.5	2.450	0.260	24.760	36.9	1.506	1.490
6	M	27	12	0	2	10	24.9	2.490	0.250	25.150	39.6	1.590	1.575
6	M	48	12	0	2	10	25.2	2.520	0.220	25.420	39.4	1.563	1.550
6	M	58	12	1	2	9	22.1	2.456	1.685	23.785	36.9	1.670	1.551
6	M	75	12	1	2	9	22.4	2.489	2.250	24.650	37.5	1.674	1.521
Male Total & Average			60	2	10	48		2.481				1.601	1.538
Treatment Total & Average			120	3	20	97		2.308				1.629	1.588

Appendix Table 2. Performance data at 42 days of age (10/25/00) Project No. MN-00-1 (Monsanto Study No. 2000-01-39-38)

Treatment	Sex	Pen	Number of Birds				Pen Net Wt. (kg)	Ave. Wt. (kg)	R/M Wt. (kg) <sup>b</sup>	Total Wt. (kg)	Kg Feed Consumption	Feed Conversion <sup>c</sup>	Adjusted Feed Conversion <sup>c</sup>
			Started	Mortality	Removed <sup>a</sup>	Weighed							
7	F	7	12	0	2	10	22.0	2.200	0.210	22.210	36.4	1.655	1.639
7	F	21	12	0	2	10	20.7	2.070	0.160	20.860	35.2	1.700	1.687
7	F	37	12	0	2	10	21.2	2.120	0.330	21.530	34.6	1.632	1.607
7	F	61	12	0	2	10	21.2	2.120	0.200	21.400	35.3	1.665	1.650
7	F	68	12	0	2	10	18.5	1.850	0.170	18.670	30.7	1.659	1.644
Female Total & Average			60	0	10	50		2.072				1.662	1.645
7	M	11	12	0	2	10	25.8	2.580	0.260	26.060	42.3	1.640	1.623
7	M	28	12	0	2	10	22.1	2.210	0.220	22.320	35.2	1.593	1.577
7	M	36	12	0	2	10	22.5	2.250	0.210	22.710	36.0	1.600	1.585
7	M	55	12	1	2	9	21.0	2.333	1.150	22.150	36.0	1.714	1.625
7	M	71	12	0	2	10	23.8	2.380	0.200	24.000	37.9	1.592	1.579
Male Total & Average			60	1	10	49		2.351				1.628	1.598
Treatment Total & Average			120	1	20	99		2.211				1.645	1.622
8	F	10	12	0	2	10	20.3	2.030	0.200	20.500	34.3	1.690	1.673
8	F	29	12	0	2	10	22.4	2.240	0.250	22.650	37.3	1.665	1.647
8	F	33	12	0	2	10	21.6	2.160	0.230	21.830	35.8	1.657	1.640
8	F	59	12	0	2	10	21.2	2.120	0.180	21.380	35.6	1.679	1.665
8	F	66	12	0	2	10	20.1	2.010	0.230	20.330	32.5	1.617	1.599
Female Total & Average			60	0	10	50		2.112				1.662	1.645
8	M	2	12	1	2	9	22.4	2.489	1.315	23.715	37.1	1.656	1.564
8	M	31	12	0	2	10	23.6	2.360	0.230	23.830	39.2	1.661	1.645
8	M	42	12	0	2	10	23.9	2.390	0.210	24.110	38.0	1.590	1.576
8	M	50	12	0	2	10	23.2	2.320	0.230	23.430	37.6	1.621	1.605
8	M	67	12	2	2	8	19.3	2.413	2.790	22.090	35.1	1.819	1.589
Male Total & Average			60	3	10	47		2.394				1.669	1.596
Treatment Total & Average			120	3	20	97		2.253				1.665	1.620

<sup>a</sup> includes mortality/removals from days 0-7 (i.e. birds were recounted at day 7 to 10/pen and extras were removed)

<sup>b</sup> R/M - removed birds and mortalities

<sup>c</sup> Feed conversion = feed intake/pen bird weight. The weight of mortalities and removed birds are added to the pen bird weight to calculate adjusted feed conversion

Appendix Table 3. Summary of mortality and probable cause of death from 7-42 days of age.  
Project No. MN-00-1 (Monsanto Study No. 2000-01-39-38)

Treatment	Sex	Pen Number	Number Started <sup>a</sup>	Total Mortality	Percent Mortality	Probable cause of death
1	F	5	10	0	0.0%	
1	F	24	10	0	0.0%	
1	F	41	10	0	0.0%	
1	F	51	10	0	0.0%	
1	F	76	10	0	0.0%	
1	M	1	10	1	10.0%	1 Ascites w/sudden death syndrome
1	M	26	10	0	0.0%	
1	M	47	10	0	0.0%	
1	M	56	10	0	0.0%	
1	M	70	10	0	0.0%	
Total & Average			100	1	1.0%	
2	F	14	10	0	0.0%	
2	F	25	10	0	0.0%	
2	F	38	10	0	0.0%	
2	F	63	10	0	0.0%	
2	F	73	10	0	0.0%	
2	M	4	10	1	10.0%	1 Sudden death syndrome
2	M	30	10	0	0.0%	
2	M	34	10	0	0.0%	
2	M	54	10	1	10.0%	1 Sudden death syndrome
2	M	79	10	1	10.0%	1 Unknown (no gross lesions)
Total & Average			100	3	3.0%	
3	F	13	10	0	0.0%	
3	F	23	10	0	0.0%	
3	F	35	10	0	0.0%	
3	F	60	10	0	0.0%	
3	F	80	10	0	0.0%	
3	M	16	10	0	0.0%	
3	M	19	10	0	0.0%	
3	M	40	10	0	0.0%	
3	M	62	10	0	0.0%	
3	M	77	10	0	0.0%	
Total & Average			100	0	0.0%	
4	F	15	10	0	0.0%	
4	F	18	10	0	0.0%	
4	F	43	10	1	10.0%	1 Sudden death syndrome
4	F	53	10	0	0.0%	
4	F	72	10	0	0.0%	
4	M	9	10	0	0.0%	
4	M	17	10	2	20.0%	2 Sudden death syndrome
4	M	39	10	3	30.0%	2 Ascites, 1 Bacterial
4	M	64	10	0	0.0%	
4	M	69	10	1	10.0%	1 Sudden death syndrome
Total & Average			100	7	7.0%	

Appendix Table 3. Summary of mortality and probable cause of death from 7-42 days of age.  
Project No. MN-00-1 (Monsanto Study No. 2000-01-39-38)

Treatment	Sex	Pen Number	Number Started <sup>a</sup>	Total Mortality	Percent Mortality	Probable cause of death
5	F	3	10	0	0.0%	
5	F	22	10	0	0.0%	
5	F	46	10	0	0.0%	
5	F	52	10	0	0.0%	
5	F	65	10	0	0.0%	
5	M	12	10	0	0.0%	
5	M	32	10	0	0.0%	
5	M	45	10	0	0.0%	
5	M	49	10	0	0.0%	
5	M	78	10	0	0.0%	
Total & Average			100	0	0.0%	
6	F	6	10	0	0.0%	
6	F	20	10	0	0.0%	
6	F	44	10	0	0.0%	
6	F	57	10	1	10.0%	1 Unknown (no gross lesions)
6	F	74	10	0	0.0%	
6	M	8	10	0	0.0%	
6	M	27	10	0	0.0%	
6	M	48	10	0	0.0%	
6	M	58	10	1	10.0%	1 Sudden death syndrome
6	M	75	10	1	10.0%	1 Sudden death syndrome
Total & Average			100	3	3.0%	
7	F	7	10	0	0.0%	
7	F	21	10	0	0.0%	
7	F	37	10	0	0.0%	
7	F	61	10	0	0.0%	
7	F	68	10	0	0.0%	
7	M	11	10	0	0.0%	
7	M	28	10	0	0.0%	
7	M	36	10	0	0.0%	
7	M	55	10	1	10.0%	1 Unknown (no gross lesions)
7	M	71	10	0	0.0%	
Total & Average			100	1	1.0%	
8	F	10	10	0	0.0%	
8	F	29	10	0	0.0%	
8	F	33	10	0	0.0%	
8	F	59	10	0	0.0%	
8	F	66	10	0	0.0%	
8	M	2	10	1	10.0%	1 Sudden death syndrome
8	M	31	10	0	0.0%	
8	M	42	10	0	0.0%	
8	M	50	10	0	0.0%	
8	M	67	10	2	20.0%	2 Sudden death syndrome
Total & Average			100	3	3.0%	

<sup>a</sup>Twelve (12) birds were started per pen and then reduced to 10/pen on Day 7. The percent mortality is based on mortality data from days 7-42 therefore only 10 birds/pen is indicated here.

Appendix Table 4. Feed added, and weighed back, by pen. Project No. MN-00-1 (Monsanto Study #2000-01-39-38)

2000 Date Treatment	Sex	Pen	Kg Feed						Grower/Finisher Consump.	Total Consump.
			9/12 <sup>a</sup> Feed 1	10/3 WB (Day 20)	Starter Consump.	10/3 Feed 2	10/17 Feed 3	10/25 WB (Day 42) <sup>b</sup>		
1	F	5	15.0	-6.8	8.2	22.0	15.0	-9.6	27.4	35.6
1	F	24	15.0	-6.4	8.6	22.0	15.0	-11.3	25.7	34.3
1	F	41	15.0	-7.0	8.0	22.0	15.0	-11.4	25.6	33.6
1	F	51	15.0	-6.9	8.1	22.0	15.0	-10.5	26.5	34.6
1	F	76	15.0	-7.1	7.9	22.0	15.0	-13.0	24.0	31.9
1	M	1	15.0	-6.2	8.8	22.0	15.0	-6.1	30.9	39.7
1	M	26	15.0	-5.1	9.9	22.0	15.0	-8.7	28.3	38.2
1	M	47	15.0	-6.4	8.6	22.0	15.0	-5.0	32.0	40.6
1	M	56	15.0	-5.3	9.7	22.0	15.0	-5.5	31.5	41.2
1	M	70	15.0	-6.6	8.4	22.0	15.0	-7.2	29.8	38.2
2	F	14	15.0	-6.5	8.5	22.0	15.0	-11.4	25.6	34.1
2	F	25	15.0	-6.1	8.9	22.0	15.0	-9.1	27.9	36.8
2	F	38	15.0	-6.9	8.1	22.0	15.0	-10.0	27.0	35.1
2	F	63	15.0	-7.2	7.8	22.0	15.0	-11.7	25.3	33.1
2	F	73	15.0	-6.7	8.3	22.0	15.0	-10.5	26.5	34.8
2	M	4	15.0	-7.0	8.0	22.0	15.0	-11.1	25.9	33.9
2	M	30	15.0	-6.4	8.6	22.0	15.0	-8.3	28.7	37.3
2	M	34	15.0	-6.8	8.2	22.0	15.0	-6.3	30.7	38.9
2	M	54	15.0	-6.9	8.1	22.0	15.0	-8.7	28.3	36.4
2	M	79	15.0	-6.5	8.5	22.0	15.0	-9.1	27.9	36.4
3	F	13	15.0	-6.8	8.2	22.0	15.0	-11.0	26.0	34.2
3	F	23	15.0	-6.6	8.4	22.0	15.0	-10.4	26.6	35.0
3	F	35	15.0	-6.7	8.3	22.0	15.0	-9.6	27.4	35.7
3	F	60	15.0	-6.0	9.0	22.0	15.0	-10.5	26.5	35.5
3	F	80	15.0	-6.8	8.2	22.0	15.0	-11.1	25.9	34.1
3	M	16	15.0	-6.5	8.5	22.0	15.0	-6.8	30.2	38.7
3	M	19	15.0	-6.2	8.8	22.0	15.0	-6.3	30.7	39.5
3	M	40	15.0	-6.2	8.8	22.0	15.0	-5.4	31.6	40.4
3	M	62	15.0	-6.5	8.5	22.0	15.0	-8.7	28.3	36.8
3	M	77	15.0	-6.1	8.9	22.0	15.0	-7.2	29.8	38.7

Appendix Table 4. Feed added, and weighed back, by pen. Project No. MN-00-1 (Monsanto Study #2000-01-39-38)

2000 Date Treatment	Sex	Pen	Kg Feed							Grower/Finisher Consump.	Total Consump.
			9/12 <sup>a</sup> Feed 1	10/3 WB (Day 20)	Starter Consump.	10/3 Feed 2	10/17 Feed 3	10/25 WB (Day 42) <sup>b</sup>			
4	F	15	15.0	-6.6	8.4	22.0	15.0	-9.1	27.9	36.3	
4	F	18	15.0	-6.9	8.1	22.0	15.0	-10.8	26.2	34.3	
4	F	43	15.0	-6.5	8.5	22.0	15.0	-13.1	23.9	32.4	
4	F	53	15.0	-6.6	8.4	22.0	15.0	-10.7	26.3	34.7	
4	F	72	15.0	-6.8	8.2	22.0	15.0	-11.1	25.9	34.1	
4	M	9	15.0	-7.0	8.0	22.0	15.0	-9.2	27.8	35.8	
4	M	17	15.0	-5.9	9.1	22.0	15.0	-6.0	31.0	40.1	
4	M	39	15.0	-5.1	9.9	22.0	15.0	-8.9	28.1	38.0	
4	M	64	15.0	-7.1	7.9	22.0	15.0	-7.2	29.8	37.7	
4	M	69	15.0	-5.9	9.1	22.0	15.0	-9.4	27.6	36.7	
5	F	3	15.0	-6.0	9.0	22.0	15.0	-8.7	28.3	37.3	
5	F	22	15.0	-6.8	8.2	22.0	15.0	-10.7	26.3	34.5	
5	F	46	15.0	-6.4	8.6	22.0	15.0	-11.4	25.6	34.2	
5	F	52	15.0	-7.0	8.0	22.0	15.0	-11.7	25.3	33.3	
5	F	65	15.0	-6.6	8.4	22.0	15.0	-10.3	26.7	35.1	
5	M	12	15.0	-5.9	9.1	22.0	15.0	-5.7	31.3	40.4	
5	M	32	15.0	-6.1	8.9	22.0	15.0	-8.3	28.7	37.6	
5	M	45	15.0	-6.4	8.6	22.0	15.0	-7.2	29.8	38.4	
5	M	49	15.0	-6.4	8.6	22.0	15.0	-5.4	31.6	40.2	
5	M	78	15.0	-6.0	9.0	22.0	15.0	-7.1	29.9	38.9	
6	F	6	15.0	-6.9	8.1	22.0	15.0	-9.1	27.9	36.0	
6	F	20	15.0	-6.4	8.6	22.0	15.0	-10.4	26.6	35.2	
6	F	44	15.0	-6.5	8.5	22.0	15.0	-10.4	26.6	35.1	
6	F	57	15.0	-7.1	7.9	22.0	15.0	-12.8	24.2	32.1	
6	F	74	15.0	-6.9	8.1	22.0	15.0	-10.2	26.8	34.9	
6	M	8	15.0	-7.3	7.7	22.0	15.0	-7.8	29.2	36.9	
6	M	27	15.0	-6.3	8.7	22.0	15.0	-6.1	30.9	39.6	
6	M	48	15.0	-6.2	8.8	22.0	15.0	-6.4	30.6	39.4	
6	M	58	15.0	-6.1	8.9	22.0	15.0	-9.0	28.0	36.9	
6	M	75	15.0	-6.7	8.3	22.0	15.0	-7.8	29.2	37.5	

Appendix Table 4. Feed added, and weighed back, by pen. Project No. MN-00-1 (Monsanto Study #2000-01-39-38)

2000 Date Treatment	Sex	Pen	Kg Feed							Total Consump.
			9/12 <sup>a</sup> Feed 1	10/3 WB (Day 20)	Starter Consump.	10/3 Feed 2	10/17 Feed 3	10/25 WB (Day 42) <sup>b</sup>	Grower/Finisher Consump.	
7	F	7	15.0	-6.4	8.6	22.0	15.0	-9.2	27.8	36.4
7	F	21	15.0	-6.6	8.4	22.0	15.0	-10.2	26.8	35.2
7	F	37	15.0	-6.6	8.4	22.0	15.0	-10.8	26.2	34.6
7	F	61	15.0	-6.6	8.4	22.0	15.0	-10.1	26.9	35.3
7	F	68	15.0	-3.7	11.3	22.0	15.0	-17.6	19.4	30.7
7	M	11	15.0	-5.6	9.4	22.0	15.0	-4.1	32.9	42.3
7	M	28	15.0	-7.0	8.0	22.0	15.0	-9.8	27.2	35.2
7	M	36	15.0	-6.1	8.9	22.0	15.0	-9.9	27.1	36.0
7	M	55	15.0	-5.6	9.4	22.0	15.0	-10.4	26.6	36.0
7	M	71	15.0	-5.8	9.2	22.0	15.0	-8.3	28.7	37.9
8	F	10	15.0	-4.5	10.5	22.0	15.0	-13.2	23.8	34.3
8	F	29	15.0	-6.3	8.7	22.0	15.0	-8.4	28.6	37.3
8	F	33	15.0	-6.8	8.2	22.0	15.0	-9.4	27.6	35.8
8	F	59	15.0	-6.3	8.7	22.0	15.0	-10.1	26.9	35.6
8	F	66	15.0	-7.2	7.8	22.0	15.0	-12.3	24.7	32.5
8	M	2	15.0	-6.3	8.7	22.0	15.0	-8.6	28.4	37.1
8	M	31	15.0	-5.0	10.0	22.0	15.0	-7.8	29.2	39.2
8	M	42	15.0	-6.6	8.4	22.0	15.0	-7.4	29.6	38.0
8	M	50	15.0	-5.2	9.8	22.0	15.0	-9.2	27.8	37.6
8	M	67	15.0	-6.8	8.2	22.0	15.0	-10.1	26.9	35.1

<sup>a</sup>Feed weighed in prior to the 9/13/00 chick placement

<sup>b</sup>After birds were weighed, this feed was returned until ~12 hours prior to slaughter for processing

Conversion factor for lbs to kg = 2.205

Appendix Table 5. Moisture, protein and fat analysis of chicken thighs ('as-is' basis) Project No. MN-00-1

Monsanto Study No. 2000-01-39-38

Univ. of MO Number*	CQR No.	Sex	Treatment ID	Pen No.	Bird No.	Percent Moisture	% Protein (By Kjeldahl)	% Fat by Acid Hydrolysis
6733-1	1	M	1	1	2	76.63	21.87	3.28
26	11	M	1	26	52	75.73	21.32	2.22
47	23	M	1	47	114	77.32	18.44	1.61
56	29	M	1	56	141	76.66	20.81	2.02
70	35	M	1	70	171	76.10	21.80	2.75
Male Average						76.49	20.88	2.38
5	42	F	1	5	708	76.46	21.44	2.96
24	54	F	1	24	763	76.85	21.93	1.66
41	61	F	1	41	301	75.64	21.55	2.16
51	65	F	1	51	327	76.97	19.75	1.27
76	79	F	1	76	395	76.68	21.31	1.39
Female Average						76.52	21.20	1.89
Treatment Average						76.50	21.02	2.13
4	3	M	2	4	19	75.58	22.06	4.52
30	14	M	2	30	565	77.04	20.09	3.53
34	17	M	2	34	83	77.73	20.79	2.21
54	27	M	2	54	131	76.20	22.00	1.86
79	40	M	2	79	695	76.60	21.61	2.26
Male Average						76.62	21.31	2.88
14	47	F	2	14	231	77.67	20.18	1.09
25	55	F	2	25	271	76.45	21.73	2.34
38	60	F	2	38	791	76.45	21.25	1.71
63	72	F	2	63	852	76.36	21.26	3.22
73	77	F	2	73	382	77.24	20.67	1.06
Female Average						76.83	21.02	1.88
Treatment Average						76.73	21.16	2.38
16	8	M	3	16	534	76.54	20.45	1.61
19	10	M	3	19	549	77.26	20.82	1.38
40	20	M	3	40	595	77.51	21.12	1.51
62	31	M	3	62	155	76.59	21.14	2.83
77	38	M	3	77	684	77.04	19.95	2.63
Male Average						76.99	20.70	1.99
13	46	F	3	13	722	77.00	21.53	1.62
23	53	F	3	23	267	74.47	23.74	2.88
35	58	F	3	35	782	75.59	22.64	2.64
60	70	F	3	60	841	77.54	21.02	1.51
80	80	F	3	80	891	76.66	21.98	4.00
Female Average						76.25	22.18	2.53
Treatment Average						76.62	21.44	2.26

Appendix Table 5. Moisture, protein and fat analysis of chicken thighs ('as-is' basis) Project No. MN-00-1  
Monsanto Study No. 2000-01-39-38

Univ. of MO Number*	CQR No.	Sex	Treatment ID	Pen No.	Bird No.	Percent Moisture	% Protein (By Kjeldahl)	% Fat by Acid Hydrolysis
9	5	M	4	9	21	75.92	22.89	1.36
17	9	M	4	17	41	77.41	21.10	3.05
39	19	M	4	39	92	75.29	19.68	1.90
64	32	M	4	64	653	77.79	19.46	1.97
69	34	M	4	69	662	76.81	21.84	1.54
Male Average						76.64	20.99	1.96
15	48	F	4	15	737	76.89	20.77	1.58
18	49	F	4	18	243	77.94	20.69	1.72
43	62	F	4	43	802	76.78	21.75	1.69
53	67	F	4	53	337	75.10	23.19	2.92
72	76	F	4	72	871	77.06	18.95	1.86
Female Average						76.75	21.07	1.95
Treatment Average						76.70	21.03	1.96
12	7	M	5	12	32	76.83	21.59	2.26
32	16	M	5	32	573	77.64	21.17	2.30
45	22	M	5	45	604	75.84	16.66	5.52
49	25	M	5	49	127	76.36	18.68	3.08
78	39	M	5	78	192	76.57	21.91	2.65
Male Average						76.65	20.00	3.16
3	41	F	5	3	205	77.33	21.35	1.41
22	52	F	5	22	753	77.27	19.94	1.82
46	64	F	5	46	811	76.67	20.11	3.68
52	66	F	5	52	822	77.18	21.31	1.04
65	73	F	5	65	364	77.32	20.34	1.29
Female Average						77.15	20.61	1.85
Treatment Average						76.90	20.31	2.51
8	4	M	6	8	519	76.17	22.76	2.90
27	12	M	6	27	559	77.34	19.66	2.15
48	24	M	6	48	613	77.50	20.39	1.76
58	30	M	6	58	647	76.00	22.79	1.35
75	37	M	6	75	186	76.56	21.10	2.37
Male Average						76.71	21.34	2.11
6	43	F	6	6	215	77.19	20.30	3.65
20	50	F	6	20	744	77.28	20.80	1.47
44	63	F	6	44	316	75.45	20.50	2.07
57	68	F	6	57	832	76.75	21.76	1.37
74	78	F	6	74	883	76.79	19.90	1.49
Female Average						76.69	20.65	2.01
Treatment Average						76.70	21.00	2.06

Appendix Table 5. Moisture, protein and fat analysis of chicken thighs ('as-is' basis) Project No. MN-00-1  
Monsanto Study No. 2000-01-39-38

Univ. of MO Number*	CQR No.	Sex	Treatment ID	Pen No.	Bird No.	Percent Moisture	% Protein (By Kjeldahl)	% Fat by Acid Hydrolysis
11	6	M	7	11	525	76.72	21.76	1.25
28	13	M	7	28	63	76.49	20.20	1.91
36	18	M	7	36	582	74.64	20.82	3.44
55	28	M	7	55	635	75.69	21.09	1.48
71	36	M	7	71	671	76.89	20.81	2.26
Male Average						76.09	20.90	2.07
7	44	F	7	7	715	76.88	21.10	1.52
21	51	F	7	21	256	73.80	22.52	4.53
37	59	F	7	37	293	76.64	19.66	1.76
61	71	F	7	61	359	77.01	21.79	1.32
68	75	F	7	68	371	77.34	20.57	1.67
Female Average						76.33	21.13	2.16
Treatment Average						76.21	21.01	2.11
2	2	M	8	2	502	77.13	20.22	1.23
31	15	M	8	31	72	76.93	21.06	2.00
42	21	M	8	42	101	77.22	19.65	1.48
50	26	M	8	50	621	76.73	21.32	2.03
67	33	M	8	67	164	75.98	21.18	2.30
Male Average						76.80	20.69	1.81
10	45	F	8	10	221	76.43	21.33	2.65
29	56	F	8	29	772	76.67	20.58	2.20
33	57	F	8	33	287	77.21	18.49	0.99
59	69	F	8	59	347	77.50	21.04	1.29
66	74	F	8	66	861	76.40	22.22	1.74
Female Average						76.84	20.73	1.77
Treatment Average						76.82	20.71	1.79

Samples from males were collected on 10/26/00 and samples from females were collected on 10/27/00

\*Analysis conducted by Experiment Station Chemical Laboratories, University of Missouri. This is the number assigned to the sample when received at the Univ. of MO

Appendix Table 6. Moisture, protein and fat analysis of chicken breasts ('as-is' basis) Project No. MN-00-1  
Monsanto Study No. 2000-01-39-38

Univ. of MO Number*	CQR No.	Sex	Treatment ID	Pen No.	Bird No.	% Moisture	% Protein (By Kjeldahl)	% Fat by Acid Hydrolysis
6733-81	1	M	1	1	2	74.73	24.16	0.83
106	11	M	1	26	52	74.86	24.06	0.75
127	23	M	1	47	114	75.17	24.06	0.64
136	29	M	1	56	141	75.07	23.74	0.85
150	35	M	1	70	171	74.61	24.11	1.15
Male Average						74.89	24.03	0.84
85	42	F	1	5	708	75.66	23.44	0.62
104	54	F	1	24	763	75.25	23.92	0.94
121	61	F	1	41	301	74.77	24.33	0.59
131	65	F	1	51	327	75.51	23.65	0.68
156	79	F	1	76	395	75.37	23.43	0.75
Female Average						75.31	23.75	0.72
Treatment Average						75.10	23.89	0.78
84	3	M	2	4	19	74.34	24.62	0.70
110	14	M	2	30	565	75.26	23.88	0.92
114	17	M	2	34	83	75.72	23.10	1.03
134	27	M	2	54	131	74.48	24.58	0.59
159	40	M	2	79	695	74.18	24.23	1.33
Male Average						74.80	24.08	0.91
94	47	F	2	14	231	75.10	24.17	0.64
105	55	F	2	25	271	74.95	24.18	0.71
118	60	F	2	38	791	74.74	24.48	0.87
143	72	F	2	63	852	74.96	24.11	0.65
153	77	F	2	73	382	75.35	23.42	1.29
Female Average						75.02	24.07	0.83
Treatment Average						74.91	24.08	0.87
96	8	M	3	16	534	74.52	24.38	1.00
99	10	M	3	19	549	75.52	23.40	1.09
120	20	M	3	40	595	75.36	23.60	0.88
142	31	M	3	62	155	74.88	24.25	0.98
157	38	M	3	77	684	74.70	23.80	1.00
Male Average						75.00	23.89	0.99
93	46	F	3	13	722	75.38	23.84	0.58
103	53	F	3	23	267	75.35	23.84	0.60
115	58	F	3	35	782	75.13	23.90	0.72
140	70	F	3	60	841	74.91	24.29	0.52
160	80	F	3	80	891	74.94	24.13	0.64
Female Average						75.14	24.00	0.61
Treatment Average						75.07	23.94	0.80

Appendix Table 6. Moisture, protein and fat analysis of chicken breasts ('as-is' basis) Project No. MN-00-11  
Monsanto Study No. 2000-01-39-38

Univ. of MO Number*	CQR No.	Sex	Treatment ID	Pen No.	Bird No.	% Moisture	% Protein (By Kjeldahl)	% Fat By Acid Hydrolysis
89	5	M	4	9	21	74.56	24.89	0.53
97	9	M	4	17	41	75.23	23.85	0.74
119	19	M	4	39	92	75.62	23.17	1.46
144	32	M	4	64	653	75.37	23.69	0.80
149	34	M	4	69	662	75.25	23.38	1.65
Male Average						75.21	23.80	1.04
95	48	F	4	15	737	75.55	23.58	0.75
98	49	F	4	18	243	75.42	23.61	0.73
123	62	F	4	43	802	75.27	23.86	0.64
133	67	F	4	53	337	74.71	23.71	0.78
152	76	F	4	72	871	75.14	23.93	0.83
Female Average						75.22	23.74	0.75
Treatment Average						75.21	23.77	0.89
92	7	M	5	12	32	74.66	23.83	1.02
112	16	M	5	32	573	75.53	23.71	0.78
125	22	M	5	45	604	74.75	24.70	0.71
129	25	M	5	49	127	74.80	23.83	0.72
158	39	M	5	78	192	74.23	24.98	0.45
Male Average						74.79	24.21	0.74
83	41	F	5	3	205	75.48	23.64	0.59
102	52	F	5	22	753	76.15	22.20	1.59
126	64	F	5	46	811	75.41	23.75	0.77
132	66	F	5	52	822	75.54	23.38	0.60
145	73	F	5	65	364	75.57	23.48	0.89
Female Average						75.63	23.29	0.89
Treatment Average						75.21	23.75	0.81
88	4	M	6	8	519	74.93	24.04	0.72
107	12	M	6	27	559	75.22	23.45	1.26
128	24	M	6	48	613	75.06	23.71	0.95
138	30	M	6	58	647	75.10	24.17	0.66
155	37	M	6	75	186	75.15	23.66	0.78
Male Average						75.09	23.81	0.87
86	43	F	6	6	215	75.59	23.56	0.45
100	50	F	6	20	744	74.79	24.46	0.81
124	63	F	6	44	316	74.67	24.60	0.77
137	68	F	6	57	832	75.25	21.60	0.73
154	78	F	6	74	883	75.44	23.42	0.88
Female Average						75.15	23.53	0.73
Treatment Average						75.12	23.67	0.80

Appendix Table 6. Moisture, protein and fat analysis of chicken breasts ('as-is' basis) Project No. MN-00-1  
Monsanto Study No. 2000-01-39-38

Univ. of MO Number*	CQR No.	Sex	Treatment ID	Pen No.	Bird No.	% Moisture	% Protein (By Kjeldahl)	% Fat by Acid Hydrolysis
91	6	Males	7	11	525	74.96	23.79	0.73
108	13	Males	7	28	63	75.43	23.51	0.96
116	18	Males	7	36	582	74.83	24.20	0.96
135	28	Males	7	55	635	74.40	24.83	0.70
151	36	Males	7	71	671	74.81	24.13	1.06
Male Average						74.89	24.09	0.88
87	44	Females	7	7	715	75.28	23.97	0.48
101	51	Females	7	21	256	75.44	23.69	0.74
117	59	Females	7	37	293	75.01	24.10	0.67
141	71	Females	7	61	359	75.12	23.55	0.91
148	75	Females	7	68	371	75.52	23.65	0.59
Female Average						75.27	23.79	0.68
Treatment Average						75.08	23.94	0.78
82	2	Males	8	2	502	75.02	23.39	0.75
111	15	Males	8	31	72	75.02	23.87	1.07
122	21	Males	8	42	101	75.99	23.04	0.61
130	26	Males	8	50	621	75.14	23.64	0.77
147	33	Males	8	67	164	74.31	24.62	0.70
Male Average						75.10	23.71	0.78
90	45	Females	8	10	221	75.42	23.64	0.66
109	56	Females	8	29	772	75.41	23.32	1.12
113	57	Females	8	33	287	75.51	23.26	0.64
139	69	Females	8	59	347	75.59	23.59	0.84
146	74	Females	8	66	861	75.17	23.94	0.76
Female Average						75.42	23.55	0.80
Treatment Average						75.26	23.63	0.79

Samples from males were collected on 10/26/00 and samples from females were collected on 10/27/00

\*Analysis conducted by Experiment Station Chemical Laboratories, University of Missouri. This is the number assigned to the sample when received at the Univ. of MO

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Appendix Table 7. Individual mortality/removal weights, by date and study day of death. Project No. MN-00-1  
Monsanto Study No. 2000-01-39-38

			Birds - Mortality/removal weights (kg) [Date is year 2000]											
Treatment	Sex	Pen Number	Day 0 - 7						Day 7 - 42					
			Wt.	Date	Day	Wt.	Date	Day	Wt.	Date	Day	Wt.	Date	Day
2	M	30	0.280	9/20	7									
8	M	31	0.230	9/20	7									
5	M	32	0.200	9/20	7									
8	F	33	0.230	9/20	7									
2	M	34	0.075	9/17	4	0.150	9/20	7						
3	F	35	0.250	9/20	7									
7	M	36	0.210	9/20	7									
7	F	37	0.330	9/20	7									
2	F	38	0.040	9/14	1	0.110	9/20	7						
4	M	39	0.160	9/20	7				4.46	10/24	41			
3	M	40	0.050	9/14	1	0.150	9/20	7						
1	F	41	0.030	9/19	6	0.140	9/20	7						
8	M	42	0.210	9/20	7									
4	F	43	0.280	9/20	7				0.52	10/3	20			
6	F	44	0.240	9/20	7									
5	M	45	0.240	9/20	7									
5	F	46	0.270	9/20	7									
1	M	47	0.160	9/20	7									
6	M	48	0.220	9/20	7									
5	M	49	0.260	9/20	7									
8	M	50	0.230	9/20	7									
1	F	51	0.290	9/20	7									
5	F	52	0.240	9/20	7									
4	F	53	0.160	9/20	7									
2	M	54	0.040	9/14	1	0.120	9/20	7	0.41	9/30	17			
7	M	55	0.190	9/20	7				0.96	10/8	25			
1	M	56	0.210	9/20	7									
6	F	57	0.240	9/20	7				0.12	9/26	13			
6	M	58	0.025	9/16	3	0.110	9/20	7	1.55	10/16	33			

Appendix Table 7. Individual mortality/removal weights, by date and study day of death. Project No. MN-00-1  
Monsanto Study No. 2000-01-39-38

Birds - Mortality/removal weights (kg) [Date is year 2000]														
Treatment	Sex	Pen Number	Day 0 - 7						Day 7 - 42					
			Wt.	Date	Day	Wt.	Date	Day	Wt.	Date	Day	Wt.	Date	Day
8	F	59	0.180	9/20	7									
3	F	60	0.190	9/20	7									
7	F	61	0.200	9/20	7									
3	M	62	0.220	9/20	7									
2	F	63	0.035	9/16	3	0.030	9/18	5						
4	M	64	0.025	9/18	5	0.100	9/20	7						
5	F	65	0.210	9/20	7									
8	F	66	0.230	9/20	7									
8	M	67	0.250	9/20	7				0.24	9/29	16	2.30	10/21	38
7	F	68	0.030	9/17	4	0.140	9/20	7						
4	M	69	0.210	9/20	7				1.14	10/12	29			
1	M	70	0.220	9/20	7									
7	M	71	0.200	9/20	7									
4	F	72	0.240	9/20	7									
2	F	73	0.250	9/20	7									
6	F	74	0.260	9/20	7									
6	M	75	0.190	9/20	7				2.06	10/22	39			
1	F	76	0.190	9/20	7									
3	M	77	0.230	9/20	7									
5	M	78	0.250	9/20	7									
2	M	79	0.210	9/20	7				0.87	10/9	26			
3	F	80	0.270	9/20	7									

Day = study day of death [day 0 = 9/13/00]

Table P1. Summary, by pen, of processing data at 43 & 44 days of age (10/26 and 10/27/00)  
(live wt is after ~12 hr feed withdrawal) Project No. MN-00-1 (Monsanto Study #2000-01-39-38)

Treatment	Sex	Pen	No. of Birds	Pen Average							% Chill	% Fat Pad	Percent of Chill Weight			
				Live Wt. (kg)	Fat Pad Wt. (kg)	Chill Wt. (kg)	Breast Wt. (kg)	Wings Wt. (kg)	Thighs Wt. (kg)	Drums Wt. (kg)			Breast	Wings	Thighs	Drums
1	F	5	10	2.153	0.0418	1.557	0.413	0.175	0.257	0.208	72.29%	1.93%	26.50%	11.28%	16.48%	13.37%
1	F	24	10	2.079	0.0341	1.513	0.395	0.174	0.253	0.209	72.73%	1.65%	26.13%	11.47%	16.71%	13.80%
1	F	41	10	2.073	0.0337	1.487	0.391	0.177	0.244	0.204	71.65%	1.63%	26.30%	11.93%	16.39%	13.68%
1	F	51	10	2.139	0.0346	1.554	0.413	0.182	0.261	0.216	72.68%	1.62%	26.57%	11.72%	16.80%	13.86%
1	F	76	9	2.034	0.0372	1.447	0.367	0.174	0.247	0.205	71.09%	1.82%	25.34%	12.09%	17.06%	14.14%
Total & Average			49	2.096	0.0363	1.512	0.396	0.176	0.252	0.208	72.09%	1.73%	26.17%	11.70%	16.69%	13.77%
1	M	1	9	2.486	0.0389	1.748	0.450	0.202	0.302	0.248	70.26%	1.58%	25.70%	11.55%	17.32%	14.21%
1	M	26	10	2.240	0.0214	1.545	0.408	0.183	0.248	0.224	69.06%	0.96%	26.34%	11.83%	16.03%	14.49%
1	M	47	10	2.512	0.0327	1.777	0.463	0.206	0.310	0.254	70.71%	1.30%	26.04%	11.59%	17.40%	14.27%
1	M	56	10	2.538	0.0336	1.828	0.477	0.211	0.321	0.260	71.93%	1.34%	26.06%	11.56%	17.60%	14.20%
1	M	70	10	2.395	0.0324	1.699	0.444	0.198	0.294	0.246	70.88%	1.35%	26.13%	11.69%	17.30%	14.47%
Total & Average			49	2.434	0.0318	1.719	0.448	0.200	0.295	0.246	70.57%	1.31%	26.05%	11.64%	17.13%	14.33%
Treatment Total & Average			98	2.265	0.0340	1.616	0.422	0.188	0.274	0.227	71.33%	1.52%	26.11%	11.67%	16.91%	14.05%
2	F	14	10	2.090	0.0346	1.503	0.386	0.176	0.254	0.205	71.88%	1.64%	25.69%	11.72%	16.87%	13.69%
2	F	25	10	2.214	0.0344	1.596	0.428	0.182	0.259	0.216	72.11%	1.54%	26.80%	11.44%	16.23%	13.51%
2	F	38	10	2.194	0.0367	1.572	0.413	0.180	0.267	0.214	71.57%	1.67%	26.14%	11.48%	17.01%	13.68%
2	F	63	10	2.049	0.0431	1.449	0.382	0.172	0.244	0.197	70.71%	2.07%	26.34%	11.86%	16.79%	13.63%
2	F	73	10	2.127	0.0398	1.518	0.410	0.176	0.252	0.205	71.33%	1.88%	26.88%	11.62%	16.58%	13.53%
Total & Average			50	2.135	0.0377	1.528	0.404	0.177	0.255	0.207	71.52%	1.76%	26.37%	11.62%	16.70%	13.61%
2	M	4	9	2.332	0.0299	1.671	0.419	0.192	0.294	0.240	71.54%	1.28%	24.90%	11.58%	17.57%	14.38%
2	M	30	9	2.327	0.0312	1.672	0.435	0.194	0.275	0.231	71.71%	1.32%	26.04%	11.68%	16.33%	13.82%
2	M	34	10	2.452	0.0330	1.759	0.439	0.206	0.298	0.257	71.73%	1.34%	24.98%	11.72%	16.96%	14.62%
2	M	54	9	2.437	0.0386	1.727	0.450	0.196	0.296	0.245	70.86%	1.59%	26.05%	11.38%	17.15%	14.22%
2	M	79	9	2.437	0.0352	1.746	0.472	0.202	0.290	0.241	71.64%	1.44%	26.98%	11.56%	16.61%	13.76%
Total & Average			46	2.397	0.0336	1.715	0.443	0.198	0.291	0.243	71.50%	1.39%	25.79%	11.58%	16.92%	14.16%
Treatment Total & Average			96	2.266	0.0357	1.621	0.423	0.188	0.273	0.225	71.51%	1.58%	26.08%	11.60%	16.81%	13.88%

Percent chill and fat pad are percent of live weight, percent breast, wings, thighs and drums are percent of chill weight  
Males processed on day 43 and females processed on day 44

Table P1. Summary, by pen, of processing data at 43 & 44 days of age (10/26 and 10/27/00)  
(live wt is after ~12 hr feed withdrawal)

Project No. MN-00-1 (Monsanto Study #2000-01-39-38)

			No. of Birds	Pen Average							% Chill	% Fat Pad	Percent of Chill Weight			
Treatment	Sex	Pen		Live	Fat Pad	Chill	Breast	Wings	Thighs	Drums			Breast	Wings	Thighs	Drums
				Wt. (kg)	Wt. (kg)	Wt. (kg)	Wt. (kg)	Wt. (kg)	Wt. (kg)	Wt. (kg)						
3	F	13	10	2.088	0.0323	1.493	0.398	0.172	0.252	0.202	71.46%	1.54%	26.61%	11.54%	16.91%	13.56%
3	F	23	10	2.143	0.0452	1.549	0.399	0.175	0.257	0.209	72.23%	2.11%	25.75%	11.33%	16.57%	13.51%
3	F	35	10	2.197	0.0446	1.585	0.430	0.180	0.264	0.211	72.10%	2.04%	27.13%	11.35%	16.66%	13.32%
3	F	60	10	2.179	0.0363	1.586	0.412	0.183	0.268	0.218	72.78%	1.67%	25.98%	11.58%	16.91%	13.70%
3	F	80	10	2.112	0.0351	1.520	0.398	0.175	0.257	0.214	71.95%	1.67%	26.16%	11.52%	16.91%	14.07%
Total & Average			50	2.144	0.0387	1.547	0.407	0.177	0.260	0.211	72.10%	1.81%	26.33%	11.46%	16.79%	13.63%
3	M	16	10	2.411	0.0344	1.715	0.444	0.194	0.301	0.249	71.07%	1.44%	25.81%	11.32%	17.58%	14.51%
3	M	19	10	2.422	0.0321	1.730	0.460	0.201	0.288	0.244	71.31%	1.33%	26.59%	11.66%	16.64%	14.15%
3	M	40	10	2.556	0.0342	1.843	0.482	0.209	0.313	0.275	72.10%	1.33%	26.10%	11.34%	16.97%	14.94%
3	M	62	10	2.261	0.0304	1.589	0.411	0.189	0.266	0.221	70.19%	1.35%	25.73%	11.95%	16.77%	13.91%
3	M	77	10	2.413	0.0397	1.721	0.447	0.199	0.297	0.250	71.22%	1.66%	25.89%	11.62%	17.24%	14.54%
Total & Average			50	2.413	0.0342	1.720	0.449	0.198	0.293	0.248	71.18%	1.42%	26.02%	11.58%	17.04%	14.41%
Treatment Total & Average			100	2.278	0.0364	1.633	0.428	0.188	0.276	0.229	71.64%	1.61%	26.18%	11.52%	16.92%	14.02%
4	F	15	10	2.226	0.0370	1.611	0.423	0.182	0.267	0.214	72.34%	1.67%	26.25%	11.28%	16.59%	13.30%
4	F	18	10	2.131	0.0397	1.532	0.396	0.176	0.259	0.210	71.90%	1.86%	25.74%	11.50%	16.96%	13.75%
4	F	43	9	2.161	0.0421	1.546	0.393	0.179	0.264	0.214	71.52%	1.94%	25.37%	11.63%	17.04%	13.86%
4	F	53	10	2.193	0.0385	1.575	0.423	0.182	0.270	0.217	71.81%	1.76%	26.84%	11.53%	17.17%	13.74%
4	F	72	10	2.055	0.0369	1.462	0.362	0.171	0.252	0.202	71.09%	1.79%	24.70%	11.75%	17.20%	13.82%
Total & Average			49	2.153	0.0388	1.545	0.399	0.178	0.262	0.211	71.73%	1.80%	25.78%	11.54%	16.99%	13.69%
4	M	9	9	2.342	0.0327	1.631	0.423	0.187	0.278	0.236	69.61%	1.41%	25.81%	11.48%	17.11%	14.53%
4	M	17	8	2.576	0.0330	1.825	0.481	0.211	0.310	0.262	70.83%	1.28%	26.28%	11.59%	16.99%	14.36%
4	M	39	7	2.609	0.0370	1.856	0.501	0.213	0.317	0.259	71.11%	1.42%	27.01%	11.50%	17.10%	13.98%
4	M	64	10	2.458	0.0327	1.718	0.446	0.202	0.296	0.248	70.02%	1.32%	25.87%	11.78%	17.22%	14.47%
4	M	69	8	2.379	0.0304	1.699	0.475	0.196	0.283	0.230	71.36%	1.28%	27.81%	11.56%	16.65%	13.55%
Total & Average			42	2.473	0.0332	1.746	0.465	0.202	0.297	0.247	70.59%	1.34%	26.56%	11.58%	17.01%	14.18%
Treatment Total & Average			91	2.313	0.0360	1.646	0.432	0.190	0.280	0.229	71.16%	1.57%	26.17%	11.56%	17.00%	13.94%

Percent chill and fat pad are percent of live weight, percent breast, wings, thighs and drums are percent of chill weight  
Males processed on day 43 and females processed on day 44

Table P1. Summary, by pen, of processing data at 43 & 44 days of age (10/26 and 10/27/00)  
(live wt is after ~12 hr feed withdrawal) Project No. MN-00-1 (Monsanto Study #2000-01-39-38)

Treatment	Sex	Pen	No. of Birds	Pen Average							% Chill	% Fat Pad	Percent of Chill Weight			
				Live Wt. (kg)	Fat Pad Wt. (kg)	Chill Wt. (kg)	Breast Wt. (kg)	Wings Wt. (kg)	Thighs Wt. (kg)	Drums Wt. (kg)			Breast	Wings	Thighs	Drums
5	F	3	10	2.262	0.0424	1.642	0.436	0.185	0.281	0.221	72.59%	1.86%	26.57%	11.26%	17.12%	13.45%
5	F	22	10	2.168	0.0383	1.565	0.402	0.179	0.263	0.213	72.13%	1.76%	25.67%	11.43%	16.80%	13.60%
5	F	46	10	2.104	0.0403	1.508	0.379	0.179	0.256	0.212	71.67%	1.90%	25.07%	11.87%	16.95%	14.05%
5	F	52	10	2.033	0.0321	1.461	0.371	0.169	0.247	0.205	71.82%	1.60%	25.41%	11.60%	16.88%	14.02%
5	F	65	10	2.140	0.0421	1.524	0.400	0.178	0.255	0.211	71.24%	1.97%	26.24%	11.68%	16.74%	13.86%
Total & Average			50	2.141	0.0390	1.540	0.398	0.178	0.260	0.212	71.89%	1.82%	25.79%	11.57%	16.90%	13.80%
5	M	12	10	2.551	0.0342	1.844	0.481	0.205	0.308	0.262	72.24%	1.35%	26.05%	11.17%	16.69%	14.22%
5	M	32	10	2.317	0.0346	1.660	0.422	0.194	0.284	0.241	71.63%	1.48%	25.29%	11.72%	17.08%	14.59%
5	M	45	10	2.380	0.0343	1.676	0.430	0.194	0.288	0.240	70.42%	1.40%	25.71%	11.61%	17.18%	14.35%
5	M	49	9	2.511	0.0322	1.781	0.451	0.202	0.307	0.261	70.89%	1.28%	25.26%	11.37%	17.27%	14.67%
5	M	78	10	2.406	0.0342	1.714	0.434	0.199	0.299	0.249	71.15%	1.42%	25.26%	11.66%	17.43%	14.54%
Total & Average			49	2.433	0.0339	1.735	0.444	0.199	0.297	0.251	71.27%	1.39%	25.51%	11.51%	17.13%	14.47%
Treatment Total & Average			99	2.287	0.0365	1.638	0.421	0.188	0.279	0.232	71.58%	1.60%	25.65%	11.54%	17.01%	14.14%
6	F	6	10	2.177	0.0490	1.577	0.392	0.185	0.266	0.215	72.43%	2.24%	24.89%	11.70%	16.83%	13.61%
6	F	20	10	2.182	0.0423	1.584	0.415	0.183	0.265	0.209	72.55%	1.96%	26.19%	11.61%	16.70%	13.22%
6	F	44	10	2.106	0.0391	1.503	0.386	0.178	0.247	0.210	71.30%	1.87%	25.65%	11.84%	16.48%	13.99%
6	F	57	9	2.169	0.0379	1.542	0.395	0.188	0.259	0.213	71.10%	1.76%	25.63%	12.22%	16.77%	13.76%
6	F	74	10	2.147	0.0422	1.522	0.395	0.181	0.250	0.208	70.87%	1.97%	25.85%	11.92%	16.40%	13.70%
Total & Average			49	2.156	0.0421	1.546	0.397	0.183	0.257	0.211	71.65%	1.96%	25.64%	11.86%	16.64%	13.66%
6	M	8	10	2.412	0.0286	1.724	0.446	0.197	0.294	0.246	71.46%	1.18%	25.84%	11.45%	17.08%	14.31%
6	M	27	10	2.440	0.0351	1.716	0.455	0.199	0.286	0.241	70.32%	1.45%	26.44%	11.63%	16.66%	14.06%
6	M	48	10	2.476	0.0380	1.765	0.474	0.202	0.298	0.247	71.24%	1.52%	26.85%	11.49%	16.87%	14.00%
6	M	58	9	2.385	0.0385	1.719	0.449	0.198	0.294	0.244	72.08%	1.63%	26.11%	11.50%	17.06%	14.16%
6	M	75	9	2.408	0.0329	1.724	0.449	0.200	0.290	0.240	71.54%	1.37%	26.07%	11.63%	16.81%	13.94%
Total & Average			48	2.424	0.0346	1.730	0.455	0.199	0.292	0.244	71.33%	1.43%	26.26%	11.54%	16.90%	14.09%
Treatment Total & Average			97	2.290	0.0384	1.638	0.426	0.191	0.275	0.227	71.49%	1.70%	25.95%	11.70%	16.77%	13.88%

Percent chill and fat pad are percent of live weight, percent breast, wings, thighs and drums are percent of chill weight  
Males processed on day 43 and females processed on day 44

Table P1. Summary, by pen, of processing data at 43 &amp; 44 days of age (10/26 and 10/27/00)

(live wt is after ~12 hr feed withdrawal)

Project No. MN-00-1 (Monsanto Study #2000-01-39-38)

			No. of Birds	Pen Average							% Chill	% Fat Pad	Percent of Chill Weight			
Treatment	Sex	Pen		Live	Fat Pad	Chill	Breast	Wings	Thighs	Drums			Breast	Wings	Thighs	Drums
				Wt. (kg)	Wt. (kg)	Wt. (kg)	Wt. (kg)	Wt. (kg)	Wt. (kg)	Wt. (kg)						
7	F	7	10	2.246	0.0424	1.604	0.407	0.189	0.288	0.223	71.35%	1.88%	25.31%	11.79%	17.95%	13.89%
7	F	21	10	2.117	0.0429	1.497	0.381	0.178	0.255	0.199	70.57%	2.00%	25.33%	11.96%	17.05%	13.38%
7	F	37	10	2.168	0.0380	1.547	0.410	0.176	0.263	0.214	71.30%	1.76%	26.44%	11.39%	17.04%	13.83%
7	F	61	10	2.112	0.0388	1.502	0.386	0.174	0.247	0.207	71.12%	1.83%	25.69%	11.59%	16.46%	13.80%
7	F	68	10	1.876	0.0278	1.328	0.332	0.164	0.229	0.190	70.77%	1.47%	25.01%	12.36%	17.16%	14.29%
Total & Average			50	2.104	0.0380	1.496	0.383	0.176	0.256	0.207	71.02%	1.79%	25.56%	11.82%	17.13%	13.84%
7	M	11	10	2.511	0.0386	1.796	0.455	0.207	0.310	0.260	71.43%	1.53%	25.25%	11.56%	17.28%	14.50%
7	M	28	9	2.172	0.0339	1.511	0.360	0.183	0.262	0.222	69.53%	1.55%	23.90%	12.17%	17.35%	14.69%
7	M	36	10	2.212	0.0289	1.588	0.386	0.189	0.271	0.230	70.82%	1.31%	24.49%	12.07%	17.30%	14.67%
7	M	55	9	2.264	0.0334	1.582	0.385	0.191	0.279	0.235	69.74%	1.45%	24.29%	12.14%	17.59%	14.88%
7	M	71	10	2.304	0.0304	1.636	0.414	0.191	0.285	0.235	70.95%	1.31%	25.31%	11.68%	17.41%	14.39%
Total & Average			48	2.293	0.0330	1.619	0.400	0.192	0.281	0.236	70.49%	1.43%	24.65%	11.92%	17.39%	14.63%
Treatment Total & Average			98	2.198	0.0355	1.557	0.392	0.184	0.269	0.222	70.76%	1.61%	25.10%	11.87%	17.26%	14.23%
8	F	10	10	2.084	0.0337	1.483	0.383	0.176	0.251	0.208	71.17%	1.62%	25.81%	11.89%	16.97%	13.70%
8	F	29	10	2.274	0.0408	1.629	0.433	0.183	0.268	0.220	71.61%	1.79%	26.52%	11.24%	16.47%	13.49%
8	F	33	10	2.184	0.0360	1.555	0.395	0.179	0.266	0.215	71.16%	1.65%	25.34%	11.52%	17.14%	13.86%
8	F	59	10	2.148	0.0352	1.526	0.386	0.181	0.258	0.211	70.99%	1.63%	25.31%	11.87%	16.89%	13.83%
8	F	66	10	2.033	0.0289	1.441	0.373	0.172	0.242	0.205	70.78%	1.43%	25.74%	12.01%	16.77%	14.24%
Total & Average			50	2.145	0.0349	1.527	0.394	0.178	0.257	0.211	71.14%	1.62%	25.74%	11.71%	16.85%	13.82%
8	M	2	9	2.444	0.0296	1.742	0.449	0.201	0.307	0.247	71.25%	1.21%	25.86%	11.54%	17.64%	14.24%
8	M	31	10	2.304	0.0266	1.617	0.410	0.190	0.276	0.237	69.77%	1.11%	25.37%	11.79%	16.98%	14.61%
8	M	42	10	2.342	0.0291	1.676	0.421	0.198	0.290	0.247	71.49%	1.25%	25.10%	11.87%	17.35%	14.76%
8	M	50	10	2.239	0.0306	1.571	0.370	0.184	0.268	0.238	70.03%	1.40%	23.43%	11.75%	17.04%	15.16%
8	M	67	8	2.336	0.0358	1.658	0.420	0.192	0.282	0.244	70.95%	1.54%	25.33%	11.61%	17.00%	14.75%
Total & Average			47	2.333	0.0303	1.653	0.414	0.193	0.285	0.243	70.70%	1.30%	24.98%	11.71%	17.20%	14.70%
Treatment Total & Average			97	2.239	0.0326	1.590	0.404	0.186	0.271	0.227	70.92%	1.46%	25.36%	11.71%	17.03%	14.26%

Male-designated Pens 1, 31, and 50 each had one female bird (sex-slip)

Female-designated Pens 10, 29 and 59 each had one male bird (sex-slip)

Percent chill and fat pad are percent of live weight, percent breast, wings, thighs and drums are percent of chill weight

Males processed on day 43 and females processed on day 44

Table P2. Individual male bird processing data at 43 days of age (10/26/00) Project No. MN-00-1 (Monsanto #2000-01-39-38)  
(live wt is after ~12 hr feed withdrawal)

Treatment	Pen	Bird No.	Live Wt. (kg)	Fat Pad Wt. (kg)	Chill Wt. (kg)	Breast Wt. (kg)	Wings Wt. (kg)	Thighs Wt. (kg)	Drums Wt. (kg)	% Chill	% Fat Pad	Percent of Chill Weight			
												Breast	Wings	Thighs	Drums
1	1	1	2.790	0.0316	2.050	0.506	0.226	0.351	0.285	73.48%	1.13%	24.68%	11.02%	17.12%	13.90%
1	1	2 F	2.050	0.0353	1.440	0.373	0.167	0.274	0.216	70.24%	1.72%	25.90%	11.60%	19.03%	15.00%
1	1	3	2.416	0.0304	1.695	0.380	0.191	0.313	0.246	70.16%	1.26%	22.42%	11.27%	18.47%	14.51%
1	1	4	2.314	0.0449	1.555	0.364	0.182	0.280	0.224	67.20%	1.94%	23.41%	11.70%	18.01%	14.41%
1	1	5	2.446	0.0478	1.725	0.468	0.209	0.277	0.240	70.52%	1.95%	27.13%	12.12%	16.06%	13.91%
1	1	6	2.538	0.0442	1.795	0.492	0.191	0.318	0.256	70.72%	1.74%	27.41%	10.64%	17.72%	14.26%
1	1	7	2.758	0.0383	1.950	0.537	0.230	0.332	0.267	70.70%	1.39%	27.54%	11.79%	17.03%	13.69%
1	1	8	2.800	0.0409	1.930	0.512	0.230	0.298	0.278	68.93%	1.46%	26.53%	11.92%	15.44%	14.40%
1	1	9	2.266	0.0371	1.595	0.419	0.190	0.272	0.220	70.39%	1.64%	26.27%	11.91%	17.05%	13.79%
Number of Birds			9												
Pen Average			2.486	0.0389	1.748	0.450	0.202	0.302	0.248	70.26%	1.58%	25.70%	11.55%	17.32%	14.21%
8	2	501	2.466	0.0395	1.755	0.454	0.216	0.340	0.236	71.17%	1.60%	25.87%	12.31%	19.37%	13.45%
8	2	502	2.532	0.0342	1.890	0.530	0.200	0.325	0.247	74.64%	1.35%	28.04%	10.56%	17.20%	13.07%
8	2	503	2.040	0.0230	1.480	0.333	0.179	0.260	0.224	72.55%	1.13%	22.50%	12.09%	17.57%	15.14%
8	2	504	2.442	0.0340	1.710	0.423	0.200	0.308	0.246	70.02%	1.39%	24.74%	11.70%	18.01%	14.39%
8	2	505	2.538	0.0349	1.795	0.449	0.193	0.325	0.262	70.72%	1.38%	25.01%	10.75%	18.11%	14.60%
8	2	506	2.206	0.0229	1.515	0.343	0.181	0.271	0.228	68.68%	1.04%	22.64%	11.95%	17.89%	15.05%
8	2	507	2.628	0.0150	1.855	0.520	0.210	0.323	0.257	70.59%	0.57%	28.03%	11.32%	17.41%	13.85%
8	2	508	2.388	0.0292	1.715	0.478	0.198	0.282	0.239	71.82%	1.22%	27.87%	11.55%	16.44%	13.94%
8	2	509	2.760	0.0333	1.960	0.515	0.228	0.329	0.287	71.01%	1.21%	26.28%	11.63%	16.79%	14.64%
Number of Birds			9												
Pen Average			2.444	0.0296	1.742	0.449	0.201	0.307	0.247	71.25%	1.21%	25.66%	11.54%	17.64%	14.24%
2	4	11	2.256	0.0366	1.670	0.406	0.189	0.305	0.231	74.02%	1.62%	24.31%	11.32%	18.26%	13.83%
2	4	12	2.622	0.0243	1.880	0.527	0.207	0.339	0.265	71.70%	0.93%	28.03%	11.01%	18.03%	14.10%
2	4	13	1.954	0.0354	1.380	0.333	0.167	0.233	0.186	70.62%	1.81%	24.13%	12.10%	16.88%	13.48%
2	4	14	2.608	0.0395	1.845	0.438	0.209	0.332	0.270	70.74%	1.51%	23.74%	11.33%	17.99%	14.63%
2	4	15	2.272	0.0372	1.615	0.363	0.191	0.278	0.228	71.08%	1.64%	22.48%	11.83%	17.21%	14.12%
2	4	16	2.528	0.0213	1.820	0.471	0.208	0.328	0.283	71.99%	0.84%	25.88%	11.43%	18.02%	15.55%
2	4	17	2.312	0.0251	1.650	0.427	0.194	0.290	0.243	71.37%	1.09%	25.88%	11.76%	17.58%	14.73%
2	4	18	2.580	0.0390	1.930	0.531	0.210	0.325	0.263	74.81%	1.51%	27.51%	10.88%	16.84%	13.63%
2	4	19	1.852	0.0105	1.250	0.277	0.157	0.216	0.192	67.49%	0.57%	22.16%	12.56%	17.28%	15.36%
Number of Birds			9												
Pen Average			2.332	0.0299	1.671	0.419	0.192	0.294	0.240	71.54%	1.28%	24.90%	11.58%	17.57%	14.38%

Percent chill and fat pad are percent of live weight, percent breast, wings, thighs and drums are percent of chill weight

Table P2. Individual male bird processing data at 43 days of age (10/26/00) Project No. MN-00-1 (Monsanto #2000-01-39-38)  
(live wt is after ~12 hr feed withdrawal)

Treatment	Pen	Bird No.	Live Wt. (kg)	Fat Pad Wt. (kg)	Chill Wt. (kg)	Breast Wt. (kg)	Wings Wt. (kg)	Thighs Wt. (kg)	Drums Wt. (kg)	% Chill	% Fat Pad	Percent of Chill Weight			
												Breast	Wings	Thighs	Drums
6	8	511	2.410	0.0196	1.710	0.435	0.200	0.300	0.249	70.95%	0.81%	25.44%	11.70%	17.54%	14.56%
6	8	512	2.724	0.0352	1.945	0.506	0.211	0.340	0.279	71.40%	1.29%	26.02%	10.85%	17.48%	14.34%
6	8	513	2.486	0.0310	1.825	0.531	0.198	0.294	0.240	73.41%	1.25%	29.10%	10.85%	16.11%	13.15%
6	8	514	2.526	0.0386	1.775	0.428	0.205	0.305	0.241	70.27%	1.53%	24.11%	11.55%	17.18%	13.58%
6	8	515	2.432	0.0344	1.780	0.469	0.211	0.313	0.250	73.19%	1.41%	26.35%	11.85%	17.58%	14.04%
6	8	516	2.238	0.0190	1.545	0.390	0.178	0.267	0.234	69.03%	0.85%	25.24%	11.52%	17.28%	15.15%
6	8	517	2.242	0.0148	1.590	0.397	0.179	0.279	0.245	70.92%	0.66%	24.97%	11.26%	17.55%	15.41%
6	8	518	2.498	0.0256	1.770	0.441	0.209	0.305	0.250	70.86%	1.02%	24.92%	11.81%	17.23%	14.12%
6	8	519	2.002	0.0290	1.450	0.374	0.170	0.248	0.211	72.43%	1.45%	25.79%	11.72%	17.10%	14.55%
6	8	520	2.564	0.0392	1.850	0.489	0.211	0.291	0.262	72.15%	1.53%	26.43%	11.41%	15.73%	14.16%
Number of Birds		10													
Pen Average			2.412	0.0286	1.724	0.446	0.197	0.294	0.246	71.46%	1.18%	25.84%	11.45%	17.08%	14.31%
4	9	21	2.332	0.0236	1.825	0.415	0.185	0.279	0.251	69.68%	1.01%	25.54%	11.38%	17.17%	15.45%
4	9	22	2.330	0.0139	1.615	0.498	0.187	0.294	0.226	69.31%	0.60%	25.26%	11.58%	18.20%	13.99%
4	9	23	2.194	0.0257	1.530	0.417	0.176	0.261	0.235	69.74%	1.17%	27.25%	11.50%	17.06%	15.36%
4	9	24	2.706	0.0449	1.905	0.533	0.214	0.330	0.278	70.40%	1.66%	27.98%	11.23%	17.32%	14.59%
4	9	25	2.650	0.0305	1.845	0.512	0.216	0.275	0.247	69.62%	1.15%	27.75%	11.71%	14.91%	13.39%
4	9	26	2.166	0.0514	1.490	0.359	0.170	0.291	0.215	68.79%	2.37%	24.09%	11.41%	17.52%	14.43%
4	9	27	2.410	0.0477	1.645	0.415	0.192	0.284	0.232	68.26%	1.98%	25.23%	11.67%	17.08%	14.10%
4	9	28	2.034	0.0412	1.405	0.311	0.161	0.256	0.213	69.08%	2.03%	22.14%	11.46%	18.22%	15.16%
4	9	29	2.256	0.0155	1.615	0.437	0.184	0.266	0.231	71.59%	0.69%	27.06%	11.39%	16.47%	14.30%
Number of Birds		9													
Pen Average			2.342	0.0327	1.631	0.423	0.187	0.278	0.236	69.61%	1.41%	25.81%	11.48%	17.11%	14.53%
7	11	521	2.742	0.0499	2.075	0.542	0.223	0.368	0.281	75.67%	1.82%	26.12%	10.75%	17.73%	13.54%
7	11	522	2.392	0.0314	1.695	0.433	0.205	0.288	0.239	70.86%	1.31%	25.55%	12.09%	16.99%	14.10%
7	11	523	2.230	0.0413	1.610	0.346	0.203	0.277	0.252	72.20%	1.85%	21.49%	12.61%	17.20%	15.65%
7	11	524	3.006	0.0627	2.180	0.594	0.237	0.360	0.295	72.52%	2.09%	27.25%	10.87%	16.51%	13.53%
7	11	525	2.534	0.0325	1.815	0.466	0.215	0.341	0.269	71.63%	1.28%	25.67%	11.85%	18.79%	14.82%
7	11	526	2.458	0.0372	1.740	0.461	0.198	0.297	0.247	70.79%	1.51%	26.49%	11.38%	17.07%	14.20%
7	11	527	2.386	0.0495	1.685	0.423	0.188	0.291	0.244	70.62%	2.07%	25.10%	11.16%	17.27%	14.48%
7	11	528	2.528	0.0220	1.775	0.429	0.206	0.328	0.268	70.21%	0.87%	24.17%	11.61%	18.48%	15.10%
7	11	529	2.490	0.0201	1.755	0.448	0.202	0.303	0.259	70.48%	0.81%	25.53%	11.51%	17.26%	14.76%
7	11	530	2.346	0.0391	1.625	0.408	0.192	0.251	0.241	69.27%	1.67%	25.11%	11.82%	15.45%	14.83%
Number of Birds		10													
Pen Average			2.511	0.0386	1.796	0.455	0.207	0.310	0.260	71.43%	1.53%	25.25%	11.56%	17.28%	14.50%

Percent chill and fat pad are percent of live weight, percent breast, wings, thighs and drums are percent of chill weight

Table P2. Individual male bird processing data at 43 days of age (10/26/00) Project No. MN-00-1 (Monsanto #2000-01-39-38)  
(live wt is after ~12 hr feed withdrawal)

Treatment	Pen	Bird No.	Live Wt. (kg)	Fat Pad Wt. (kg)	Chill Wt. (kg)	Breast Wt. (kg)	Wings Wt. (kg)	Thighs Wt. (kg)	Drums Wt. (kg)	% Chill	% Fat Pad	Percent of Chill Weight			
												Breast	Wings	Thighs	Drums
5	12	31	2.984	0.0326	2.185	0.547	0.208	0.353	0.314	73.22%	1.09%	25.03%	9.52%	16.16%	14.37%
5	12	32	2.576	0.0363	1.820	0.483	0.212	0.304	0.260	70.65%	1.41%	26.54%	11.65%	16.70%	14.29%
5	12	33	2.412	0.0353	1.750	0.462	0.195	0.283	0.250	72.55%	1.46%	26.40%	11.14%	16.17%	14.29%
5	12	34	2.574	0.0345	1.990	0.508	0.227	0.326	0.281	77.31%	1.34%	25.53%	11.41%	16.38%	14.12%
5	12	35	2.652	0.0500	1.925	0.531	0.211	0.319	0.245	72.59%	1.89%	27.58%	10.96%	16.57%	12.73%
5	12	36	2.182	0.0335	1.535	0.365	0.184	0.258	0.235	70.35%	1.54%	23.78%	11.99%	16.81%	15.31%
5	12	37	2.582	0.0223	1.825	0.489	0.204	0.308	0.268	70.68%	0.86%	26.79%	11.18%	16.88%	14.68%
5	12	38	2.524	0.0319	1.785	0.474	0.198	0.334	0.250	70.72%	1.26%	26.55%	11.09%	18.71%	14.01%
5	12	39	2.468	0.0246	1.845	0.472	0.205	0.307	0.259	74.76%	1.00%	25.58%	11.11%	16.64%	14.04%
5	12	40	2.560	0.0411	1.780	0.476	0.208	0.283	0.256	69.53%	1.61%	26.74%	11.69%	15.90%	14.38%
Number of Birds		10													
Pen Average			2.551	0.0342	1.844	0.481	0.205	0.308	0.262	72.24%	1.35%	26.05%	11.17%	16.69%	14.22%
3	16	531	2.340	0.0403	1.670	0.487	0.183	0.319	0.211	71.37%	1.72%	29.16%	10.96%	19.10%	12.63%
3	16	532	2.258	0.0292	1.595	0.378	0.183	0.295	0.245	70.64%	1.29%	23.70%	11.47%	18.50%	15.36%
3	16	533	2.182	0.0516	1.505	0.397	0.173	0.257	0.204	68.97%	2.36%	26.38%	11.50%	17.08%	13.55%
3	16	534	2.388	0.0429	1.660	0.388	0.187	0.311	0.243	69.51%	1.80%	23.37%	11.27%	18.73%	14.64%
3	16	535	2.566	0.0279	1.805	0.456	0.214	0.293	0.259	70.34%	1.09%	25.26%	11.86%	16.23%	14.35%
3	16	536	2.534	0.0235	1.835	0.528	0.196	0.315	0.266	72.42%	0.93%	28.77%	10.68%	17.17%	14.50%
3	16	537	2.290	0.0340	1.660	0.422	0.183	0.292	0.249	72.49%	1.48%	25.42%	11.02%	17.59%	15.00%
3	16	538	2.238	0.0291	1.560	0.370	0.190	0.270	0.240	69.71%	1.30%	23.72%	12.18%	17.31%	15.38%
3	16	539	2.800	0.0366	2.030	0.544	0.223	0.351	0.300	72.50%	1.31%	26.80%	10.99%	17.29%	14.78%
3	16	540	2.516	0.0286	1.830	0.467	0.206	0.307	0.273	72.73%	1.14%	25.52%	11.26%	16.78%	14.92%
Number of Birds		10													
Pen Average			2.411	0.0344	1.715	0.444	0.194	0.301	0.249	71.07%	1.44%	25.81%	11.32%	17.58%	14.51%
4	17	41	2.776	0.0351	1.940	0.536	0.223	0.322	0.283	69.88%	1.26%	27.63%	11.49%	16.60%	14.59%
4	17	42	2.184	0.0163	1.525	0.371	0.188	0.242	0.224	69.83%	0.75%	24.33%	12.33%	15.87%	14.69%
4	17	43	2.756	0.0403	1.935	0.484	0.224	0.322	0.269	70.21%	1.46%	25.01%	11.58%	16.64%	13.90%
4	17	44	2.616	0.0250	1.840	0.494	0.220	0.313	0.258	70.34%	0.96%	26.85%	11.96%	17.01%	14.02%
4	17	45	2.450	0.0322	1.760	0.495	0.195	0.310	0.237	71.84%	1.31%	28.13%	11.08%	17.61%	13.47%
4	17	46	2.680	0.0313	1.950	0.549	0.217	0.337	0.293	72.76%	1.17%	28.15%	11.13%	17.28%	15.03%
4	17	47	2.392	0.0482	1.660	0.393	0.200	0.289	0.237	69.40%	2.02%	23.67%	12.05%	17.41%	14.28%
4	17	48	2.750	0.0353	1.990	0.526	0.221	0.348	0.297	72.36%	1.28%	26.43%	11.11%	17.49%	14.92%
Number of Birds		8													
Pen Average			2.576	0.0330	1.825	0.481	0.211	0.310	0.262	70.83%	1.28%	26.28%	11.59%	16.99%	14.36%

Percent chill and fat pad are percent of live weight, percent breast, wings, thighs and drums are percent of chill weight

Table P2. Individual male bird processing data at 43 days of age (10/26/00) Project No. MN-00-1 (Monsanto #2000-01-39-38)  
(live wt is after ~12 hr feed withdrawal)

Treatment	Pen	Bird No.	Live Wt. (kg)	Fat Pad Wt. (kg)	Chill Wt. (kg)	Breast Wt. (kg)	Wings Wt. (kg)	Thighs Wt. (kg)	Drums Wt. (kg)	% Chill	% Fat Pad	Percent of Chill Weight			
												Breast	Wings	Thighs	Drums
3	19	541	2.746	0.0233	1.980	0.530	0.224	0.304	0.276	72.10%	0.85%	26.77%	11.31%	15.35%	13.94%
3	19	542	2.636	0.0541	1.875	0.507	0.208	0.327	0.259	71.13%	2.05%	27.04%	11.09%	17.44%	13.81%
3	19	543	2.506	0.0215	1.765	0.420	0.201	0.326	0.254	70.43%	0.86%	23.80%	11.39%	18.47%	14.39%
3	19	544	2.394	0.0177	1.755	0.474	0.194	0.287	0.245	73.31%	0.74%	27.01%	11.05%	16.35%	13.96%
3	19	545	1.872	0.0193	1.265	0.325	0.166	0.192	0.186	67.57%	1.03%	25.69%	13.12%	15.18%	14.70%
3	19	546	2.322	0.0259	1.645	0.438	0.197	0.277	0.240	70.84%	1.12%	26.63%	11.98%	16.84%	14.59%
3	19	547	2.236	0.0495	1.595	0.447	0.193	0.256	0.238	71.33%	2.21%	28.03%	12.10%	16.05%	14.92%
3	19	548	2.442	0.0330	1.705	0.457	0.208	0.318	0.245	69.82%	1.35%	26.80%	12.20%	18.65%	14.37%
3	19	549	2.608	0.0294	1.880	0.528	0.219	0.315	0.248	72.09%	1.13%	28.09%	11.65%	16.76%	13.19%
3	19	550	2.458	0.0472	1.830	0.476	0.196	0.281	0.249	74.45%	1.92%	26.01%	10.71%	15.36%	13.61%
Number of Birds		10													
Pen Average			2.422	0.0321	1.730	0.460	0.201	0.288	0.244	71.31%	1.33%	26.59%	11.66%	16.64%	14.15%
1	26	51	2.616	0.0208	1.625	0.476	0.189	0.238	0.216	62.12%	0.80%	29.29%	11.63%	14.65%	13.29%
1	26	52	2.350	0.0279	1.620	0.428	0.199	0.265	0.240	68.94%	1.19%	26.42%	12.28%	16.36%	14.81%
1	26	53	1.978	0.0278	1.395	0.298	0.165	0.245	0.217	70.53%	1.41%	21.36%	11.83%	17.56%	15.56%
1	26	54	2.176	0.0105	1.485	0.381	0.176	0.236	0.207	68.24%	0.48%	25.66%	11.85%	15.89%	13.94%
1	26	55	2.370	0.0165	1.685	0.474	0.200	0.270	0.250	71.10%	0.70%	28.13%	11.87%	16.02%	14.84%
1	26	56	1.924	0.0226	1.335	0.324	0.161	0.209	0.197	69.39%	1.17%	24.27%	12.06%	15.66%	14.76%
1	26	57	2.126	0.0154	1.460	0.383	0.176	0.238	0.225	68.67%	0.72%	26.23%	12.05%	16.30%	15.41%
1	26	58	2.148	0.0083	1.515	0.466	0.174	0.232	0.200	70.53%	0.39%	30.76%	11.49%	15.31%	13.20%
1	26	59	2.236	0.0271	1.575	0.410	0.184	0.228	0.225	70.44%	1.21%	26.03%	11.68%	14.48%	14.29%
1	26	60	2.476	0.0368	1.750	0.441	0.202	0.316	0.259	70.68%	1.40%	25.20%	11.54%	18.06%	14.80%
Number of Brds		10													
Pen Average			2.240	0.0214	1.545	0.408	0.183	0.248	0.224	69.06%	0.96%	26.34%	11.83%	16.03%	14.49%
6	27	551	2.430	0.0374	1.685	0.459	0.195	0.275	0.235	69.34%	1.54%	27.24%	11.57%	16.32%	13.95%
6	27	552	2.506	0.0443	1.740	0.408	0.194	0.321	0.245	69.43%	1.77%	23.45%	11.15%	18.45%	14.08%
6	27	553	2.688	0.0339	1.990	0.598	0.214	0.339	0.275	74.03%	1.26%	30.05%	10.75%	17.04%	13.82%
6	27	554	2.412	0.0455	1.710	0.455	0.194	0.305	0.243	70.90%	1.89%	26.61%	11.35%	17.84%	14.21%
6	27	555	2.320	0.0353	1.610	0.436	0.204	0.243	0.216	69.40%	1.52%	27.08%	12.67%	15.09%	13.42%
6	27	556	2.376	0.0118	1.650	0.435	0.206	0.266	0.243	69.44%	0.50%	26.36%	12.48%	16.12%	14.73%
6	27	557	2.820	0.0434	1.965	0.495	0.226	0.319	0.268	69.68%	1.54%	25.19%	11.50%	16.23%	13.64%
6	27	558	2.080	0.0339	1.455	0.341	0.171	0.252	0.213	69.95%	1.63%	23.44%	11.75%	17.32%	14.64%
6	27	559	2.142	0.0377	1.535	0.441	0.177	0.240	0.202	71.66%	1.76%	28.73%	11.53%	15.64%	13.16%
6	27	560	2.624	0.0278	1.820	0.477	0.210	0.302	0.272	69.36%	1.06%	26.21%	11.54%	16.59%	14.95%
Number of Birds		10													
Pen Average			2.440	0.0351	1.716	0.455	0.199	0.286	0.241	70.32%	1.45%	26.44%	11.63%	16.66%	14.06%

Percent chill and fat pad are percent of live weight, percent breast, wings, thighs and drums are percent of chill weight

Table P2. Individual male bird processing data at 43 days of age (10/26/00) Project No. MN-00-1 (Monsanto #2000-01-39-38)  
(live wt is after ~12 hr feed withdrawal)

Treatment	Pen	Bird No.	Live Wt. (kg)	Fat Pad Wt. (kg)	Chill Wt. (kg)	Breast Wt. (kg)	Wings Wt. (kg)	Thighs Wt. (kg)	Drums Wt. (kg)	% Chill	% Fat Pad	Percent of Chill Weight			
												Breast	Wings	Thighs	Drums
7	28	61	2.494	0.0487	1.770	0.393	0.208	0.316	0.272	70.97%	1.95%	22.20%	11.75%	17.85%	15.37%
7	28	62	2.188	0.0285	1.500	0.337	0.187	0.258	0.231	68.56%	1.30%	22.47%	12.47%	17.20%	15.40%
7	28	63	2.548	0.0412	1.795	0.436	0.223	0.298	0.259	70.45%	1.62%	24.29%	12.42%	16.60%	14.43%
7	28	64	1.546	0.0209	1.075	0.249	0.145	0.174	0.164	69.53%	1.35%	23.16%	13.49%	16.19%	15.26%
7	28	65	1.906	0.0240	1.330	0.336	0.163	0.252	0.190	69.78%	1.26%	25.26%	12.26%	18.95%	14.29%
7	28	67	2.416	0.0345	1.665	0.381	0.189	0.297	0.244	68.92%	1.43%	22.88%	11.35%	17.84%	14.65%
7	28	68	2.020	0.0369	1.375	0.337	0.168	0.225	0.200	68.07%	1.83%	24.51%	12.22%	16.36%	14.55%
7	28	69	2.314	0.0286	1.585	0.377	0.193	0.278	0.231	68.50%	1.24%	23.79%	12.18%	17.54%	14.57%
7	28	70	2.112	0.0417	1.500	0.398	0.171	0.264	0.206	71.02%	1.97%	26.53%	11.40%	17.60%	13.73%
Number of Birds		9													
Pen Average			2.172	0.0339	1.511	0.360	0.183	0.262	0.222	69.53%	1.55%	23.90%	12.17%	17.35%	14.69%
2	30	562	2.416	0.0173	1.695	0.430	0.198	0.286	0.259	70.16%	0.72%	25.37%	11.68%	16.87%	15.28%
2	30	563	2.176	0.0356	1.500	0.369	0.183	0.252	0.220	68.93%	1.64%	24.60%	12.20%	16.80%	14.67%
2	30	564	2.262	0.0139	1.635	0.442	0.192	0.268	0.220	72.28%	0.61%	27.03%	11.74%	16.39%	13.46%
2	30	565	2.284	0.0357	1.715	0.473	0.192	0.300	0.213	75.09%	1.56%	27.58%	11.20%	17.49%	12.42%
2	30	566	2.512	0.0344	1.715	0.427	0.207	0.278	0.239	68.27%	1.37%	24.90%	12.07%	16.21%	13.94%
2	30	567	2.592	0.0459	1.945	0.510	0.207	0.323	0.265	75.04%	1.77%	26.22%	10.64%	16.61%	13.62%
2	30	568	2.422	0.0437	1.715	0.446	0.203	0.287	0.257	70.81%	1.80%	26.01%	11.84%	16.73%	14.99%
2	30	569	2.614	0.0367	1.965	0.502	0.222	0.321	0.260	75.17%	1.40%	25.55%	11.30%	16.34%	13.23%
2	30	570	1.666	0.0172	1.160	0.314	0.144	0.157	0.148	69.63%	1.03%	27.07%	12.41%	13.53%	12.76%
Number of Birds		9													
Pen Average			2.327	0.0312	1.672	0.435	0.194	0.275	0.231	71.71%	1.32%	26.04%	11.68%	16.33%	13.82%
8	31	71	2.684	0.0408	1.945	0.494	0.226	0.339	0.294	72.47%	1.52%	25.40%	11.62%	17.43%	15.12%
8	31	72	2.496	0.0319	1.825	0.444	0.210	0.313	0.262	73.12%	1.28%	24.33%	11.51%	17.15%	14.36%
8	31	73 F	1.474	0.0000	0.900	0.227	0.115	0.132	0.125	61.06%	0.00%	25.22%	12.78%	14.67%	13.89%
8	31	74	2.544	0.0255	1.795	0.470	0.214	0.292	0.265	70.56%	1.00%	26.18%	11.92%	16.27%	14.76%
8	31	75	2.310	0.0332	1.630	0.412	0.194	0.258	0.235	70.56%	1.44%	25.28%	11.90%	15.83%	14.42%
8	31	76	1.898	0.0238	1.310	0.325	0.159	0.250	0.190	69.02%	1.25%	24.81%	12.14%	19.08%	14.50%
8	31	77	2.544	0.0420	1.760	0.402	0.203	0.310	0.270	69.18%	1.65%	22.84%	11.53%	17.61%	15.34%
8	31	78	2.226	0.0182	1.590	0.412	0.185	0.290	0.253	71.43%	0.82%	25.91%	11.64%	18.24%	15.91%
8	31	79	2.548	0.0242	1.790	0.497	0.192	0.311	0.255	70.25%	0.95%	27.77%	10.73%	17.37%	14.25%
8	31	80	2.314	0.0267	1.620	0.420	0.197	0.262	0.220	70.01%	1.15%	25.93%	12.16%	16.17%	13.58%
Number of Birds		10													
Pen Average			2.304	0.0266	1.617	0.410	0.190	0.276	0.237	69.77%	1.11%	25.37%	11.79%	16.98%	14.61%

Percent chill and fat pad are percent of live weight, percent breast, wings, thighs and drums are percent of chill weight

Table P2. Individual male bird processing data at 43 days of age (10/26/00) Project No. MN-00-1 (Monsanto #2000-01-39-38)  
(live wt is after ~12 hr feed withdrawal)

Treatment	Pen	Bird No.	Live Wt. (kg)	Fat Pad Wt. (kg)	Chill Wt. (kg)	Breast Wt. (kg)	Wings Wt. (kg)	Thighs Wt. (kg)	Drums Wt. (kg)	% Chill	% Fat Pad	Percent of Chill Weight			
												Breast	Wings	Thighs	Drums
5	32	571	2.120	0.0388	1.500	0.373	0.179	0.247	0.213	70.75%	1.83%	24.87%	11.93%	16.47%	14.20%
5	32	572	2.148	0.0155	1.565	0.399	0.182	0.284	0.232	72.86%	0.72%	25.50%	11.63%	18.15%	14.82%
5	32	573	2.598	0.0684	1.920	0.458	0.205	0.343	0.272	73.90%	2.63%	23.85%	10.68%	17.86%	14.17%
5	32	574	2.490	0.0235	1.855	0.522	0.213	0.311	0.255	74.50%	0.94%	28.14%	11.48%	16.77%	13.75%
5	32	575	2.270	0.0343	1.635	0.416	0.198	0.283	0.252	72.03%	1.51%	25.44%	12.11%	17.31%	15.41%
5	32	576	2.608	0.0285	1.760	0.478	0.202	0.306	0.243	67.48%	1.09%	27.16%	11.48%	17.39%	13.81%
5	32	577	2.636	0.0444	1.875	0.524	0.202	0.313	0.267	71.13%	1.68%	27.95%	10.77%	16.69%	14.24%
5	32	578	1.938	0.0257	1.390	0.304	0.180	0.241	0.213	71.72%	1.33%	21.87%	12.95%	17.34%	15.32%
5	32	579	2.046	0.0407	1.400	0.328	0.170	0.234	0.221	68.43%	1.99%	23.43%	12.14%	16.71%	15.79%
5	32	580	2.312	0.0258	1.700	0.420	0.204	0.274	0.244	73.53%	1.12%	24.71%	12.00%	16.12%	14.35%
Number of Birds		10													
Pen Average			2.317	0.0346	1.660	0.422	0.194	0.284	0.241	71.63%	1.48%	25.29%	11.72%	17.08%	14.59%
2	34	81	2.466	0.0218	1.750	0.436	0.211	0.287	0.272	70.97%	0.88%	24.91%	12.06%	16.40%	15.54%
2	34	82	2.424	0.0378	1.740	0.463	0.207	0.311	0.262	71.78%	1.56%	26.03%	11.90%	17.87%	15.06%
2	34	83	2.684	0.0313	2.020	0.520	0.226	0.323	0.285	75.26%	1.17%	25.74%	11.19%	15.99%	14.11%
2	34	84	2.224	0.0251	1.625	0.421	0.188	0.265	0.235	73.07%	1.13%	25.91%	11.63%	16.31%	14.46%
2	34	85	2.546	0.0342	1.850	0.463	0.214	0.320	0.263	72.66%	1.34%	25.03%	11.57%	17.30%	14.22%
2	34	86	2.272	0.0237	1.630	0.425	0.193	0.268	0.232	71.74%	1.04%	26.07%	11.84%	16.44%	14.23%
2	34	87	2.518	0.0381	1.785	0.448	0.218	0.316	0.260	70.89%	1.51%	25.10%	12.21%	17.82%	14.57%
2	34	88	2.374	0.0369	1.715	0.400	0.178	0.305	0.247	72.24%	1.55%	23.32%	10.38%	17.78%	14.40%
2	34	89	2.344	0.0301	1.655	0.392	0.208	0.267	0.251	70.61%	1.28%	23.69%	12.57%	16.13%	15.17%
2	34	90	2.666	0.0511	1.815	0.436	0.216	0.319	0.263	68.08%	1.92%	24.02%	11.90%	17.58%	14.49%
Number of Birds		10													
Pen Average			2.452	0.0330	1.759	0.439	0.206	0.298	0.257	71.73%	1.34%	24.98%	11.72%	16.96%	14.62%
7	36	581	2.252	0.0214	1.620	0.369	0.200	0.277	0.257	71.94%	0.95%	22.78%	12.35%	17.10%	15.86%
7	36	582	2.268	0.0326	1.595	0.436	0.195	0.250	0.228	70.33%	1.44%	27.34%	12.23%	15.67%	14.29%
7	36	583	2.388	0.0167	1.705	0.429	0.202	0.303	0.247	71.40%	0.70%	25.16%	11.85%	17.77%	14.49%
7	36	584	1.710	0.0199	1.180	0.272	0.144	0.201	0.173	69.01%	1.16%	23.05%	12.20%	17.03%	14.66%
7	36	585	2.492	0.0296	1.770	0.438	0.212	0.301	0.262	71.03%	1.19%	24.75%	11.98%	17.01%	14.80%
7	36	586	2.468	0.0346	1.740	0.470	0.200	0.298	0.239	70.50%	1.40%	27.01%	11.49%	17.13%	13.74%
7	36	587	2.032	0.0391	1.450	0.342	0.169	0.261	0.202	71.36%	1.92%	23.59%	11.66%	16.90%	13.93%
7	36	588	1.878	0.0283	1.325	0.297	0.173	0.230	0.203	70.55%	1.51%	22.42%	13.06%	17.36%	15.32%
7	36	589	2.114	0.0218	1.480	0.344	0.192	0.265	0.223	70.01%	1.03%	23.24%	12.97%	17.91%	16.07%
7	36	590	2.518	0.0448	1.815	0.464	0.198	0.328	0.263	72.08%	1.78%	25.56%	10.91%	18.07%	14.49%
Number of Birds		10													
Pen Average			2.212	0.0289	1.568	0.386	0.189	0.271	0.230	70.82%	1.31%	24.49%	12.07%	17.30%	14.67%

Percent chill and fat pad are percent of live weight, percent breast, wings, thighs and drums are percent of chill weight

Table P2. Individual male bird processing data at 43 days of age (10/26/00) Project No. MN-00-1 (Monsanto #2000-01-39-38)  
(live wt is after ~12 hr feed withdrawal)

Treatment	Pen	Bird No.	Live Wt. (kg)	Fat Pad Wt. (kg)	Chill Wt. (kg)	Breast Wt. (kg)	Wings Wt. (kg)	Thighs Wt. (kg)	Drums Wt. (kg)	% Chill	% Fat Pad	Percent of Chill Weight			
												Breast	Wings	Thighs	Drums
4	39	91	2.250	0.0220	1.600	0.477	0.184	0.274	0.226	71.11%	0.98%	29.81%	11.50%	17.13%	14.13%
4	39	92	2.528	0.0186	1.825	0.472	0.206	0.317	0.265	72.19%	0.74%	25.86%	11.29%	17.37%	14.52%
4	39	93	2.500	0.0585	1.750	0.413	0.204	0.299	0.234	70.00%	2.34%	23.60%	11.66%	17.09%	13.37%
4	39	94	2.610	0.0637	1.845	0.516	0.204	0.315	0.255	70.69%	2.44%	27.97%	11.06%	17.07%	13.82%
4	39	95	2.784	0.0265	1.985	0.531	0.236	0.324	0.293	71.30%	0.95%	26.75%	11.89%	16.32%	14.76%
4	39	96	2.898	0.0448	2.065	0.569	0.238	0.360	0.278	71.26%	1.55%	27.55%	11.53%	17.43%	13.46%
4	39	97	2.696	0.0250	1.920	0.529	0.222	0.332	0.265	71.22%	0.93%	27.55%	11.56%	17.29%	13.80%
Number of Birds		7													
Pen Average			2.609	0.0370	1.856	0.501	0.213	0.317	0.259	71.11%	1.42%	27.01%	11.50%	17.10%	13.98%
3	40	591	2.542	0.0382	1.855	0.454	0.208	0.309	0.287	72.97%	1.50%	24.47%	11.21%	16.66%	15.47%
3	40	592	2.426	0.0374	1.705	0.415	0.204	0.296	0.259	70.28%	1.54%	24.34%	11.96%	17.36%	15.19%
3	40	593	2.686	0.0229	1.965	0.591	0.210	0.339	0.299	73.16%	0.85%	30.08%	10.69%	17.25%	15.22%
3	40	594	2.418	0.0138	1.675	0.436	0.211	0.289	0.255	69.27%	0.57%	26.03%	12.60%	17.25%	15.22%
3	40	595	2.652	0.0419	1.905	0.536	0.214	0.327	0.271	71.83%	1.58%	28.14%	11.23%	17.17%	14.23%
3	40	596	2.480	0.0171	1.830	0.443	0.217	0.325	0.279	73.79%	0.69%	24.21%	11.86%	17.76%	15.25%
3	40	597	2.852	0.0590	2.055	0.532	0.226	0.334	0.307	72.05%	2.07%	25.89%	11.00%	16.25%	14.94%
3	40	598	2.632	0.0203	1.870	0.530	0.205	0.318	0.269	71.05%	0.77%	28.34%	10.96%	17.01%	14.39%
3	40	599	2.490	0.0577	1.780	0.432	0.195	0.293	0.276	71.49%	2.32%	24.27%	10.96%	16.46%	15.51%
3	40	600	2.382	0.0339	1.790	0.452	0.195	0.296	0.251	75.15%	1.42%	25.25%	10.89%	16.54%	14.02%
Number of Birds		10													
Pen Average			2.556	0.0342	1.843	0.482	0.209	0.313	0.275	72.10%	1.33%	26.10%	11.34%	16.97%	14.94%
8	42	101	2.184	0.0279	1.630	0.412	0.192	0.248	0.233	74.63%	1.28%	25.28%	11.78%	15.21%	14.29%
8	42	102	2.318	0.0332	1.655	0.447	0.207	0.283	0.236	71.40%	1.43%	27.01%	12.51%	17.10%	14.26%
8	42	103	2.222	0.0206	1.575	0.405	0.184	0.269	0.233	70.88%	0.93%	25.71%	11.68%	17.08%	14.79%
8	42	104	2.364	0.0259	1.645	0.411	0.200	0.293	0.258	69.59%	1.10%	24.98%	12.16%	17.81%	15.68%
8	42	105	2.760	0.0280	2.105	0.530	0.227	0.334	0.294	76.27%	1.01%	25.18%	10.78%	15.87%	13.97%
8	42	106	2.222	0.0158	1.545	0.349	0.189	0.273	0.247	69.53%	0.71%	22.59%	12.23%	17.67%	15.99%
8	42	107	2.456	0.0187	1.705	0.450	0.200	0.277	0.249	69.42%	0.76%	26.39%	11.73%	16.25%	14.60%
8	42	108	2.414	0.0465	1.715	0.408	0.214	0.325	0.246	71.04%	1.93%	23.79%	12.48%	18.95%	14.34%
8	42	109	2.200	0.0416	1.620	0.422	0.184	0.317	0.239	73.64%	1.89%	26.05%	11.36%	19.57%	14.75%
8	42	110	2.278	0.0330	1.560	0.375	0.187	0.280	0.232	68.48%	1.45%	24.04%	11.99%	17.95%	14.87%
Number of Birds		10													
Pen Average			2.342	0.0291	1.676	0.421	0.198	0.290	0.247	71.49%	1.25%	25.10%	11.87%	17.35%	14.76%

Percent chill and fat pad are percent of live weight, percent breast, wings, thighs and drums are percent of chill weight

Table P2. Individual male bird processing data at 43 days of age (10/26/00) Project No. MN-00-1 (Monsanto #2000-01-39-38)  
(live wt is after ~12 hr feed withdrawal)

Treatment	Pen	Bird No.	Live Wt. (kg)	Fat Pad Wt. (kg)	Chill Wt. (kg)	Breast Wt. (kg)	Wings Wt. (kg)	Thighs Wt. (kg)	Drums Wt. (kg)	% Chill	% Fat Pad	Percent of Chill Weight			
												Breast	Wings	Thighs	Drums
5	45	601	2.820	0.0446	2.000	0.525	0.221	0.368	0.281	70.92%	1.58%	26.25%	11.05%	18.40%	14.05%
5	45	602	2.518	0.0404	1.750	0.441	0.208	0.305	0.257	69.50%	1.60%	25.20%	11.89%	17.43%	14.69%
5	45	603	2.390	0.0155	1.675	0.454	0.188	0.287	0.256	70.08%	0.65%	27.10%	11.22%	17.13%	15.28%
5	45	604	2.674	0.0627	1.865	0.431	0.231	0.302	0.258	69.75%	2.34%	23.11%	12.39%	16.19%	13.83%
5	45	605	2.582	0.0472	1.820	0.463	0.205	0.322	0.252	70.49%	1.83%	25.44%	11.26%	17.69%	13.85%
5	45	606	2.168	0.0489	1.480	0.350	0.169	0.256	0.214	68.27%	2.26%	23.65%	11.42%	17.30%	14.46%
5	45	607	2.784	0.0677	1.270	0.338	0.159	0.217	0.185	71.19%	0.43%	26.61%	12.52%	17.09%	14.57%
5	45	608	2.370	0.0302	1.685	0.454	0.191	0.290	0.227	71.10%	1.27%	26.94%	11.34%	17.21%	13.47%
5	45	609	2.280	0.0326	1.605	0.437	0.181	0.262	0.229	70.39%	1.43%	27.23%	11.28%	16.32%	14.27%
5	45	610	2.214	0.0127	1.605	0.411	0.188	0.273	0.241	72.49%	0.57%	25.61%	11.71%	17.01%	15.02%
Number of Birds		10													
Pen Average			2.380	0.0343	1.676	0.430	0.194	0.288	0.240	70.42%	1.40%	25.71%	11.61%	17.18%	14.35%
1	47	111	2.494	0.0457	1.810	0.505	0.203	0.302	0.252	72.57%	1.83%	27.90%	11.22%	16.69%	13.92%
1	47	112	2.636	0.0395	1.840	0.451	0.213	0.343	0.287	69.80%	1.50%	24.51%	11.58%	18.64%	15.60%
1	47	113	2.668	0.0278	1.840	0.462	0.215	0.318	0.273	68.97%	1.04%	25.11%	11.68%	17.28%	14.84%
1	47	114	2.222	0.0190	1.530	0.375	0.179	0.252	0.220	68.86%	0.86%	24.51%	11.70%	16.47%	14.38%
1	47	115	2.538	0.0191	1.820	0.497	0.212	0.323	0.252	71.71%	0.75%	27.31%	11.65%	17.75%	13.85%
1	47	116	2.320	0.0405	1.630	0.448	0.190	0.268	0.217	70.26%	1.75%	27.48%	11.66%	16.44%	13.31%
1	47	117	2.528	0.0435	1.790	0.494	0.207	0.344	0.251	70.81%	1.72%	27.60%	11.56%	19.22%	14.02%
1	47	118	2.788	0.0470	1.980	0.519	0.219	0.354	0.288	71.02%	1.69%	26.21%	11.06%	17.88%	14.55%
1	47	119	2.472	0.0235	1.745	0.406	0.211	0.307	0.245	70.59%	0.95%	23.27%	12.09%	17.59%	14.04%
1	47	120	2.456	0.0218	1.780	0.472	0.208	0.286	0.252	72.48%	0.89%	26.52%	11.69%	16.07%	14.16%
Number of Birds		10													
Pen Average			2.512	0.0327	1.777	0.463	0.206	0.310	0.254	70.71%	1.30%	26.04%	11.59%	17.40%	14.27%
6	48	611	2.576	0.0366	1.855	0.544	0.206	0.321	0.259	72.01%	1.42%	29.33%	11.14%	17.30%	13.96%
6	48	612	2.484	0.0558	1.765	0.462	0.188	0.325	0.239	71.05%	2.25%	26.18%	10.65%	18.41%	13.54%
6	48	613	2.630	0.0598	1.900	0.460	0.200	0.316	0.257	72.24%	2.27%	24.21%	10.53%	18.63%	13.53%
6	48	614	2.548	0.0303	1.825	0.476	0.219	0.339	0.254	71.62%	1.19%	26.08%	12.00%	18.58%	13.92%
6	48	615	2.182	0.0157	1.545	0.413	0.187	0.254	0.228	70.81%	0.72%	26.73%	12.10%	16.44%	14.76%
6	48	616	2.232	0.0320	1.615	0.419	0.186	0.258	0.231	72.36%	1.43%	25.94%	11.52%	15.88%	14.30%
6	48	617	2.636	0.0356	1.840	0.462	0.218	0.297	0.259	69.80%	1.35%	25.11%	11.85%	16.14%	14.08%
6	48	618	2.684	0.0488	1.950	0.568	0.219	0.310	0.258	72.65%	1.82%	29.13%	11.23%	15.90%	13.23%
6	48	619	2.296	0.0247	1.625	0.523	0.193	0.254	0.237	70.78%	1.08%	32.18%	11.88%	15.63%	14.58%
6	48	620	2.496	0.0406	1.725	0.408	0.208	0.305	0.243	69.11%	1.63%	23.65%	12.06%	17.68%	14.09%
Number of Birds		10													
Pen Average			2.476	0.0380	1.765	0.474	0.202	0.298	0.247	71.24%	1.52%	26.85%	11.49%	16.87%	14.00%

Percent chill and fat pad are percent of live weight, percent breast, wings, thighs and drums are percent of chill weight

Table P2. Individual male bird processing data at 43 days of age (10/26/00) Project No. MN-00-1 (Monsanto #2000-01-39-38)  
(live wt is after ~12 hr feed withdrawal)

Treatment	Pen	Bird No.	Live Wt. (kg)	Fat Pad Wt. (kg)	Chill Wt. (kg)	Breast Wt. (kg)	Wings Wt. (kg)	Thighs Wt. (kg)	Drums Wt. (kg)	% Chill	% Fat Pad	Percent of Chill Weight			
												Breast	Wings	Thighs	Drums
5	49	121	2.472	0.0161	1.780	0.460	0.196	0.322	0.274	72.01%	0.65%	25.84%	11.01%	18.09%	15.39%
5	49	122	2.352	0.0364	1.650	0.417	0.192	0.267	0.235	70.15%	1.55%	25.27%	11.64%	16.18%	14.24%
5	49	124	2.536	0.0332	1.785	0.406	0.207	0.333	0.279	70.39%	1.31%	22.75%	11.60%	18.66%	15.63%
5	49	125	2.758	0.0253	2.010	0.588	0.224	0.334	0.280	72.88%	0.92%	29.25%	11.14%	16.62%	13.93%
5	49	126	2.456	0.0304	1.745	0.429	0.209	0.295	0.234	71.05%	1.24%	24.58%	11.98%	16.91%	13.41%
5	49	127	2.212	0.0262	1.565	0.407	0.180	0.270	0.236	70.75%	1.18%	26.01%	11.50%	17.25%	15.08%
5	49	128	2.614	0.0582	1.865	0.454	0.212	0.312	0.278	71.35%	2.23%	24.34%	11.37%	16.73%	14.91%
5	49	129	2.466	0.0279	1.725	0.423	0.209	0.304	0.253	69.95%	1.13%	24.52%	12.12%	17.62%	14.67%
5	49	130	2.734	0.0363	1.900	0.471	0.189	0.330	0.280	69.50%	1.33%	24.79%	9.95%	17.37%	14.74%
Number of Birds		9													
Pen Average			2.511	0.0322	1.781	0.451	0.202	0.307	0.261	70.89%	1.28%	25.26%	11.37%	17.27%	14.67%
8	50	621	2.116	0.0298	1.435	0.314	0.178	0.253	0.224	67.82%	1.41%	21.88%	12.40%	17.63%	15.61%
8	50	622	2.368	0.0472	1.665	0.407	0.190	0.289	0.235	70.31%	1.99%	24.44%	11.41%	17.36%	14.11%
8	50	623	2.566	0.0326	1.805	0.411	0.212	0.292	0.275	70.34%	1.27%	22.77%	11.75%	16.18%	15.24%
8	50	624 F	1.514	0.0306	1.060	0.253	0.126	0.170	0.156	70.01%	2.02%	23.87%	11.89%	16.04%	14.72%
8	50	625	2.642	0.0379	1.890	0.419	0.218	0.338	0.308	71.54%	1.43%	22.17%	11.53%	17.88%	16.30%
8	50	626	1.700	0.0240	1.150	0.239	0.136	0.195	0.178	67.65%	1.41%	20.78%	11.83%	16.96%	15.48%
8	50	627	2.298	0.0389	1.585	0.339	0.186	0.288	0.260	68.97%	1.69%	21.39%	11.74%	18.17%	16.40%
8	50	628	2.480	0.0294	1.775	0.434	0.200	0.293	0.247	71.57%	1.19%	24.45%	11.27%	16.51%	13.92%
8	50	629	2.534	0.0097	1.815	0.492	0.212	0.300	0.274	71.63%	0.38%	27.11%	11.68%	16.53%	15.10%
8	50	630	2.170	0.0260	1.530	0.389	0.184	0.263	0.225	70.51%	1.20%	25.42%	12.03%	17.19%	14.71%
Number of Birds		10													
Pen Average			2.239	0.0306	1.571	0.370	0.184	0.268	0.238	70.03%	1.40%	23.43%	11.75%	17.04%	15.16%
2	54	131	2.424	0.0397	1.665	0.432	0.206	0.271	0.216	68.69%	1.64%	25.95%	12.37%	16.28%	12.97%
2	54	132	2.236	0.0269	1.590	0.413	0.176	0.276	0.225	71.11%	1.20%	25.97%	11.07%	17.36%	14.15%
2	54	133	2.312	0.0372	1.630	0.422	0.192	0.270	0.232	70.50%	1.61%	25.89%	11.78%	16.56%	14.23%
2	54	135	2.488	0.0421	1.775	0.459	0.191	0.312	0.245	71.34%	1.69%	25.86%	10.76%	17.58%	13.80%
2	54	136	2.608	0.0186	1.855	0.478	0.208	0.316	0.258	71.13%	0.71%	25.77%	11.21%	17.04%	13.91%
2	54	137	2.666	0.0394	1.890	0.516	0.214	0.325	0.264	70.89%	1.48%	27.30%	11.32%	17.20%	13.97%
2	54	138	2.244	0.0520	1.600	0.406	0.188	0.291	0.242	71.30%	2.32%	25.38%	11.75%	18.19%	15.13%
2	54	139	2.378	0.0328	1.700	0.462	0.187	0.276	0.261	71.49%	1.38%	27.18%	11.00%	16.24%	15.35%
2	54	140	2.580	0.0588	1.840	0.463	0.205	0.329	0.266	71.32%	2.28%	25.16%	11.14%	17.88%	14.46%
Number of Birds		9													
Pen Average			2.437	0.0386	1.727	0.450	0.196	0.296	0.245	70.86%	1.59%	26.05%	11.38%	17.15%	14.22%

Percent chill and fat pad are percent of live weight, percent breast, wings, thighs and drums are percent of chill weight

Table P2. Individual male bird processing data at 43 days of age (10/26/00) Project No. MN-00-1 (Monsanto #2000-01-39-38)  
(live wt is after ~12 hr feed withdrawal)

Treatment	Pen	Bird No.	Live Wt. (kg)	Fat Pad Wt. (kg)	Chill Wt. (kg)	Breast Wt. (kg)	Wings Wt. (kg)	Thighs Wt. (kg)	Drums Wt. (kg)	% Chill	% Fat Pad	Percent of Chill Weight			
												Breast	Wings	Thighs	Drums
7	55	631	2.364	0.0328	1.650	0.374	0.202	0.290	0.254	69.80%	1.39%	22.67%	12.24%	17.58%	15.39%
7	55	632	2.396	0.0594	1.645	0.447	0.197	0.287	0.218	68.66%	2.48%	27.17%	11.98%	17.45%	13.25%
7	55	634	2.326	0.0304	1.645	0.405	0.205	0.274	0.248	70.72%	1.31%	24.62%	12.46%	16.66%	15.08%
7	55	635	2.404	0.0443	1.725	0.426	0.201	0.290	0.246	71.76%	1.84%	24.70%	11.65%	16.81%	14.26%
7	55	636	2.274	0.0259	1.575	0.395	0.185	0.286	0.223	69.26%	1.14%	25.08%	11.75%	18.16%	14.16%
7	55	637	1.534	0.0160	1.025	0.233	0.141	0.171	0.162	66.82%	1.04%	22.73%	13.76%	16.68%	15.80%
7	55	638	2.334	0.0276	1.695	0.424	0.193	0.325	0.251	72.62%	1.18%	25.01%	11.39%	19.17%	14.81%
7	55	639	2.470	0.0377	1.695	0.425	0.200	0.306	0.264	68.62%	1.53%	25.07%	11.80%	18.05%	15.58%
7	55	640	2.278	0.0261	1.580	0.340	0.193	0.280	0.247	69.36%	1.15%	21.52%	12.22%	17.72%	15.63%
Number of Birds		9													
Pen Average			2.264	0.0334	1.582	0.385	0.191	0.279	0.235	69.74%	1.45%	24.29%	12.14%	17.59%	14.88%
1	56	141	2.512	0.0225	1.850	0.497	0.217	0.313	0.252	73.65%	0.90%	26.86%	11.73%	16.92%	13.62%
1	56	142	2.326	0.0257	1.645	0.446	0.199	0.298	0.229	70.72%	1.10%	27.11%	12.10%	18.12%	13.92%
1	56	143	2.360	0.0414	1.675	0.460	0.211	0.290	0.243	70.97%	1.75%	23.88%	12.60%	17.31%	14.51%
1	56	144	2.732	0.0166	2.060	0.604	0.230	0.353	0.278	75.40%	0.61%	29.32%	11.17%	17.14%	13.50%
1	56	145	2.678	0.0266	1.940	0.495	0.224	0.354	0.279	72.44%	0.99%	25.52%	11.55%	18.25%	14.38%
1	56	146	2.592	0.0266	1.890	0.461	0.207	0.332	0.282	72.92%	1.03%	24.39%	10.95%	17.57%	14.92%
1	56	147	2.700	0.0349	1.925	0.473	0.213	0.367	0.273	71.30%	1.29%	24.57%	11.06%	19.06%	14.18%
1	56	148	2.592	0.0516	1.835	0.509	0.204	0.309	0.257	70.79%	1.99%	27.74%	11.12%	16.84%	14.01%
1	56	149	2.540	0.0393	1.860	0.474	0.206	0.304	0.287	73.23%	1.55%	25.48%	11.08%	16.34%	15.43%
1	56	150	2.350	0.0506	1.595	0.411	0.196	0.294	0.218	67.87%	2.15%	25.77%	12.29%	18.43%	13.54%
Number of Birds		10													
Pen Average			2.538	0.0336	1.828	0.477	0.211	0.321	0.260	71.93%	1.34%	26.06%	11.56%	17.60%	14.20%
6	58	641	2.068	0.0421	1.480	0.399	0.168	0.263	0.209	71.57%	2.04%	26.96%	11.35%	17.77%	14.12%
6	58	642	2.410	0.0364	1.735	0.437	0.204	0.295	0.235	71.99%	1.51%	25.19%	11.76%	17.00%	13.54%
6	58	644	2.464	0.0321	1.775	0.403	0.218	0.287	0.271	72.04%	1.30%	22.70%	12.28%	16.17%	15.27%
6	58	645	2.334	0.0436	1.690	0.492	0.192	0.294	0.238	72.41%	1.87%	29.11%	11.36%	17.40%	14.08%
6	58	646	2.606	0.0476	1.905	0.551	0.211	0.329	0.262	73.10%	1.83%	28.92%	11.08%	17.27%	13.75%
6	58	647	2.702	0.0284	1.935	0.475	0.216	0.347	0.291	71.61%	1.05%	24.55%	11.16%	17.93%	15.04%
6	58	648	2.384	0.0351	1.730	0.440	0.193	0.319	0.242	72.57%	1.47%	25.43%	11.16%	18.44%	13.99%
6	58	649	2.278	0.0330	1.610	0.402	0.197	0.272	0.236	70.68%	1.45%	24.97%	12.24%	16.89%	14.66%
6	58	650	2.220	0.0480	1.615	0.438	0.179	0.237	0.209	72.75%	2.16%	27.12%	11.08%	14.67%	12.94%
Number of Birds		9													
Pen Average			2.385	0.0385	1.719	0.449	0.198	0.294	0.244	72.08%	1.63%	26.11%	11.50%	17.06%	14.16%

Percent chill and fat pad are percent of live weight, percent breast, wings, thighs and drums are percent of chill weight

Table P2. Individual male bird processing data at 43 days of age (10/26/00) Project No. MN-00-1 (Monsanto #2000-01-39-38)  
(live wt is after ~12 hr feed withdrawal)

Treatment	Pen	Bird No.	Live Wt. (kg)	Fat Pad Wt. (kg)	Chill Wt. (kg)	Breast Wt. (kg)	Wings Wt. (kg)	Thighs Wt. (kg)	Drums Wt. (kg)	% Chill	% Fat Pad	Percent of Chill Weight			
												Breast	Wings	Thighs	Drums
3	62	151	1.858	0.0135	1.305	0.321	0.166	0.217	0.185	70.24%	0.73%	24.60%	12.72%	16.63%	14.18%
3	62	152	1.772	0.0354	1.190	0.288	0.148	0.200	0.164	67.16%	2.00%	24.20%	12.44%	16.81%	13.78%
3	62	153	2.482	0.0258	1.755	0.518	0.195	0.270	0.231	70.71%	1.04%	29.52%	11.11%	15.38%	13.16%
3	62	154	2.462	0.0376	1.725	0.437	0.198	0.311	0.243	70.06%	1.53%	25.33%	11.48%	18.03%	14.09%
3	62	155	2.360	0.0243	1.665	0.476	0.192	0.280	0.227	70.55%	1.03%	28.59%	11.53%	16.82%	13.63%
3	62	156	2.256	0.0464	1.595	0.380	0.193	0.295	0.216	70.70%	2.06%	23.82%	12.10%	18.50%	13.54%
3	62	157	2.408	0.0321	1.665	0.411	0.205	0.261	0.237	69.14%	1.33%	24.68%	12.31%	15.68%	14.23%
3	62	158	2.256	0.0160	1.605	0.381	0.203	0.265	0.233	71.14%	0.71%	23.74%	12.65%	16.51%	14.52%
3	62	159	2.378	0.0342	1.720	0.478	0.192	0.263	0.237	72.33%	1.44%	27.79%	11.16%	15.29%	13.78%
3	62	160	2.382	0.0390	1.665	0.417	0.199	0.301	0.237	69.90%	1.64%	25.05%	11.95%	18.08%	14.23%
Number of Birds		10													
Pen Average			2.261	0.0304	1.589	0.411	0.189	0.266	0.221	70.19%	1.35%	25.73%	11.95%	16.77%	13.91%
4	64	651	2.326	0.0283	1.655	0.442	0.206	0.274	0.232	71.15%	1.22%	26.71%	12.45%	16.56%	14.02%
4	64	652	2.628	0.0357	1.935	0.483	0.216	0.325	0.276	73.63%	1.36%	24.96%	11.16%	16.80%	14.26%
4	64	653	2.522	0.0423	1.790	0.461	0.204	0.346	0.258	70.98%	1.68%	25.75%	11.40%	19.33%	14.41%
4	64	654	2.438	0.0221	1.755	0.452	0.206	0.303	0.253	71.99%	0.91%	25.75%	11.74%	17.26%	14.42%
4	64	655	2.780	0.0376	1.580	0.359	0.206	0.286	0.229	56.83%	1.35%	22.72%	13.04%	18.10%	14.49%
4	64	656	1.974	0.0223	1.375	0.316	0.163	0.233	0.221	69.66%	1.13%	22.98%	11.85%	16.95%	16.07%
4	64	657	2.424	0.0271	1.760	0.488	0.205	0.276	0.251	72.61%	1.12%	27.73%	11.65%	15.68%	14.26%
4	64	658	2.632	0.0389	1.850	0.474	0.207	0.315	0.269	70.29%	1.48%	25.62%	11.19%	17.03%	14.54%
4	64	659	2.526	0.0354	1.860	0.545	0.208	0.329	0.256	73.63%	1.40%	29.30%	11.18%	17.69%	13.76%
4	64	660	2.332	0.0369	1.620	0.440	0.197	0.272	0.235	69.47%	1.58%	27.16%	12.16%	16.79%	14.51%
Number of Birds		10													
Pen Average			2.458	0.0327	1.718	0.446	0.202	0.296	0.248	70.02%	1.32%	25.87%	11.78%	17.22%	14.47%
8	67	161	2.304	0.0363	1.605	0.405	0.205	0.279	0.234	69.66%	1.58%	25.23%	12.77%	17.38%	14.58%
8	67	162	2.468	0.0375	1.730	0.398	0.189	0.316	0.247	70.10%	1.52%	23.01%	10.92%	18.27%	14.28%
8	67	163	2.386	0.0457	1.700	0.418	0.187	0.289	0.247	71.25%	1.92%	24.59%	11.00%	17.00%	14.53%
8	67	164	2.114	0.0430	1.495	0.391	0.185	0.257	0.237	70.72%	2.03%	26.15%	12.37%	17.19%	15.85%
8	67	167	2.332	0.0342	1.695	0.471	0.197	0.267	0.231	72.68%	1.47%	27.79%	11.62%	15.75%	13.63%
8	67	168	2.514	0.0325	1.855	0.463	0.204	0.324	0.266	73.79%	1.29%	24.96%	11.00%	17.47%	14.34%
8	67	169	2.402	0.0333	1.695	0.471	0.194	0.287	0.242	70.57%	1.39%	27.79%	11.45%	16.93%	14.28%
8	67	170	2.164	0.0240	1.490	0.345	0.175	0.239	0.246	68.85%	1.11%	23.15%	11.74%	16.04%	16.51%
Number of Birds		8													
Pen Average			2.336	0.0358	1.658	0.420	0.192	0.282	0.244	70.95%	1.54%	25.33%	11.61%	17.00%	14.75%

Percent chill and fat pad are percent of live weight, percent breast, wings, thighs and drums are percent of chill weight

Table P2. Individual male bird processing data at 43 days of age (10/26/00) Project No. MN-00-1 (Monsanto #2000-01-39-38)  
(live wt is after ~12 hr feed withdrawal)

Treatment	Pen	Bird No.	Live Wt. (kg)	Fat Pad Wt. (kg)	Chill Wt. (kg)	Breast Wt. (kg)	Wings Wt. (kg)	Thighs Wt. (kg)	Drums Wt. (kg)	% Chill	% Fat Pad	Percent of Chill Weight			
												Breast	Wings	Thighs	Drums
4	69	662	2.314	0.0270	1.655	0.484	0.200	0.248	0.222	71.52%	1.17%	29.24%	12.08%	14.98%	13.41%
4	69	663	2.562	0.0391	1.830	0.519	0.202	0.318	0.264	71.43%	1.53%	28.36%	11.04%	17.38%	14.43%
4	69	664	1.990	0.0276	1.365	0.329	0.164	0.241	0.201	68.59%	1.39%	24.10%	12.01%	17.66%	14.73%
4	69	665	2.482	0.0242	1.825	0.575	0.206	0.293	0.237	73.53%	0.98%	31.51%	11.29%	16.05%	12.99%
4	69	666	2.450	0.0240	1.765	0.471	0.204	0.301	0.246	72.04%	0.98%	26.69%	11.56%	17.05%	13.94%
4	69	667	2.172	0.0283	1.520	0.427	0.175	0.237	0.183	69.98%	1.30%	28.09%	11.51%	15.59%	12.04%
4	69	668	2.260	0.0355	1.640	0.438	0.190	0.280	0.230	72.57%	1.57%	26.71%	11.59%	17.07%	14.02%
4	69	669	2.802	0.0375	1.995	0.555	0.227	0.348	0.257	71.20%	1.34%	27.82%	11.38%	17.44%	12.88%
Number of Birds		8													
Pen Average			2.379	0.0304	1.699	0.475	0.196	0.283	0.230	71.36%	1.28%	27.81%	11.56%	16.65%	13.55%
1	70	171	2.636	0.0279	1.920	0.529	0.215	0.335	0.274	72.84%	1.06%	27.55%	11.20%	17.45%	14.27%
1	70	172	2.234	0.0307	1.580	0.433	0.195	0.245	0.232	70.73%	1.37%	27.41%	12.34%	15.51%	14.68%
1	70	173	2.338	0.0368	1.680	0.465	0.188	0.288	0.239	71.86%	1.57%	27.68%	11.19%	17.14%	14.23%
1	70	174	2.290	*	1.605	0.374	0.192	0.280	0.237	70.09%		23.30%	11.96%	17.45%	14.77%
1	70	175	2.670	0.0361	1.930	0.477	0.223	0.342	0.270	72.28%	1.35%	24.72%	11.55%	17.72%	13.99%
1	70	176	2.172	0.0382	1.545	0.420	0.176	0.254	0.220	71.13%	1.76%	27.18%	11.39%	16.44%	14.24%
1	70	177	2.218	0.0213	1.585	0.445	0.180	0.273	0.231	71.46%	0.96%	28.08%	11.36%	17.22%	14.57%
1	70	178	2.498	0.0404	1.735	0.459	0.209	0.297	0.248	69.46%	1.62%	26.46%	12.05%	17.12%	14.18%
1	70	179	2.626	0.0257	1.865	0.458	0.219	0.338	0.286	71.02%	0.98%	24.56%	11.74%	18.12%	15.34%
1	70	180	2.268	0.0344	1.540	0.375	0.186	0.290	0.222	67.90%	1.52%	24.35%	12.08%	18.83%	14.42%
Number of Birds		10													
Pen Average			2.395	0.0324	1.699	0.444	0.198	0.294	0.245	70.88%	1.35%	26.13%	11.69%	17.30%	14.47%
7	71	671	2.452	0.0374	1.785	0.434	0.203	0.293	0.258	72.80%	1.53%	24.31%	11.37%	16.41%	14.45%
7	71	672	2.156	0.0242	1.490	0.380	0.178	0.263	0.218	69.11%	1.12%	25.50%	11.95%	17.65%	14.63%
7	71	673	2.358	0.0313	1.670	0.449	0.201	0.288	0.227	70.82%	1.33%	25.89%	12.04%	17.25%	13.59%
7	71	674	2.206	0.0222	1.580	0.400	0.188	0.271	0.218	71.62%	1.01%	25.32%	11.90%	17.15%	13.80%
7	71	675	2.450	0.0300	1.765	0.425	0.210	0.323	0.256	72.04%	1.22%	24.08%	11.90%	18.30%	14.50%
7	71	676	2.108	0.0256	1.460	0.379	0.162	0.253	0.221	69.26%	1.21%	25.96%	11.10%	17.33%	15.14%
7	71	677	2.418	0.0403	1.740	0.484	0.197	0.287	0.239	71.96%	1.67%	27.82%	11.32%	16.49%	13.74%
7	71	678	2.330	0.0224	1.645	0.404	0.193	0.296	0.238	70.60%	0.96%	24.56%	11.73%	17.99%	14.47%
7	71	679	2.390	0.0419	1.685	0.376	0.200	0.312	0.243	70.50%	1.75%	22.31%	11.87%	18.52%	14.42%
7	71	680	2.170	0.0288	1.535	0.404	0.178	0.261	0.233	70.74%	1.33%	26.32%	11.60%	17.00%	15.18%
Number of Birds		10													
Pen Average			2.304	0.0304	1.636	0.414	0.191	0.285	0.235	70.95%	1.31%	25.31%	11.68%	17.41%	14.39%

\*=no value, the fat pad was discarded before the weight was taken

Percent chill and fat pad are percent of live weight, percent breast, wings, thighs and drums are percent of chill weight

Table P2. Individual male bird processing data at 43 days of age (10/26/00) Project No. MN-00-1 (Monsanto #2000-01-39-38)  
(live wt is after ~12 hr feed withdrawal)

Treatment	Pen	Bird No.	Live Wt. (kg)	Fat Pad Wt. (kg)	Chill Wt. (kg)	Breast Wt. (kg)	Wings Wt. (kg)	Thighs Wt. (kg)	Drums Wt. (kg)	% Chill	% Fat Pad	Percent of Chill Weight			
												Breast	Wings	Thighs	Drums
6	75	181	2.480	0.0431	1.780	0.493	0.203	0.299	0.233	71.77%	1.74%	27.70%	11.40%	16.80%	13.09%
6	75	182	2.200	0.0311	1.570	0.403	0.192	0.263	0.213	71.36%	1.41%	25.67%	12.23%	16.75%	13.57%
6	75	183	2.116	0.0246	1.480	0.380	0.176	0.238	0.213	69.94%	1.16%	25.68%	11.89%	16.08%	14.39%
6	75	184	2.466	0.0303	1.845	0.459	0.213	0.315	0.240	74.82%	1.23%	24.88%	11.54%	17.07%	13.01%
6	75	185	2.620	0.0310	1.905	0.531	0.203	0.327	0.265	72.71%	1.18%	27.87%	10.66%	17.17%	13.91%
6	75	186	2.382	0.0344	1.695	0.457	0.194	0.266	0.240	71.16%	1.44%	26.96%	11.45%	15.69%	14.16%
6	75	187	2.284	0.0353	1.595	0.420	0.191	0.269	0.237	69.83%	1.55%	26.33%	11.97%	16.87%	14.86%
6	75	188	2.364	0.0291	1.680	0.423	0.197	0.303	0.233	71.07%	1.23%	25.18%	11.73%	18.04%	13.87%
6	75	190	2.760	0.0370	1.965	0.479	0.232	0.330	0.287	71.20%	1.34%	24.38%	11.81%	16.79%	14.61%
Number of Birds		9													
Pen Average			2.408	0.0329	1.724	0.449	0.200	0.290	0.240	71.54%	1.37%	26.07%	11.63%	16.81%	13.94%
3	77	681	2.522	0.0425	1.785	0.420	0.199	0.310	0.254	70.78%	1.69%	23.53%	11.15%	17.37%	14.23%
3	77	682	2.284	0.0331	1.590	0.377	0.202	0.279	0.236	69.61%	1.45%	23.71%	12.70%	17.55%	14.84%
3	77	683	2.468	0.0258	1.750	0.481	0.208	0.295	0.264	70.91%	1.05%	27.49%	11.89%	16.86%	15.09%
3	77	684	2.324	0.0538	1.665	0.449	0.187	0.283	0.239	71.64%	2.31%	26.97%	11.23%	17.00%	14.35%
3	77	685	2.256	0.0375	1.620	0.423	0.180	0.260	0.235	71.81%	1.66%	26.11%	11.11%	16.05%	14.51%
3	77	686	2.792	0.0354	2.090	0.600	0.229	0.355	0.302	74.86%	1.27%	28.71%	10.96%	16.99%	14.45%
3	77	687	2.224	0.0437	1.585	0.404	0.187	0.268	0.235	71.27%	1.96%	25.49%	11.80%	16.91%	14.83%
3	77	688	2.362	0.0421	1.630	0.413	0.201	0.291	0.228	69.01%	1.78%	25.34%	12.33%	17.85%	13.99%
3	77	689	2.490	0.0384	1.795	0.451	0.201	0.311	0.270	72.09%	1.54%	25.13%	11.20%	17.33%	15.04%
3	77	690	2.412	0.0451	1.695	0.448	0.200	0.313	0.238	70.27%	1.87%	26.43%	11.80%	18.47%	14.04%
Number of Birds		10													
Pen Average			2.413	0.0397	1.721	0.447	0.199	0.297	0.250	71.22%	1.66%	25.89%	11.62%	17.24%	14.54%
5	78	191	2.790	0.0403	2.065	0.550	0.222	0.377	0.301	74.01%	1.44%	26.63%	10.75%	18.26%	14.58%
5	78	192	2.320	0.0334	1.570	0.386	0.183	0.279	0.232	67.67%	1.44%	24.59%	11.66%	17.77%	14.78%
5	78	193	2.318	0.0379	1.650	0.448	0.197	0.280	0.238	71.18%	1.64%	27.15%	11.94%	16.97%	14.42%
5	78	194	2.336	0.0434	1.725	0.450	0.204	0.272	0.249	73.84%	1.86%	26.09%	11.83%	15.77%	14.43%
5	78	195	2.252	0.0329	1.555	0.371	0.184	0.288	0.237	69.05%	1.46%	23.86%	11.83%	18.52%	15.24%
5	78	196	2.768	0.0365	1.975	0.525	0.218	0.355	0.276	71.35%	1.32%	26.58%	11.04%	17.97%	13.97%
5	78	197	2.304	0.0284	1.675	0.453	0.203	0.288	0.229	72.70%	1.23%	27.04%	12.12%	17.19%	13.67%
5	78	198	2.376	0.0221	1.675	0.414	0.209	0.286	0.247	70.50%	0.93%	24.72%	12.48%	17.07%	14.75%
5	78	199	2.252	0.0339	1.580	0.385	0.182	0.253	0.234	70.16%	1.51%	24.37%	11.52%	16.01%	14.81%
5	78	200	2.344	0.0331	1.665	0.360	0.191	0.313	0.246	71.03%	1.41%	21.62%	11.47%	18.80%	14.77%
Number of Birds		10													
Pen Average			2.406	0.0342	1.714	0.434	0.199	0.299	0.249	71.15%	1.42%	25.26%	11.66%	17.43%	14.54%

Percent chill and fat pad are percent of live weight, percent breast, wings, thighs and drums are percent of chill weight

Table P2. Individual male bird processing data at 43 days of age (10/26/00) Project No. MN-00-1 (Monsanto #2000-01-39-38)  
(live wt is after ~12 hr feed withdrawal)

Treatment	Pen	Bird No.	Live Wt. (kg)	Fat Pad Wt. (kg)	Chill Wt. (kg)	Breast Wt. (kg)	Wings Wt. (kg)	Thighs Wt. (kg)	Drums Wt. (kg)	% Chill	% Fat Pad	Percent of Chill Weight			
												Breast	Wings	Thighs	Drums
2	79	691	2.006	0.0303	1.430	0.359	0.174	0.237	0.184	71.29%	1.51%	25.10%	12.17%	16.57%	12.87%
2	79	692	2.680	0.0362	1.930	0.516	0.222	0.328	0.278	72.01%	1.35%	26.74%	11.50%	16.99%	14.40%
2	79	693	2.654	0.0485	1.910	0.546	0.220	0.312	0.270	71.97%	1.83%	28.59%	11.52%	16.34%	14.14%
2	79	695	2.520	0.0407	1.810	0.495	0.198	0.305	0.232	71.83%	1.62%	27.35%	10.94%	16.85%	12.82%
2	79	696	2.480	0.0323	1.780	0.455	0.212	0.308	0.261	71.77%	1.30%	25.56%	11.91%	17.30%	14.66%
2	79	697	2.334	0.0310	1.675	0.479	0.192	0.280	0.224	71.77%	1.33%	28.60%	11.46%	16.72%	13.37%
2	79	698	2.506	0.0267	1.805	0.507	0.209	0.322	0.249	72.03%	1.07%	28.09%	11.58%	17.84%	13.80%
2	79	699	2.502	0.0468	1.740	0.446	0.201	0.278	0.237	69.54%	1.87%	25.63%	11.55%	15.98%	13.62%
2	79	700	2.254	0.0240	1.635	0.444	0.187	0.243	0.232	72.54%	1.06%	27.16%	11.44%	14.86%	14.19%
Number of Birds		9													
Pen Average			2.437	0.0352	1.746	0.472	0.202	0.290	0.241	71.64%	1.44%	26.98%	11.56%	16.61%	13.76%

Percent chill and fat pad are percent of live weight, percent breast, wings, thighs and drums are percent of chill weight

Table P3. Individual female bird processing data at 44 days of age (10/27/00) Project No. MN-00-1  
(live wt is after ~12 hr feed withdrawal)

Treatment	Pen	Bird No.	Live Wt. (kg)	Fat Pad Wt. (kg)	Chill Wt. (kg)	Breast Wt. (kg)	Wings Wt. (kg)	Thighs Wt. (kg)	Drums Wt. (kg)	% Chill	% Fat Pad	Percent of Chill Weight			
												Breast	Wings	Thighs	Drums
5	3	201	2.158	0.0421	1.565	0.427	0.170	0.274	0.224	72.52%	1.95%	27.28%	10.86%	17.51%	14.31%
5	3	202	1.884	0.0253	1.355	0.376	0.157	0.237	0.183	71.92%	1.34%	27.75%	11.59%	17.49%	13.51%
5	3	203	2.308	0.0432	1.665	0.429	0.182	0.287	0.229	72.14%	1.87%	25.77%	10.93%	17.24%	13.75%
5	3	204	2.434	0.0488	1.765	0.452	0.206	0.285	0.257	72.51%	2.00%	25.61%	11.67%	16.15%	14.56%
5	3	205	2.086	0.0371	1.530	0.405	0.174	0.260	0.214	73.35%	1.78%	26.47%	11.37%	16.99%	13.99%
5	3	206	2.342	0.0490	1.675	0.421	0.191	0.277	0.225	71.52%	2.09%	25.13%	11.40%	16.54%	13.43%
5	3	207	2.250	0.0374	1.665	0.435	0.189	0.313	0.210	74.00%	1.66%	26.13%	11.35%	18.80%	12.61%
5	3	208	2.344	0.0402	1.720	0.494	0.184	0.276	0.206	73.38%	1.72%	28.72%	10.70%	16.05%	11.98%
5	3	209	2.360	0.0436	1.740	0.462	0.196	0.303	0.247	73.73%	1.85%	26.55%	11.26%	17.41%	14.20%
5	3	210	2.456	0.0577	1.740	0.457	0.200	0.297	0.212	70.85%	2.35%	26.26%	11.49%	17.07%	12.18%
Number of Birds		10													
Pen Average			2.262	0.0424	1.642	0.436	0.185	0.281	0.221	72.59%	1.86%	26.57%	11.26%	17.12%	13.45%
1	5	701	2.224	0.0301	1.635	0.432	0.174	0.268	0.215	73.52%	1.35%	26.42%	10.64%	16.39%	13.15%
1	5	702	1.976	0.0463	1.420	0.377	0.159	0.235	0.206	71.86%	2.34%	26.55%	11.20%	16.55%	14.51%
1	5	703	2.406	0.0529	1.760	0.503	0.192	0.297	0.222	73.15%	2.20%	28.58%	10.91%	16.88%	12.61%
1	5	704	1.920	0.0303	1.390	0.366	0.161	0.213	0.180	72.40%	1.58%	26.33%	11.58%	15.32%	12.95%
1	5	705	2.466	0.0414	1.810	0.455	0.213	0.278	0.255	73.40%	1.68%	25.14%	11.77%	15.36%	14.09%
1	5	706	2.120	0.0428	1.545	0.411	0.174	0.262	0.217	72.88%	2.02%	26.60%	11.26%	16.96%	14.05%
1	5	707	2.016	0.0267	1.430	0.382	0.168	0.244	0.189	70.93%	1.32%	26.71%	11.75%	17.06%	13.22%
1	5	708	2.228	0.0680	1.540	0.410	0.168	0.265	0.201	69.12%	3.05%	26.62%	10.91%	17.21%	13.05%
1	5	709	2.010	0.0256	1.455	0.387	0.177	0.231	0.187	72.39%	1.27%	26.60%	12.16%	15.88%	12.85%
1	5	710	2.164	0.0536	1.585	0.404	0.168	0.272	0.210	73.24%	2.48%	25.49%	10.60%	17.16%	13.25%
Number of Birds		10													
Pen Average			2.153	0.0418	1.557	0.413	0.175	0.257	0.208	72.29%	1.93%	26.50%	11.28%	16.48%	13.37%
6	6	211	2.292	0.0400	1.730	0.395	0.208	0.299	0.244	75.48%	1.75%	22.83%	12.02%	17.28%	14.10%
6	6	212	1.872	0.0381	1.365	0.344	0.156	0.223	0.191	72.92%	2.04%	25.20%	11.43%	16.34%	13.99%
6	6	213	1.988	0.0423	1.435	0.393	0.161	0.230	0.185	72.18%	2.13%	27.39%	11.22%	16.03%	12.89%
6	6	214	2.300	0.0554	1.655	0.423	0.196	0.253	0.222	71.96%	2.41%	25.56%	11.84%	15.29%	13.41%
6	6	215	2.182	0.0582	1.545	0.341	0.185	0.267	0.217	70.81%	2.67%	22.07%	11.97%	17.28%	14.05%
6	6	216	2.298	0.0422	1.710	0.424	0.205	0.295	0.241	74.41%	1.84%	24.80%	11.99%	17.25%	14.09%
6	6	217	2.418	0.0644	1.705	0.412	0.195	0.298	0.228	70.51%	2.66%	24.16%	11.44%	17.48%	13.37%
6	6	218	2.114	0.0496	1.525	0.373	0.182	0.266	0.216	72.14%	2.35%	24.46%	11.93%	17.44%	14.16%
6	6	219	2.292	0.0564	1.675	0.447	0.190	0.297	0.220	73.08%	2.46%	26.69%	11.34%	17.73%	13.13%
6	6	220	2.012	0.0434	1.425	0.367	0.168	0.230	0.184	70.83%	2.16%	25.75%	11.79%	16.14%	12.91%
Number of Birds		10													
Pen Average			2.177	0.0490	1.577	0.392	0.185	0.266	0.215	72.43%	2.24%	24.89%	11.70%	16.83%	13.61%

Percent chill and fat pad are percent of live weight, percent breast, wings, thighs and drums are percent of chill weight

Table P3. Individual female bird processing data at 44 days of age (10/27/00) Project No. MN-00-1  
(live wt is after ~12 hr feed withdrawal)

Treatment	Pen	Bird No.	Live Wt. (kg)	Fat Pad Wt. (kg)	Chill Wt. (kg)	Breast Wt. (kg)	Wings Wt. (kg)	Thighs Wt. (kg)	Drums Wt. (kg)	% Chill	% Fat Pad	Percent of Chill Weight			
												Breast	Wings	Thighs	Drums
7	7	711	2.246	0.0580	1.570	0.364	0.190	0.278	0.217	69.90%	2.58%	23.18%	12.10%	17.71%	13.82%
7	7	712	2.084	0.0296	1.490	0.377	0.176	0.270	0.205	71.50%	1.42%	25.30%	11.81%	18.12%	13.76%
7	7	713	1.952	0.0402	1.380	0.334	0.169	0.224	0.185	70.70%	2.06%	24.20%	12.25%	16.23%	13.41%
7	7	714	2.280	0.0335	1.640	0.419	0.202	0.288	0.233	71.93%	1.47%	25.55%	12.32%	17.56%	14.21%
7	7	715	2.592	0.0518	1.880	0.510	0.217	0.337	0.262	72.53%	2.00%	27.13%	11.54%	17.93%	13.94%
7	7	716	2.354	0.0422	1.675	0.414	0.187	0.330	0.241	71.16%	1.79%	24.72%	11.16%	19.70%	14.39%
7	7	717	2.060	0.0409	1.470	0.358	0.172	0.269	0.202	71.36%	1.99%	24.35%	11.70%	18.30%	13.74%
7	7	718	2.356	0.0494	1.710	0.461	0.201	0.304	0.232	72.58%	2.10%	26.96%	11.75%	17.78%	13.57%
7	7	719	2.404	0.0556	1.735	0.478	0.194	0.316	0.240	72.17%	2.31%	27.55%	11.18%	18.21%	13.83%
7	7	720	2.130	0.0232	1.485	0.359	0.179	0.266	0.212	69.72%	1.09%	24.18%	12.05%	17.91%	14.28%
Number of Birds		10													
Pen Average			2.246	0.0424	1.604	0.407	0.189	0.288	0.223	71.35%	1.88%	25.31%	11.79%	17.95%	13.89%
8	10	221 M	2.590	0.0289	1.860	0.477	0.217	0.299	0.250	71.81%	1.12%	25.65%	11.67%	16.08%	13.44%
8	10	222	1.892	0.0386	1.335	0.324	0.159	0.237	0.193	70.56%	2.04%	24.27%	11.91%	17.75%	14.46%
8	10	223	1.936	0.0198	1.400	0.380	0.174	0.260	0.190	72.31%	1.02%	27.14%	12.43%	18.57%	13.57%
8	10	224	2.024	0.0309	1.455	0.393	0.174	0.242	0.194	71.89%	1.53%	27.01%	11.96%	16.63%	13.33%
8	10	225	2.158	0.0422	1.540	0.394	0.171	0.264	0.209	71.36%	1.96%	25.58%	11.10%	17.14%	13.57%
8	10	226	2.056	0.0339	1.485	0.374	0.176	0.245	0.204	72.23%	1.65%	25.19%	11.85%	16.50%	13.74%
8	10	227	1.908	0.0383	1.345	0.337	0.167	0.227	0.188	70.49%	2.01%	25.06%	12.42%	16.88%	13.98%
8	10	228	1.970	0.0253	1.355	0.348	0.165	0.231	0.194	68.78%	1.28%	25.68%	12.18%	17.05%	14.32%
8	10	229	2.252	0.0516	1.555	0.418	0.181	0.257	0.198	69.05%	2.29%	26.88%	11.64%	16.53%	12.41%
8	10	230	2.050	0.0275	1.500	0.384	0.176	0.248	0.213	73.17%	1.34%	25.60%	11.73%	16.53%	14.20%
Number of Birds		10													
Pen Average			2.084	0.0337	1.483	0.383	0.176	0.251	0.203	71.17%	1.62%	25.81%	11.89%	16.97%	13.70%
3	13	721	1.936	0.0465	1.385	0.378	0.148	0.246	0.182	71.54%	2.40%	27.29%	10.69%	17.76%	13.14%
3	13	722	2.040	0.0207	1.475	0.421	0.165	0.268	0.197	72.30%	1.01%	28.54%	11.49%	18.17%	13.36%
3	13	723	1.820	0.0157	1.265	0.329	0.157	0.215	0.170	69.51%	0.86%	26.01%	12.41%	17.00%	13.44%
3	13	724	2.018	0.0290	1.435	0.332	0.178	0.239	0.225	71.11%	1.44%	23.14%	12.40%	16.66%	15.68%
3	13	725	2.152	0.0370	1.505	0.417	0.175	0.235	0.191	69.93%	1.72%	27.71%	11.63%	15.61%	12.69%
3	13	726	2.126	0.0267	1.570	0.433	0.170	0.256	0.220	73.85%	1.26%	27.58%	10.83%	16.31%	14.01%
3	13	727	2.422	0.0530	1.725	0.476	0.200	0.284	0.220	71.22%	2.19%	27.59%	11.59%	16.46%	12.75%
3	13	728	2.260	0.0274	1.625	0.425	0.192	0.279	0.221	71.90%	1.21%	26.15%	11.82%	17.17%	13.60%
3	13	729	2.050	0.0218	1.485	0.394	0.173	0.258	0.212	72.44%	1.06%	26.53%	11.65%	17.37%	14.28%
3	13	730	2.054	0.0454	1.455	0.372	0.163	0.241	0.184	70.84%	2.21%	25.57%	11.20%	16.56%	12.65%
Number of Birds		10													
Pen Average			2.088	0.0323	1.493	0.398	0.172	0.252	0.202	71.46%	1.54%	26.61%	11.54%	16.91%	13.56%

Percent chill and fat pad are percent of live weight, percent breast, wings, thighs and drums are percent of chill weight

Table P3. Individual female bird processing data at 44 days of age (10/27/00) Project No. MN-00-1  
(live wt is after ~12 hr feed withdrawal)

Treatment	Pen	Bird No.	Live Wt. (kg)	Fat Pad Wt. (kg)	Chill Wt. (kg)	Breast Wt. (kg)	Wings Wt. (kg)	Thighs Wt. (kg)	Drums Wt. (kg)	% Chill	% Fat Pad	Percent of Chill Weight			
												Breast	Wings	Thighs	Drums
2	14	231	2.328	0.0429	1.670	0.443	0.187	0.269	0.207	71.74%	1.84%	26.53%	11.20%	16.11%	12.40%
2	14	232	2.104	0.0278	1.490	0.364	0.180	0.268	0.215	70.82%	1.32%	24.43%	12.08%	17.99%	14.43%
2	14	233	2.196	0.0457	1.580	0.346	0.193	0.266	0.213	71.95%	2.08%	21.90%	12.22%	16.84%	13.48%
2	14	234	1.990	0.0328	1.455	0.405	0.165	0.239	0.201	73.12%	1.65%	27.84%	11.34%	16.43%	13.81%
2	14	235	2.072	0.0314	1.500	0.358	0.167	0.267	0.220	72.39%	1.52%	23.87%	11.13%	17.80%	14.67%
2	14	236	2.062	0.0415	1.455	0.411	0.164	0.231	0.193	70.56%	2.01%	28.25%	11.27%	15.88%	13.26%
2	14	237	1.640	0.0154	1.160	0.280	0.156	0.190	0.176	70.73%	0.94%	24.14%	13.45%	16.38%	15.17%
2	14	238	2.124	0.0381	1.550	0.434	0.176	0.278	0.199	72.98%	1.79%	28.00%	11.35%	17.94%	12.84%
2	14	239	2.172	0.0177	1.570	0.404	0.185	0.259	0.213	72.28%	0.81%	25.73%	11.78%	16.50%	13.57%
2	14	240	2.208	0.0526	1.595	0.419	0.182	0.269	0.212	72.24%	2.38%	26.27%	11.41%	16.87%	13.29%
Number of Birds		10													
Pen Average			2.090	0.0346	1.503	0.386	0.176	0.254	0.205	71.88%	1.64%	25.69%	11.72%	16.87%	13.69%
4	15	731	2.420	0.0420	1.770	0.487	0.192	0.321	0.241	73.14%	1.74%	27.51%	10.85%	18.14%	13.62%
4	15	732	2.228	0.0352	1.610	0.458	0.174	0.250	0.195	72.26%	1.58%	28.45%	10.81%	15.53%	12.11%
4	15	733	2.082	0.0349	1.480	0.359	0.182	0.249	0.218	71.09%	1.68%	24.26%	12.30%	16.82%	14.73%
4	15	734	2.124	0.0361	1.570	0.411	0.179	0.263	0.204	73.92%	1.70%	26.18%	11.40%	16.75%	12.99%
4	15	735	2.296	0.0232	1.640	0.484	0.174	0.283	0.218	71.43%	1.01%	29.51%	10.61%	17.26%	13.29%
4	15	736	2.188	0.0273	1.555	0.427	0.190	0.255	0.219	71.07%	1.25%	27.46%	12.22%	16.40%	14.08%
4	15	737	2.308	0.0476	1.700	0.453	0.188	0.273	0.229	73.66%	2.06%	26.65%	11.06%	16.06%	13.47%
4	15	738	2.088	0.0414	1.520	0.375	0.163	0.259	0.201	72.80%	1.98%	24.67%	10.72%	17.04%	13.22%
4	15	739	2.150	0.0514	1.505	0.365	0.169	0.247	0.190	70.00%	2.39%	24.25%	11.23%	16.41%	12.62%
4	15	740	2.376	0.0310	1.760	0.415	0.204	0.273	0.226	74.07%	1.30%	23.58%	11.59%	15.51%	12.84%
Number of Birds		10													
Pen Average			2.226	0.0370	1.611	0.423	0.182	0.267	0.214	72.34%	1.67%	26.25%	11.28%	16.59%	13.30%
4	18	241	2.294	0.0604	1.650	0.418	0.184	0.280	0.216	71.93%	2.63%	25.33%	11.15%	16.97%	13.09%
4	18	242	2.100	0.0332	1.545	0.393	0.175	0.264	0.213	73.57%	1.58%	25.44%	11.33%	17.09%	13.79%
4	18	243	2.426	0.0317	1.755	0.518	0.185	0.264	0.223	72.34%	1.31%	29.52%	10.54%	15.04%	12.71%
4	18	244	1.986	0.0256	1.440	0.352	0.173	0.242	0.209	72.51%	1.29%	24.44%	12.01%	16.81%	14.51%
4	18	245	2.148	0.0291	1.560	0.467	0.175	0.253	0.212	72.63%	1.35%	29.94%	11.22%	16.22%	13.59%
4	18	246	2.088	0.0343	1.505	0.400	0.177	0.243	0.209	72.08%	1.64%	26.58%	11.76%	16.15%	13.89%
4	18	247	2.178	0.0652	1.515	0.312	0.169	0.273	0.212	69.56%	2.99%	20.59%	11.16%	18.02%	13.99%
4	18	248	1.918	0.0411	1.385	0.337	0.164	0.241	0.188	72.21%	2.14%	24.33%	11.84%	17.40%	13.57%
4	18	249	2.132	0.0278	1.475	0.388	0.181	0.267	0.216	69.18%	1.30%	26.31%	12.27%	18.10%	14.64%
4	18	250	2.042	0.0486	1.490	0.371	0.174	0.265	0.204	72.97%	2.38%	24.90%	11.68%	17.79%	13.69%
Number of Birds		10													
Pen Average			2.131	0.0397	1.532	0.396	0.176	0.259	0.210	71.90%	1.86%	25.74%	11.50%	16.96%	13.75%

Percent chill and fat pad are percent of live weight, percent breast, wings, thighs and drums are percent of chill weight

Table P3. Individual female bird processing data at 44 days of age (10/27/00) Project No. MN-00-1  
(live wt is after ~12 hr feed withdrawal)

Treatment	Pen	Bird No.	Live Wt. (kg)	Fat Pad Wt. (kg)	Chill Wt. (kg)	Breast Wt. (kg)	Wings Wt. (kg)	Thighs Wt. (kg)	Drums Wt. (kg)	% Chill	% Fat Pad	Percent of Chill Weight			
												Breast	Wings	Thighs	Drums
6	20	741	2.244	0.0516	1.610	0.422	0.185	0.288	0.220	71.75%	2.30%	26.21%	11.49%	17.89%	13.66%
6	20	742	1.860	0.0479	1.340	0.339	0.164	0.228	0.184	72.04%	2.58%	25.30%	12.24%	17.01%	13.73%
6	20	743	2.322	0.0448	1.695	0.436	0.182	0.298	0.225	73.00%	1.93%	25.72%	10.74%	17.58%	13.27%
6	20	744	2.458	0.0369	1.855	0.488	0.208	0.301	0.261	75.47%	1.50%	26.31%	11.21%	16.23%	14.07%
6	20	745	2.106	0.0405	1.565	0.418	0.192	0.247	0.201	74.31%	1.92%	26.71%	12.27%	15.78%	12.84%
6	20	746	2.170	0.0536	1.555	0.438	0.177	0.243	0.192	71.66%	2.47%	28.17%	11.38%	15.63%	12.35%
6	20	747	2.370	0.0414	1.700	0.455	0.184	0.275	0.209	71.73%	1.75%	26.76%	10.82%	16.18%	12.29%
6	20	748	1.948	0.0446	1.375	0.339	0.169	0.220	0.185	70.59%	2.29%	24.65%	12.29%	16.00%	13.45%
6	20	749	2.024	0.0327	1.455	0.376	0.175	0.248	0.197	71.89%	1.62%	25.84%	12.03%	17.04%	13.54%
6	20	750	2.314	0.0289	1.690	0.443	0.196	0.299	0.219	73.03%	1.25%	26.21%	11.60%	17.69%	12.96%
Number of Birds		10													
Pen Average			2.182	0.0423	1.584	0.415	0.183	0.265	0.209	72.55%	1.96%	26.19%	11.61%	16.70%	13.22%
7	21	251	2.454	0.0698	1.756	0.478	0.195	0.287	0.216	71.52%	2.84%	27.24%	11.11%	16.35%	12.31%
7	21	252	2.140	0.0372	1.565	0.407	0.178	0.270	0.216	73.13%	1.74%	26.01%	11.37%	17.25%	13.80%
7	21	253	1.862	0.0431	1.315	0.333	0.169	0.224	0.175	70.62%	2.31%	25.32%	12.85%	17.03%	13.31%
7	21	254	1.724	0.0223	1.160	0.264	0.147	0.204	0.174	67.29%	1.29%	21.90%	12.67%	17.59%	15.00%
7	21	255	2.062	0.0367	1.440	0.325	0.220	0.267	0.187	69.84%	1.78%	22.57%	15.28%	18.54%	12.99%
7	21	256	1.942	0.0438	1.365	0.365	0.157	0.224	0.174	70.29%	2.26%	26.74%	11.50%	16.41%	12.75%
7	21	257	2.080	0.0247	1.440	0.359	0.168	0.225	0.208	69.23%	1.19%	24.93%	11.67%	15.63%	14.44%
7	21	258	1.958	0.0414	1.375	0.356	0.152	0.223	0.185	70.22%	2.11%	25.89%	11.05%	16.22%	13.45%
7	21	259	2.462	0.0564	1.780	0.492	0.190	0.323	0.226	72.30%	2.29%	27.64%	10.67%	18.15%	12.70%
7	21	260	2.482	0.0539	1.770	0.443	0.202	0.307	0.231	71.31%	2.17%	25.03%	11.41%	17.34%	13.05%
Number of Birds		10													
Pen Average			2.117	0.0429	1.497	0.381	0.178	0.255	0.199	70.57%	2.00%	25.33%	11.96%	17.05%	13.38%
5	22	751	2.082	0.0283	1.495	0.368	0.179	0.243	0.210	71.81%	1.36%	24.62%	11.97%	16.25%	14.05%
5	22	752	2.090	0.0287	1.460	0.393	0.174	0.231	0.197	69.86%	1.37%	26.92%	11.92%	15.82%	13.49%
5	22	753	2.210	0.0412	1.595	0.389	0.183	0.272	0.227	72.17%	1.86%	24.39%	11.47%	17.05%	14.23%
5	22	754	2.014	0.0254	1.460	0.370	0.152	0.250	0.197	72.49%	1.26%	25.34%	10.41%	17.12%	13.49%
5	22	755	2.032	0.0464	1.455	0.392	0.167	0.242	0.179	71.60%	2.28%	26.94%	11.48%	16.63%	12.30%
5	22	756	2.396	0.0531	1.730	0.427	0.191	0.303	0.237	72.20%	2.22%	24.68%	11.04%	17.51%	13.70%
5	22	757	2.102	0.0408	1.510	0.365	0.186	0.254	0.210	71.84%	1.94%	24.17%	12.32%	16.82%	13.91%
5	22	758	2.304	0.0429	1.670	0.471	0.183	0.270	0.219	72.48%	1.86%	28.20%	10.96%	16.17%	13.11%
5	22	759	2.278	0.0292	1.750	0.450	0.189	0.294	0.247	76.82%	1.28%	25.71%	10.80%	16.80%	14.11%
5	22	760	2.172	0.0468	1.520	0.391	0.182	0.270	0.206	69.98%	2.15%	25.72%	11.97%	17.76%	13.55%
Number of Birds		10													
Pen Average			2.168	0.0383	1.565	0.402	0.179	0.263	0.213	72.13%	1.76%	25.67%	11.43%	16.80%	13.69%

Percent chill and fat pad are percent of live weight, percent breast, wings, thighs and drums are percent of chill weight

Table P3. Individual female bird processing data at 44 days of age (10/27/00) Project No. MN-00-1  
(live wt is after ~12 hr feed withdrawal)

Treatment	Pen	Bird No.	Live Wt. (kg)	Fat Pad Wt. (kg)	Chill Wt. (kg)	Breast Wt. (kg)	Wings Wt. (kg)	Thighs Wt. (kg)	Drums Wt. (kg)	% Chill	% Fat Pad	Percent of Chill Weight			
												Breast	Wings	Thighs	Drums
3	23	261	2.412	0.0438	1.750	0.469	0.198	0.297	0.226	72.55%	1.82%	26.80%	11.31%	16.97%	12.91%
3	23	262	2.196	0.0440	1.640	0.389	0.176	0.267	0.210	74.68%	2.00%	23.72%	10.73%	16.28%	12.80%
3	23	263	1.894	0.0358	1.375	0.354	0.157	0.216	0.180	72.60%	1.89%	25.75%	11.42%	15.71%	13.09%
3	23	264	2.054	0.0580	1.465	0.364	0.167	0.246	0.207	71.32%	2.82%	24.85%	11.40%	16.79%	14.13%
3	23	265	2.122	0.0416	1.545	0.375	0.185	0.247	0.213	72.81%	1.96%	24.27%	11.97%	15.99%	13.79%
3	23	266	1.990	0.0313	1.405	0.349	0.168	0.238	0.190	70.60%	1.57%	24.84%	11.96%	16.94%	13.52%
3	23	267	2.022	0.0460	1.460	0.347	0.169	0.266	0.209	72.21%	2.27%	23.77%	11.58%	18.22%	14.32%
3	23	268	2.178	0.0549	1.535	0.442	0.171	0.244	0.207	70.48%	2.52%	28.79%	11.14%	15.90%	13.49%
3	23	269	2.268	0.0404	1.660	0.438	0.180	0.259	0.222	73.19%	1.78%	26.39%	10.84%	15.60%	13.37%
3	23	270	2.296	0.0565	1.650	0.467	0.181	0.286	0.225	71.86%	2.46%	28.30%	10.97%	17.33%	13.64%
Number of Birds		10													
Pen Average			2.143	0.0452	1.549	0.399	0.175	0.257	0.209	72.23%	2.11%	25.75%	11.33%	16.57%	13.51%
1	24	761	2.044	0.0313	1.490	0.415	0.178	0.250	0.201	72.90%	1.53%	27.85%	11.95%	16.78%	13.49%
1	24	762	2.076	0.0444	1.510	0.401	0.161	0.249	0.211	72.74%	2.14%	26.56%	10.66%	16.49%	13.97%
1	24	763	2.172	0.0383	1.550	0.377	0.192	0.262	0.222	71.36%	1.76%	24.32%	12.39%	16.90%	14.32%
1	24	764	2.038	0.0431	1.485	0.406	0.162	0.248	0.199	72.87%	2.11%	27.34%	10.91%	16.70%	13.40%
1	24	765	2.136	0.0327	1.525	0.392	0.172	0.276	0.231	71.40%	1.53%	25.70%	11.28%	18.10%	15.15%
1	24	766	2.012	0.0346	1.485	0.372	0.177	0.234	0.200	73.81%	1.72%	25.05%	11.92%	15.76%	13.47%
1	24	767	2.132	0.0295	1.630	0.428	0.188	0.279	0.218	76.45%	1.38%	26.26%	11.53%	17.12%	13.37%
1	24	768	2.112	0.0222	1.540	0.394	0.173	0.250	0.214	72.92%	1.05%	25.58%	11.23%	16.23%	13.90%
1	24	769	1.872	0.0342	1.330	0.348	0.153	0.215	0.170	71.05%	1.83%	26.17%	11.50%	16.17%	12.78%
1	24	770	2.200	0.0310	1.580	0.418	0.179	0.266	0.224	71.82%	1.41%	26.46%	11.33%	16.84%	14.18%
Number of Birds		10													
Pen Average			2.079	0.0341	1.513	0.395	0.174	0.253	0.209	72.73%	1.65%	26.13%	11.47%	16.71%	13.80%
2	25	271	2.106	0.0430	1.480	0.356	0.171	0.250	0.214	70.28%	2.04%	24.05%	11.55%	16.89%	14.46%
2	25	272	2.512	0.0456	1.790	0.518	0.199	0.288	0.228	71.26%	1.82%	28.94%	11.12%	16.09%	12.74%
2	25	273	2.170	0.0189	1.585	0.461	0.178	0.249	0.210	73.04%	0.87%	29.09%	11.23%	15.71%	13.25%
2	25	274	2.384	0.0459	1.720	0.428	0.191	0.319	0.261	72.15%	1.93%	24.88%	11.10%	18.55%	15.17%
2	25	275	2.308	0.0357	1.675	0.448	0.192	0.284	0.213	72.57%	1.55%	26.75%	11.46%	16.96%	12.72%
2	25	276	1.842	0.0219	1.375	0.372	0.158	0.196	0.166	74.65%	1.19%	27.05%	11.49%	14.25%	12.07%
2	25	277	2.286	0.0352	1.645	0.442	0.191	0.237	0.229	71.96%	1.54%	26.87%	11.61%	14.41%	13.92%
2	25	278	2.252	0.0349	1.605	0.473	0.181	0.249	0.206	71.27%	1.55%	29.47%	11.28%	15.51%	12.83%
2	25	279	2.114	0.0344	1.535	0.409	0.181	0.244	0.207	72.61%	1.63%	26.64%	11.79%	15.90%	13.49%
2	25	280	2.166	0.0288	1.545	0.375	0.182	0.278	0.224	71.33%	1.33%	24.27%	11.78%	17.99%	14.50%
Number of Birds		10													
Pen Average			2.214	0.0344	1.596	0.428	0.182	0.259	0.216	72.11%	1.54%	26.80%	11.44%	16.23%	13.51%

Percent chill and fat pad are percent of live weight, percent breast, wings, thighs and drums are percent of chill weight

Table P3. Individual female bird processing data at 44 days of age (10/27/00) Project No. MN-00-1  
(live wt is after ~12 hr feed withdrawal)

Treatment	Pen	Bird No.	Live Wt. (kg)	Fat Pad Wt. (kg)	Chill Wt. (kg)	Breast Wt. (kg)	Wings Wt. (kg)	Thighs Wt. (kg)	Drums Wt. (kg)	% Chill	% Fat Pad	Percent of Chill Weight			
												Breast	Wings	Thighs	Drums
8	29	771	2.294	0.0520	1.620	0.464	0.181	0.273	0.211	70.62%	2.27%	28.64%	11.17%	16.85%	13.02%
8	29	772	2.500	0.0428	1.835	0.550	0.199	0.281	0.232	73.40%	1.71%	29.97%	10.84%	15.31%	12.64%
8	29	773	2.078	0.0297	1.550	0.420	0.166	0.270	0.221	74.59%	1.43%	27.10%	10.71%	17.42%	14.26%
8	29	774	2.248	0.0538	1.575	0.393	0.190	0.265	0.222	70.06%	2.39%	24.95%	12.06%	16.83%	14.10%
8	29	775	2.414	0.0411	1.720	0.417	0.204	0.303	0.234	71.25%	1.70%	24.24%	11.86%	17.62%	13.60%
8	29	776	1.974	0.0277	1.365	0.359	0.159	0.226	0.186	69.15%	1.40%	26.30%	11.65%	16.56%	13.63%
8	29	777 M	2.874	0.0524	2.055	0.547	0.223	0.338	0.288	71.50%	1.82%	26.62%	10.85%	16.45%	14.01%
8	29	778	2.092	0.0403	1.490	0.363	0.166	0.239	0.204	71.22%	1.93%	24.36%	11.14%	16.04%	13.69%
8	29	779	2.186	0.0352	1.550	0.427	0.178	0.245	0.198	70.91%	1.61%	27.55%	11.48%	15.81%	12.77%
8	29	780	2.078	0.0330	1.525	0.389	0.162	0.241	0.201	73.39%	1.59%	25.51%	10.62%	15.80%	13.18%
Number of Birds		10													
Pen Average			2.274	0.0408	1.629	0.433	0.183	0.268	0.220	71.61%	1.79%	26.52%	11.24%	16.47%	13.49%
8	33	281	2.204	0.0235	1.580	0.429	0.177	0.269	0.218	71.69%	1.07%	27.15%	11.20%	17.03%	13.80%
8	33	282	2.256	0.0556	1.605	0.496	0.178	0.283	0.211	71.14%	2.46%	25.30%	11.09%	17.63%	13.15%
8	33	283	2.174	0.0358	1.500	0.364	0.187	0.246	0.223	69.00%	1.65%	24.27%	12.47%	16.40%	14.87%
8	33	284	2.072	0.0238	1.505	0.378	0.182	0.241	0.207	72.64%	1.15%	25.12%	12.09%	16.01%	13.75%
8	33	285	2.066	0.0409	1.440	0.364	0.166	0.257	0.193	69.70%	1.98%	25.28%	11.53%	17.85%	13.40%
8	33	286	2.446	0.0287	1.735	0.476	0.205	0.277	0.235	70.93%	1.17%	27.44%	11.82%	15.97%	13.54%
8	33	287	2.274	0.0536	1.685	0.404	0.180	0.293	0.230	74.10%	2.36%	23.98%	10.68%	17.39%	13.65%
8	33	288	1.992	0.0331	1.405	0.361	0.161	0.248	0.209	70.53%	1.66%	25.69%	11.46%	17.65%	14.88%
8	33	289	2.274	0.0353	1.620	0.438	0.183	0.280	0.228	71.24%	1.55%	27.04%	11.30%	17.28%	14.07%
8	33	290	2.082	0.0295	1.470	0.326	0.170	0.268	0.198	70.61%	1.42%	22.18%	11.56%	18.23%	13.47%
Number of Birds		10													
Pen Average			2.184	0.0360	1.555	0.395	0.179	0.266	0.215	71.16%	1.65%	25.34%	11.52%	17.14%	13.86%
3	35	781	2.268	0.0445	1.635	0.423	0.176	0.289	0.210	72.09%	1.96%	25.87%	10.76%	17.68%	12.84%
3	35	782	2.090	0.0604	1.490	0.375	0.173	0.255	0.198	71.29%	2.89%	25.17%	11.61%	17.11%	13.29%
3	35	783	2.270	0.0542	1.630	0.427	0.185	0.270	0.221	71.81%	2.39%	26.20%	11.35%	16.56%	13.56%
3	35	784	2.140	0.0275	1.555	0.424	0.182	0.252	0.220	72.66%	1.29%	27.27%	11.70%	16.21%	14.15%
3	35	785	2.268	0.0374	1.635	0.452	0.183	0.273	0.226	72.09%	1.65%	27.65%	11.19%	16.70%	13.82%
3	35	786	2.054	0.0520	1.475	0.416	0.157	0.254	0.195	71.81%	2.53%	28.20%	10.64%	17.22%	13.22%
3	35	787	2.384	0.0435	1.720	0.488	0.194	0.273	0.213	72.15%	1.82%	28.37%	11.28%	15.87%	12.38%
3	35	788	2.286	0.0399	1.700	0.500	0.199	0.269	0.235	74.37%	1.75%	29.41%	11.71%	15.82%	13.82%
3	35	789	2.026	0.0453	1.445	0.390	0.173	0.228	0.188	71.32%	2.24%	26.99%	11.97%	15.78%	13.01%
3	35	790	2.184	0.0415	1.560	0.408	0.176	0.275	0.205	71.43%	1.90%	26.15%	11.28%	17.63%	13.14%
Number of Birds		10													
Pen Average			2.197	0.0446	1.585	0.430	0.180	0.264	0.211	72.10%	2.04%	27.13%	11.35%	16.66%	13.32%

Percent chill and fat pad are percent of live weight, percent breast, wings, thighs and drums are percent of chill weight

Table P3. Individual female bird processing data at 44 days of age (10/27/00) Project No. MN-00-1  
(live wt is after ~12 hr feed withdrawal)

Treatment	Pen	Bird No.	Live Wt. (kg)	Fat Pad Wt. (kg)	Chill Wt. (kg)	Breast Wt. (kg)	Wings Wt. (kg)	Thighs Wt. (kg)	Drums Wt. (kg)	% Chill	% Fat Pad	Percent of Chill Weight			
												Breast	Wings	Thighs	Drums
7	37	291	2.352	0.0373	1.685	0.451	0.190	0.289	0.234	71.64%	1.59%	26.77%	11.28%	17.15%	13.89%
7	37	292	1.976	0.0656	1.380	0.374	0.155	0.232	0.177	69.84%	3.32%	27.10%	11.23%	16.81%	12.83%
7	37	293	2.184	0.0437	1.540	0.382	0.177	0.271	0.225	70.51%	2.00%	24.81%	11.49%	17.60%	14.61%
7	37	294	2.310	0.0314	1.685	0.478	0.195	0.282	0.240	72.94%	1.36%	28.37%	11.57%	16.74%	14.24%
7	37	295	2.372	0.0465	1.715	0.465	0.190	0.282	0.239	72.30%	1.96%	27.11%	11.08%	16.44%	13.94%
7	37	296	2.128	0.0405	1.505	0.395	0.169	0.274	0.206	70.72%	1.90%	26.25%	11.23%	18.21%	13.69%
7	37	297	2.206	0.0328	1.585	0.440	0.177	0.258	0.209	71.85%	1.49%	27.76%	11.17%	16.28%	13.19%
7	37	298	2.310	0.0362	1.665	0.451	0.183	0.278	0.213	72.08%	1.57%	27.09%	10.99%	16.70%	12.79%
7	37	299	2.000	0.0240	1.400	0.354	0.170	0.249	0.195	70.00%	1.20%	25.29%	12.14%	17.79%	13.93%
7	37	300	1.842	0.0216	1.310	0.313	0.154	0.219	0.199	71.12%	1.17%	23.89%	11.76%	16.72%	15.19%
Number of Birds		10													
Pen Average			2.168	0.0380	1.547	0.410	0.176	0.263	0.214	71.30%	1.76%	26.44%	11.39%	17.04%	13.83%
2	38	791	2.164	0.0318	1.565	0.411	0.176	0.251	0.213	72.32%	1.47%	26.26%	11.25%	16.04%	13.61%
2	38	792	2.736	0.0505	1.985	0.588	0.214	0.338	0.249	72.55%	1.85%	29.62%	10.78%	17.03%	12.54%
2	38	793	2.002	0.0239	1.405	0.389	0.153	0.235	0.185	70.18%	1.19%	27.69%	10.89%	16.73%	13.17%
2	38	794	2.226	0.0580	1.550	0.377	0.174	0.285	0.226	69.63%	2.61%	24.32%	11.23%	18.39%	14.58%
2	38	795	2.544	0.0366	1.860	0.487	0.215	0.300	0.248	73.11%	1.44%	26.18%	11.56%	16.13%	13.33%
2	38	796	2.200	0.0333	1.595	0.419	0.187	0.273	0.212	72.50%	1.51%	26.27%	11.72%	17.12%	13.29%
2	38	797	1.924	0.0343	1.405	0.368	0.167	0.235	0.201	73.02%	1.78%	26.19%	11.89%	16.73%	14.31%
2	38	798	1.918	0.0358	1.325	0.305	0.157	0.256	0.193	69.08%	1.87%	23.02%	11.85%	19.32%	14.57%
2	38	799	2.070	0.0336	1.505	0.411	0.170	0.251	0.207	72.71%	1.62%	27.31%	11.30%	16.68%	13.75%
2	38	800	2.152	0.0288	1.520	0.373	0.187	0.242	0.207	70.63%	1.34%	24.54%	12.30%	15.92%	13.62%
Number of Birds		10													
Pen Average			2.194	0.0367	1.572	0.413	0.180	0.267	0.214	71.57%	1.67%	26.14%	11.48%	17.01%	13.68%
1	41	301	2.002	0.0305	1.425	0.388	0.167	0.244	0.201	71.18%	1.52%	27.23%	11.72%	17.12%	14.11%
1	41	302	2.388	0.0436	1.810	0.475	0.186	0.285	0.243	75.80%	1.83%	26.24%	10.28%	15.75%	13.43%
1	41	303	1.900	0.0227	1.355	0.369	0.167	0.220	0.181	71.32%	1.19%	27.23%	12.32%	16.24%	13.36%
1	41	304	1.786	0.0314	1.265	0.327	0.161	0.196	0.175	70.83%	1.76%	25.85%	12.73%	15.49%	13.83%
1	41	305	2.104	0.0352	1.485	0.402	0.172	0.243	0.211	70.58%	1.67%	27.07%	11.58%	16.36%	14.21%
1	41	306	1.902	0.0487	1.325	0.358	0.162	0.217	0.173	69.66%	2.56%	27.02%	12.23%	16.38%	13.06%
1	41	307	2.088	0.0180	1.500	0.381	0.176	0.248	0.196	71.84%	0.86%	25.40%	11.73%	16.53%	13.07%
1	41	308	2.176	0.0417	1.580	0.426	0.191	0.260	0.215	72.61%	1.92%	26.96%	12.09%	16.46%	13.61%
1	41	309	2.178	0.0356	1.520	0.397	0.186	0.252	0.216	69.79%	1.63%	26.12%	12.24%	16.58%	14.21%
1	41	310	2.202	0.0296	1.605	0.384	0.199	0.273	0.224	72.89%	1.34%	23.93%	12.40%	17.01%	13.96%
Number of Birds		10													
Pen Average			2.073	0.0337	1.487	0.391	0.177	0.244	0.204	71.65%	1.63%	26.30%	11.93%	16.39%	13.68%

Percent chill and fat pad are percent of live weight, percent breast, wings, thighs and drums are percent of chill weight

Table P3. Individual female bird processing data at 44 days of age (10/27/00) Project No. MN-00-1  
(live wt is after ~12 hr feed withdrawal)

Treatment	Pen	Bird No.	Live Wt. (kg)	Fat Pad Wt. (kg)	Chill Wt. (kg)	Breast Wt. (kg)	Wings Wt. (kg)	Thighs Wt. (kg)	Drums Wt. (kg)	% Chill	% Fat Pad	Percent of Chill Weight			
												Breast	Wings	Thighs	Drums
4	43	801	2.138	0.0310	1.540	0.422	0.180	0.267	0.197	72.03%	1.45%	27.40%	11.69%	17.34%	12.79%
4	43	802	2.210	0.0397	1.635	0.455	0.185	0.272	0.219	73.98%	1.80%	27.83%	11.31%	16.64%	13.39%
4	43	803	1.908	0.0278	1.355	0.351	0.169	0.214	0.186	71.02%	1.46%	25.90%	12.47%	15.79%	13.73%
4	43	804	2.004	0.0490	1.415	0.327	0.171	0.251	0.203	70.61%	2.45%	23.11%	12.08%	17.74%	14.35%
4	43	805	2.230	0.0413	1.575	0.364	0.178	0.288	0.232	70.63%	1.85%	23.11%	11.30%	18.29%	14.73%
4	43	806	2.304	0.0467	1.650	0.463	0.187	0.267	0.224	71.61%	2.03%	28.06%	11.33%	16.18%	13.58%
4	43	807	2.036	0.0367	1.440	0.358	0.171	0.234	0.193	70.73%	1.80%	24.86%	11.88%	16.25%	13.40%
4	43	808	2.362	0.0479	1.680	0.430	0.187	0.289	0.240	71.13%	2.03%	25.60%	11.13%	17.20%	14.29%
4	43	810	2.266	0.0592	1.625	0.365	0.186	0.291	0.235	71.90%	2.62%	22.46%	11.45%	17.91%	14.46%
Number of Birds		9													
Pen Average			2.161	0.0421	1.546	0.393	0.179	0.264	0.214	71.52%	1.94%	25.37%	11.63%	17.04%	13.86%
6	44	311	2.202	0.0423	1.595	0.437	0.183	0.279	0.221	72.43%	1.92%	27.40%	11.47%	17.49%	13.86%
6	44	312	1.984	0.0478	1.420	0.352	0.178	0.232	0.204	71.57%	2.41%	24.79%	12.54%	16.34%	14.37%
6	44	313	2.132	0.0290	1.525	0.414	0.179	0.251	0.212	71.53%	1.36%	27.15%	11.74%	16.46%	13.90%
6	44	314	2.344	0.0384	1.680	0.417	0.193	0.268	0.225	71.67%	1.64%	24.82%	11.49%	15.95%	13.39%
6	44	315	2.144	0.0514	1.540	0.389	0.186	0.252	0.225	71.83%	2.40%	25.26%	12.08%	16.36%	14.61%
6	44	316	1.816	0.0498	1.240	0.289	0.155	0.222	0.180	68.28%	2.74%	23.31%	12.50%	17.90%	14.52%
6	44	317	2.034	0.0220	1.460	0.365	0.174	0.247	0.194	71.78%	1.08%	25.00%	11.92%	16.92%	13.29%
6	44	318	2.126	0.0345	1.545	0.412	0.184	0.232	0.201	72.67%	1.62%	26.67%	11.91%	15.02%	13.01%
6	44	319	2.214	0.0369	1.580	0.412	0.180	0.263	0.224	71.36%	1.67%	26.08%	11.39%	16.65%	14.18%
6	44	320	2.060	0.0393	1.440	0.375	0.164	0.226	0.213	69.90%	1.91%	26.04%	11.39%	15.69%	14.79%
Number of Birds		10													
Pen Average			2.106	0.0391	1.503	0.386	0.178	0.247	0.210	71.30%	1.87%	25.65%	11.84%	16.48%	13.99%
5	46	811	2.344	0.0613	1.630	0.413	0.174	0.273	0.221	69.54%	2.62%	25.34%	10.67%	16.75%	13.56%
5	46	812	2.016	0.0185	1.475	0.369	0.186	0.241	0.220	73.16%	0.92%	25.02%	12.61%	16.34%	14.92%
5	46	813	2.182	0.0501	1.555	0.405	0.192	0.251	0.218	71.26%	2.30%	26.05%	12.35%	16.14%	14.02%
5	46	814	1.936	0.0383	1.390	0.336	0.166	0.237	0.195	71.80%	1.98%	24.17%	11.94%	17.05%	14.03%
5	46	815	2.160	0.0379	1.590	0.412	0.187	0.275	0.222	73.61%	1.75%	25.91%	11.76%	17.30%	13.96%
5	46	816	2.004	0.0304	1.450	0.371	0.169	0.239	0.200	72.36%	1.52%	25.59%	11.66%	16.48%	13.79%
5	46	817	2.014	0.0642	1.450	0.327	0.168	0.253	0.203	72.00%	3.19%	22.55%	11.59%	17.45%	14.00%
5	46	818	2.302	0.0383	1.655	0.464	0.193	0.294	0.239	71.89%	1.66%	28.04%	11.66%	17.76%	14.44%
5	46	819	2.046	0.0351	1.460	0.346	0.176	0.255	0.199	71.36%	1.72%	23.70%	12.05%	17.47%	13.63%
5	46	820	2.036	0.0284	1.420	0.346	0.176	0.238	0.201	69.74%	1.39%	24.37%	12.39%	16.76%	14.15%
Number of Birds		10													
Pen Average			2.104	0.0403	1.508	0.379	0.179	0.256	0.212	71.67%	1.90%	25.07%	11.87%	16.95%	14.05%

Percent chill and fat pad are percent of live weight, percent breast, wings, thighs and drums are percent of chill weight

Table P3. Individual female bird processing data at 44 days of age (10/27/00) Project No. MN-00-1  
(live wt is after ~12 hr feed withdrawal)

Treatment	Pen	Bird No.	Live Wt. (kg)	Fat Pad Wt. (kg)	Chill Wt. (kg)	Breast Wt. (kg)	Wings Wt. (kg)	Thighs Wt. (kg)	Drums Wt. (kg)	% Chill	% Fat Pad	Percent of Chill Weight			
												Breast	Wings	Thighs	Drums
1	51	321	2.314	0.0533	1.600	0.421	0.183	0.265	0.218	69.14%	2.30%	26.31%	11.44%	16.56%	13.63%
1	51	322	2.042	0.0409	1.505	0.410	0.176	0.247	0.189	73.70%	2.00%	27.24%	11.69%	16.41%	12.56%
1	51	323	2.004	0.0261	1.460	0.402	0.174	0.225	0.201	72.85%	1.30%	27.53%	11.92%	15.41%	13.77%
1	51	324	2.166	0.0273	1.605	0.422	0.178	0.276	0.230	74.10%	1.26%	26.29%	11.09%	17.20%	14.33%
1	51	325	2.114	0.0408	1.530	0.420	0.177	0.259	0.213	72.37%	1.93%	27.45%	11.57%	16.93%	13.92%
1	51	326	2.108	0.0418	1.510	0.394	0.186	0.264	0.213	71.63%	1.98%	26.09%	12.32%	17.48%	14.11%
1	51	327	2.154	0.0235	1.570	0.421	0.186	0.271	0.219	72.89%	1.09%	26.82%	11.85%	17.26%	13.95%
1	51	328	2.326	0.0279	1.720	0.464	0.221	0.308	0.244	73.95%	1.20%	26.98%	12.85%	17.91%	14.19%
1	51	329	2.088	0.0309	1.555	0.395	0.179	0.242	0.220	74.47%	1.48%	25.40%	11.51%	15.56%	14.15%
1	51	330	2.072	0.0333	1.485	0.380	0.163	0.257	0.208	71.67%	1.61%	25.59%	10.98%	17.31%	14.01%
Number of Birds		10													
Pen Average			2.139	0.0346	1.554	0.413	0.182	0.261	0.216	72.68%	1.62%	26.57%	11.72%	16.80%	13.86%
5	52	821	2.108	0.0405	1.550	0.357	0.174	0.287	0.209	73.53%	1.92%	23.03%	11.23%	18.52%	13.48%
5	52	822	2.198	0.0210	1.585	0.428	0.182	0.268	0.222	72.11%	0.96%	27.00%	11.48%	16.91%	14.01%
5	52	823	1.942	0.0227	1.415	0.360	0.164	0.242	0.205	72.86%	1.17%	25.44%	11.59%	17.10%	14.49%
5	52	824	2.004	0.0368	1.425	0.359	0.167	0.247	0.197	71.11%	1.84%	25.19%	11.72%	17.33%	13.82%
5	52	825	2.050	0.0253	1.480	0.390	0.166	0.248	0.216	72.20%	1.23%	26.35%	11.22%	16.76%	14.59%
5	52	826	2.020	0.0353	1.435	0.342	0.174	0.246	0.216	71.04%	1.75%	23.83%	12.13%	17.14%	15.05%
5	52	827	1.790	0.0456	1.265	0.351	0.149	0.204	0.173	70.67%	2.55%	27.75%	11.78%	16.13%	13.68%
5	52	828	1.990	0.0309	1.415	0.359	0.169	0.230	0.203	71.11%	1.55%	25.37%	11.94%	16.25%	14.35%
5	52	829	2.032	0.0361	1.450	0.374	0.168	0.235	0.188	71.36%	1.78%	25.79%	11.59%	16.21%	12.97%
5	52	830	2.196	0.0270	1.585	0.385	0.179	0.261	0.218	72.18%	1.23%	24.29%	11.29%	16.47%	13.75%
Number of Birds		10													
Pen Average			2.033	0.0321	1.461	0.371	0.169	0.247	0.205	71.82%	1.60%	25.41%	11.60%	16.88%	14.02%
4	53	331	2.290	0.0374	1.620	0.444	0.190	0.255	0.223	70.74%	1.63%	27.41%	11.73%	15.74%	13.77%
4	53	332	2.100	0.0410	1.495	0.400	0.167	0.264	0.200	71.19%	1.95%	26.76%	11.17%	17.66%	13.38%
4	53	333	2.154	0.0302	1.565	0.428	0.178	0.272	0.219	72.66%	1.40%	27.35%	11.37%	17.38%	13.99%
4	53	334	2.370	0.0428	1.710	0.483	0.185	0.281	0.240	72.15%	1.81%	28.25%	10.82%	16.43%	14.04%
4	53	335	2.292	0.0266	1.675	0.433	0.195	0.300	0.233	73.08%	1.16%	25.85%	11.64%	17.91%	13.91%
4	53	336	2.118	0.0461	1.525	0.426	0.176	0.275	0.196	72.00%	2.18%	27.93%	11.54%	18.03%	12.85%
4	53	337	2.140	0.0445	1.530	0.428	0.189	0.246	0.209	71.50%	2.08%	27.97%	12.35%	16.08%	13.66%
4	53	338	2.280	0.0445	1.635	0.439	0.184	0.270	0.219	71.71%	1.95%	26.85%	11.25%	16.51%	13.39%
4	53	339	2.090	0.0482	1.485	0.368	0.179	0.275	0.215	71.05%	2.31%	24.78%	12.05%	18.52%	14.48%
4	53	340	2.098	0.0236	1.510	0.382	0.172	0.263	0.211	71.97%	1.12%	25.30%	11.39%	17.42%	13.97%
Number of Birds		10													
Pen Average			2.193	0.0385	1.575	0.423	0.182	0.270	0.217	71.81%	1.76%	26.84%	11.53%	17.17%	13.74%

Percent chill and fat pad are percent of live weight, percent breast, wings, thighs and drums are percent of chill weight

Table P3. Individual female bird processing data at 44 days of age (10/27/00) Project No. MN-00-1  
(live wt is after ~12 hr feed withdrawal)

Treatment	Pen	Bird No.	Live Wt. (kg)	Fat Pad Wt. (kg)	Chill Wt. (kg)	Breast Wt. (kg)	Wings Wt. (kg)	Thighs Wt. (kg)	Drums Wt. (kg)	% Chill	% Fat Pad	Percent of Chill Weight			
												Breast	Wings	Thighs	Drums
6	57	831	2.288	0.0480	1.620	0.454	0.199	0.256	0.219	70.80%	2.10%	28.02%	12.28%	15.80%	13.52%
6	57	832	2.016	0.0465	1.420	0.370	0.172	0.239	0.181	70.44%	2.31%	26.06%	12.11%	16.83%	12.75%
6	57	834	1.932	0.0357	1.400	0.375	0.166	0.234	0.185	72.46%	1.85%	26.79%	11.86%	16.71%	13.21%
6	57	835	2.382	0.0420	1.715	0.426	0.204	0.285	0.251	72.00%	1.76%	24.84%	11.90%	16.62%	14.64%
6	57	836	2.074	0.0200	1.450	0.388	0.179	0.244	0.201	69.91%	0.96%	26.76%	12.34%	16.83%	13.86%
6	57	837	2.262	0.0447	1.595	0.335	0.210	0.277	0.211	70.51%	1.98%	21.00%	13.17%	17.37%	13.23%
6	57	838	1.972	0.0400	1.395	0.370	0.174	0.225	0.191	70.74%	2.03%	26.52%	12.47%	16.13%	13.69%
6	57	839	2.226	0.0340	1.600	0.383	0.192	0.282	0.232	71.88%	1.53%	23.94%	12.00%	17.63%	14.50%
6	57	840	2.368	0.0304	1.685	0.450	0.200	0.286	0.244	71.16%	1.28%	26.71%	11.87%	16.97%	14.48%
Number of Birds		9													
Pen Average			2.169	0.0379	1.542	0.395	0.188	0.259	0.213	71.10%	1.76%	25.63%	12.22%	16.77%	13.76%
8	59	341	2.092	0.0385	1.510	0.368	0.168	0.263	0.214	72.18%	1.84%	24.37%	11.13%	17.42%	14.17%
8	59	342	2.056	0.0500	1.420	0.336	0.174	0.251	0.201	69.07%	2.43%	23.66%	12.25%	17.68%	14.15%
8	59	343	2.182	0.0240	1.560	0.433	0.177	0.266	0.214	71.49%	1.10%	27.76%	11.35%	17.05%	13.72%
8	59	344	1.998	0.0295	1.435	0.326	0.180	0.247	0.206	71.82%	1.48%	22.72%	12.54%	17.21%	14.36%
8	59	345	2.192	0.0318	1.585	0.461	0.184	0.262	0.209	72.31%	1.45%	29.09%	11.61%	16.53%	13.19%
8	59	346 M	2.600	0.0508	1.855	0.423	0.216	0.321	0.269	71.35%	1.95%	22.80%	11.64%	17.30%	14.50%
8	59	347	2.252	0.0435	1.605	0.428	0.191	0.272	0.226	71.27%	1.93%	26.67%	11.90%	16.95%	14.08%
8	59	348	2.036	0.0274	1.445	0.369	0.180	0.231	0.194	70.97%	1.35%	25.54%	11.07%	15.99%	13.43%
8	59	349	2.004	0.0335	1.400	0.360	0.178	0.232	0.177	69.86%	1.67%	25.71%	12.71%	16.57%	12.64%
8	59	350	2.070	0.0230	1.440	0.357	0.180	0.234	0.203	69.57%	1.11%	24.79%	12.50%	16.25%	14.10%
Number of Birds		10													
Pen Average			2.148	0.0352	1.526	0.386	0.181	0.258	0.211	70.99%	1.63%	25.31%	11.87%	16.89%	13.83%
3	60	841	2.274	0.0285	1.670	0.457	0.193	0.288	0.234	73.44%	1.25%	27.37%	11.56%	17.25%	14.01%
3	60	842	2.062	0.0426	1.515	0.414	0.185	0.255	0.201	73.47%	2.07%	27.33%	12.21%	16.83%	13.27%
3	60	843	2.412	0.0426	1.745	0.468	0.188	0.283	0.243	72.35%	1.77%	26.82%	10.77%	16.22%	13.93%
3	60	844	2.238	0.0335	1.640	0.441	0.180	0.275	0.224	73.28%	1.50%	26.89%	10.98%	16.77%	13.66%
3	60	845	2.166	0.0305	1.610	0.386	0.210	0.276	0.198	74.33%	1.41%	23.98%	13.04%	17.14%	12.30%
3	60	846	1.888	0.0304	1.380	0.336	0.154	0.237	0.189	73.09%	1.61%	24.35%	11.16%	17.17%	13.70%
3	60	847	2.338	0.0456	1.670	0.408	0.189	0.288	0.246	71.43%	1.95%	24.43%	11.32%	17.25%	14.73%
3	60	848	1.996	0.0346	1.435	0.406	0.168	0.239	0.196	71.89%	1.73%	28.29%	11.71%	16.66%	13.66%
3	60	849	2.038	0.0385	1.485	0.365	0.176	0.258	0.201	72.87%	1.89%	24.58%	11.85%	17.37%	13.54%
3	60	850	2.378	0.0364	1.705	0.439	0.191	0.281	0.243	71.70%	1.53%	25.75%	11.20%	16.48%	14.25%
Number of Birds		10													
Pen Average			2.179	0.0363	1.586	0.412	0.183	0.268	0.218	72.78%	1.67%	25.98%	11.58%	16.91%	13.70%

Percent chill and fat pad are percent of live weight, percent breast, wings, thighs and drums are percent of chill weight

Table P3. Individual female bird processing data at 44 days of age (10/27/00) Project No. MN-00-1  
(live wt is after ~12 hr feed withdrawal)

Treatment	Pen	Bird No.	Live Wt. (kg)	Fat Pad Wt. (kg)	Chill Wt. (kg)	Breast Wt. (kg)	Wings Wt. (kg)	Thighs Wt. (kg)	Drums Wt. (kg)	% Chill	% Fat Pad	Percent of Chill Weight			
												Breast	Wings	Thighs	Drums
7	61	351	2.162	0.0448	1.540	0.385	0.174	0.252	0.209	71.23%	2.07%	25.00%	11.30%	16.36%	13.57%
7	61	352	2.070	0.0395	1.500	0.402	0.173	0.243	0.217	72.46%	1.91%	26.80%	11.53%	16.20%	14.47%
7	61	353	2.122	0.0482	1.490	0.408	0.158	0.224	0.178	70.22%	2.27%	27.38%	10.60%	15.03%	11.95%
7	61	354	1.958	0.0372	1.365	0.360	0.164	0.237	0.198	69.71%	1.90%	26.37%	12.01%	17.36%	14.51%
7	61	355	2.190	0.0305	1.535	0.397	0.193	0.277	0.207	70.09%	1.39%	25.86%	12.57%	18.05%	13.49%
7	61	356	2.348	0.0390	1.695	0.434	0.193	0.274	0.221	72.19%	1.66%	25.60%	11.39%	16.17%	13.04%
7	61	357	1.978	0.0225	1.410	0.350	0.171	0.226	0.209	71.28%	1.14%	24.82%	12.13%	16.03%	14.82%
7	61	358	1.926	0.0272	1.365	0.344	0.162	0.220	0.185	70.87%	1.41%	25.20%	11.87%	16.12%	13.55%
7	61	359	2.254	0.0460	1.600	0.417	0.186	0.268	0.233	70.98%	2.04%	26.06%	11.63%	16.75%	14.56%
7	61	360	2.108	0.0534	1.520	0.362	0.165	0.252	0.213	72.11%	2.53%	23.82%	10.86%	16.58%	14.01%
Number of Birds		10													
Pen Average			2.112	0.0388	1.502	0.386	0.174	0.247	0.207	71.12%	1.83%	25.69%	11.59%	16.46%	13.80%
2	63	851	2.042	0.0323	1.475	0.391	0.174	0.236	0.198	72.23%	1.58%	26.51%	11.80%	16.00%	13.42%
2	63	852	2.146	0.0454	1.505	0.415	0.180	0.243	0.204	70.13%	2.12%	27.57%	11.96%	16.15%	13.55%
2	63	853	2.142	0.0653	1.510	0.421	0.179	0.269	0.202	70.49%	3.05%	27.88%	11.85%	17.81%	13.38%
2	63	854	2.134	0.0401	1.540	0.439	0.172	0.259	0.196	72.16%	1.88%	28.51%	11.17%	16.82%	12.73%
2	63	855	2.112	0.0539	1.475	0.313	0.180	0.274	0.216	69.84%	2.55%	21.22%	12.20%	18.58%	14.64%
2	63	856	1.784	0.0278	1.295	0.353	0.165	0.210	0.176	72.59%	1.56%	27.26%	12.74%	16.22%	13.59%
2	63	857	2.064	0.0476	1.505	0.408	0.170	0.244	0.202	72.92%	2.31%	27.11%	11.30%	16.21%	13.42%
2	63	858	1.750	0.0187	1.220	0.309	0.148	0.198	0.171	69.71%	1.07%	25.33%	12.13%	16.23%	14.02%
2	63	859	2.194	0.0520	1.510	0.375	0.178	0.271	0.208	68.82%	2.37%	24.83%	11.79%	17.95%	13.77%
2	63	860	2.126	0.0478	1.450	0.394	0.169	0.231	0.199	68.20%	2.25%	27.17%	11.66%	15.93%	13.72%
Number of Birds		10													
Pen Average			2.049	0.0431	1.449	0.382	0.172	0.244	0.197	70.71%	2.07%	26.34%	11.86%	16.79%	13.63%
5	65	361	1.954	0.0274	1.395	0.358	0.165	0.243	0.197	71.39%	1.40%	25.66%	11.83%	17.42%	14.12%
5	65	362	2.052	0.0343	1.475	0.369	0.172	0.273	0.219	71.88%	1.67%	25.02%	11.66%	18.51%	14.85%
5	65	363	2.064	0.0436	1.480	0.382	0.179	0.272	0.214	71.71%	2.11%	25.81%	12.09%	18.38%	14.46%
5	65	364	2.366	0.0511	1.660	0.398	0.187	0.295	0.244	70.16%	2.16%	23.98%	11.27%	17.77%	14.70%
5	65	365	2.174	0.0465	1.555	0.368	0.191	0.263	0.214	71.53%	2.14%	23.67%	12.28%	16.91%	13.76%
5	65	366	2.136	0.0439	1.515	0.438	0.171	0.224	0.217	70.93%	2.06%	28.91%	11.29%	14.79%	14.32%
5	65	367	2.354	0.0314	1.660	0.473	0.207	0.259	0.212	70.52%	1.33%	28.49%	12.47%	15.60%	12.77%
5	65	368	2.206	0.0449	1.605	0.437	0.181	0.250	0.203	72.76%	2.04%	27.23%	11.28%	15.58%	12.65%
5	65	369	2.062	0.0638	1.445	0.399	0.157	0.219	0.188	70.08%	3.09%	27.61%	10.87%	15.16%	13.01%
5	65	370	2.030	0.0336	1.450	0.378	0.171	0.251	0.202	71.43%	1.66%	26.07%	11.79%	17.31%	13.93%
Number of Birds		10													
Pen Average			2.140	0.0421	1.524	0.400	0.178	0.255	0.211	71.24%	1.97%	26.24%	11.68%	16.74%	13.86%

Percent chill and fat pad are percent of live weight, percent breast, wings, thighs and drums are percent of chill weight

Table P3. Individual female bird processing data at 44 days of age (10/27/00) Project No. MN-00-1  
(live wt is after ~12 hr feed withdrawal)

Treatment	Pen	Bird No.	Live Wt. (kg)	Fat Pad Wt. (kg)	Chill Wt. (kg)	Breast Wt. (kg)	Wings Wt. (kg)	Thighs Wt. (kg)	Drums Wt. (kg)	% Chill	% Fat Pad	Percent of Chill Weight			
												Breast	Wings	Thighs	Drums
8	66	861	2.284	0.0288	1.620	0.452	0.188	0.277	0.236	70.93%	1.26%	27.90%	11.60%	17.10%	14.57%
8	66	862	1.856	0.0306	1.290	0.294	0.161	0.219	0.190	69.50%	1.65%	22.79%	12.48%	16.98%	14.73%
8	66	863	1.842	0.0111	1.285	0.312	0.174	0.214	0.176	69.76%	0.60%	24.28%	13.54%	16.65%	13.70%
8	66	864	1.950	0.0287	1.380	0.355	0.162	0.224	0.200	70.77%	1.47%	25.72%	11.74%	16.23%	14.49%
8	66	865	2.288	0.0283	1.590	0.405	0.173	0.298	0.237	69.49%	1.24%	25.47%	10.88%	18.74%	14.91%
8	66	866	1.980	0.0271	1.440	0.375	0.184	0.227	0.207	72.73%	1.37%	26.04%	12.78%	15.76%	14.38%
8	66	867	2.004	0.0513	1.410	0.373	0.176	0.236	0.197	70.36%	2.56%	26.45%	12.48%	16.74%	13.97%
8	66	868	2.204	0.0292	1.585	0.433	0.184	0.260	0.207	71.91%	1.32%	27.32%	11.61%	16.40%	13.06%
8	66	869	1.640	0.0248	1.140	0.272	0.139	0.181	0.165	69.51%	1.51%	23.86%	12.19%	15.88%	14.47%
8	66	870	2.286	0.0294	1.665	0.459	0.179	0.286	0.235	72.83%	1.29%	27.57%	10.75%	17.18%	14.11%
Number of Birds		10													
Pen Average			2.033	0.0289	1.441	0.373	0.172	0.242	0.205	70.78%	1.43%	25.74%	12.01%	16.77%	14.24%
7	68	371	1.982	0.0311	1.385	0.330	0.168	0.242	0.207	69.88%	1.57%	23.83%	12.13%	17.47%	14.95%
7	68	372	1.810	0.0191	1.265	0.301	0.160	0.210	0.186	69.89%	1.06%	23.79%	12.65%	16.60%	14.70%
7	68	373	2.078	0.0320	1.515	0.402	0.171	0.276	0.204	72.91%	1.54%	26.53%	11.29%	18.22%	13.47%
7	68	374	2.074	0.0360	1.485	0.353	0.185	0.270	0.220	71.60%	1.74%	23.77%	12.46%	18.18%	14.81%
7	68	375	1.672	0.0238	1.145	0.294	0.150	0.182	0.162	68.48%	1.42%	25.68%	13.10%	15.90%	14.15%
7	68	376	1.780	0.0279	1.295	0.364	0.150	0.212	0.180	72.75%	1.57%	28.11%	11.58%	16.37%	13.90%
7	68	377	1.732	0.0262	1.235	0.303	0.168	0.215	0.165	71.30%	1.51%	24.53%	12.79%	17.41%	13.36%
7	68	378	1.776	0.0245	1.280	0.316	0.161	0.204	0.176	72.07%	1.38%	24.69%	12.58%	15.94%	13.75%
7	68	379	2.054	0.0331	1.430	0.353	0.178	0.250	0.205	69.62%	1.61%	24.69%	12.45%	17.48%	14.34%
7	68	380	1.800	0.0242	1.245	0.305	0.157	0.224	0.193	69.17%	1.34%	24.50%	12.61%	17.99%	15.50%
Number of Birds		10													
Pen Average			1.876	0.0278	1.328	0.332	0.164	0.229	0.190	70.77%	1.47%	25.01%	12.36%	17.16%	14.29%
4	72	871	2.198	0.0420	1.540	0.363	0.182	0.281	0.225	70.06%	1.91%	23.57%	11.82%	18.25%	14.61%
4	72	872	1.870	0.0276	1.345	0.309	0.162	0.239	0.186	71.93%	1.48%	22.97%	12.04%	17.77%	13.83%
4	72	873	2.012	0.0270	1.460	0.398	0.168	0.253	0.201	72.56%	1.34%	27.26%	11.51%	17.33%	13.77%
4	72	874	2.208	0.0356	1.565	0.418	0.186	0.267	0.213	70.88%	1.61%	26.71%	11.88%	17.06%	13.61%
4	72	875	2.032	0.0400	1.485	0.393	0.171	0.236	0.180	73.08%	1.97%	26.46%	11.52%	15.89%	12.12%
4	72	876	2.300	0.0528	1.645	0.438	0.176	0.315	0.210	71.52%	2.30%	26.63%	10.70%	19.15%	12.77%
4	72	877	2.114	0.0383	1.500	0.342	0.181	0.261	0.234	70.96%	1.81%	22.80%	12.07%	17.40%	15.60%
4	72	878	2.096	0.0312	1.505	0.373	0.178	0.232	0.193	71.80%	1.49%	24.78%	11.83%	15.42%	12.82%
4	72	879	1.846	0.0309	1.260	0.286	0.151	0.215	0.182	68.26%	1.67%	22.70%	11.98%	17.06%	13.44%
4	72	880	1.876	0.0432	1.310	0.303	0.159	0.218	0.191	69.83%	2.30%	23.13%	12.14%	16.64%	14.58%
Number of Birds		10													
Pen Average			2.055	0.0369	1.462	0.362	0.171	0.252	0.202	71.09%	1.79%	24.70%	11.75%	17.20%	13.82%

Percent chill and fat pad are percent of live weight, percent breast, wings, thighs and drums are percent of chill weight

Table P3. Individual female bird processing data at 44 days of age (10/27/00) Project No. MN-00-1  
(live wt is after ~12 hr feed withdrawal)

Treatment	Pen	Bird No.	Live Wt. (kg)	Fat Pad Wt. (kg)	Chill Wt. (kg)	Breast Wt. (kg)	Wings Wt. (kg)	Thighs Wt. (kg)	Drums Wt. (kg)	% Chill	% Fat Pad	Percent of Chill Weight			
												Breast	Wings	Thighs	Drums
2	73	381	2.202	0.0350	1.560	0.443	0.174	0.259	0.203	70.84%	1.59%	28.40%	11.15%	16.60%	13.01%
2	73	382	2.136	0.0370	1.530	0.404	0.178	0.270	0.212	71.63%	1.73%	26.41%	11.63%	17.65%	13.86%
2	73	383	1.898	0.0317	1.305	0.303	0.166	0.239	0.193	68.76%	1.67%	23.22%	12.72%	18.31%	14.79%
2	73	384	2.148	0.0362	1.570	0.441	0.181	0.247	0.213	73.09%	1.69%	28.09%	11.53%	15.73%	13.57%
2	73	385	1.990	0.0416	1.440	0.391	0.166	0.225	0.186	72.36%	2.09%	27.15%	11.53%	15.63%	12.92%
2	73	386	2.256	0.0453	1.620	0.449	0.181	0.275	0.212	71.81%	2.01%	27.72%	11.17%	16.98%	13.09%
2	73	387	2.224	0.0363	1.600	0.483	0.178	0.248	0.204	71.94%	1.63%	30.19%	11.13%	15.50%	12.75%
2	73	388	2.420	0.0504	1.720	0.477	0.189	0.314	0.235	71.07%	2.08%	27.73%	10.99%	18.26%	13.66%
2	73	389	2.084	0.0405	1.465	0.332	0.179	0.229	0.210	70.30%	1.94%	22.66%	12.22%	15.63%	14.33%
2	73	390	1.916	0.0444	1.370	0.373	0.166	0.213	0.183	71.50%	2.32%	27.23%	12.12%	15.55%	13.36%
Number of Birds		10													
Pen Average			2.127	0.0398	1.518	0.410	0.176	0.252	0.205	71.33%	1.88%	26.88%	11.62%	16.58%	13.53%
6	74	881	2.118	0.0602	1.445	0.317	0.179	0.247	0.209	68.22%	2.84%	21.94%	12.39%	17.09%	14.46%
6	74	882	1.814	0.0391	1.300	0.314	0.160	0.204	0.176	71.66%	2.16%	24.15%	12.31%	15.69%	13.54%
6	74	883	2.120	0.0355	1.500	0.373	0.178	0.247	0.217	70.75%	1.67%	24.87%	11.87%	16.47%	14.47%
6	74	884	2.098	0.0393	1.480	0.400	0.167	0.242	0.200	70.54%	1.87%	27.03%	11.28%	16.35%	13.51%
6	74	885	2.112	0.0399	1.505	0.379	0.189	0.243	0.212	71.26%	1.89%	25.18%	12.56%	16.15%	14.09%
6	74	886	1.954	0.0361	1.360	0.361	0.166	0.235	0.184	69.60%	1.85%	26.54%	12.21%	17.28%	13.53%
6	74	887	2.430	0.0518	1.720	0.462	0.202	0.289	0.224	70.78%	2.13%	26.86%	11.74%	16.80%	13.02%
6	74	888	2.184	0.0285	1.590	0.418	0.187	0.255	0.209	72.80%	1.30%	26.29%	11.76%	16.04%	13.14%
6	74	889	2.216	0.0448	1.575	0.427	0.178	0.251	0.210	71.07%	2.02%	27.11%	11.30%	15.94%	13.33%
6	74	890	2.424	0.0468	1.745	0.498	0.205	0.283	0.243	71.99%	1.93%	28.54%	11.75%	16.22%	13.93%
Number of Birds		10													
Pen Average			2.147	0.0422	1.522	0.395	0.181	0.250	0.208	70.87%	1.97%	25.85%	11.92%	16.40%	13.70%
1	76	391	2.158	0.0481	1.555	0.413	0.180	0.260	0.219	72.06%	2.23%	26.56%	11.58%	16.72%	14.08%
1	76	392	2.224	0.0336	1.610	0.447	0.188	0.271	0.225	72.39%	1.51%	27.76%	11.68%	16.83%	13.98%
1	76	393	2.308	0.0397	1.680	0.393	0.195	0.301	0.246	72.79%	1.72%	23.39%	11.61%	17.92%	14.64%
1	76	394	1.874	0.0283	1.315	0.324	0.169	0.211	0.190	70.17%	1.51%	24.64%	12.85%	16.05%	14.45%
1	76	395	2.014	0.0576	1.420	0.368	0.155	0.229	0.189	70.51%	2.86%	25.92%	10.92%	16.13%	13.31%
1	76	397	1.912	0.0342	1.340	0.337	0.183	0.227	0.187	70.08%	1.79%	25.15%	13.66%	16.94%	13.96%
1	76	398	2.012	0.0327	1.380	0.337	0.169	0.250	0.195	68.59%	1.63%	24.42%	12.25%	18.12%	14.13%
1	76	399	2.032	0.0396	1.445	0.341	0.177	0.257	0.212	71.11%	1.95%	23.60%	12.25%	17.79%	14.67%
1	76	400	1.774	0.0210	1.280	0.341	0.154	0.218	0.180	72.15%	1.18%	26.64%	12.03%	17.03%	14.06%
Number of Birds		9													
Pen Average			2.034	0.0372	1.447	0.367	0.174	0.247	0.205	71.09%	1.82%	25.34%	12.09%	17.06%	14.14%

Percent chill and fat pad are percent of live weight, percent breast, wings, thighs and drums are percent of chill weight

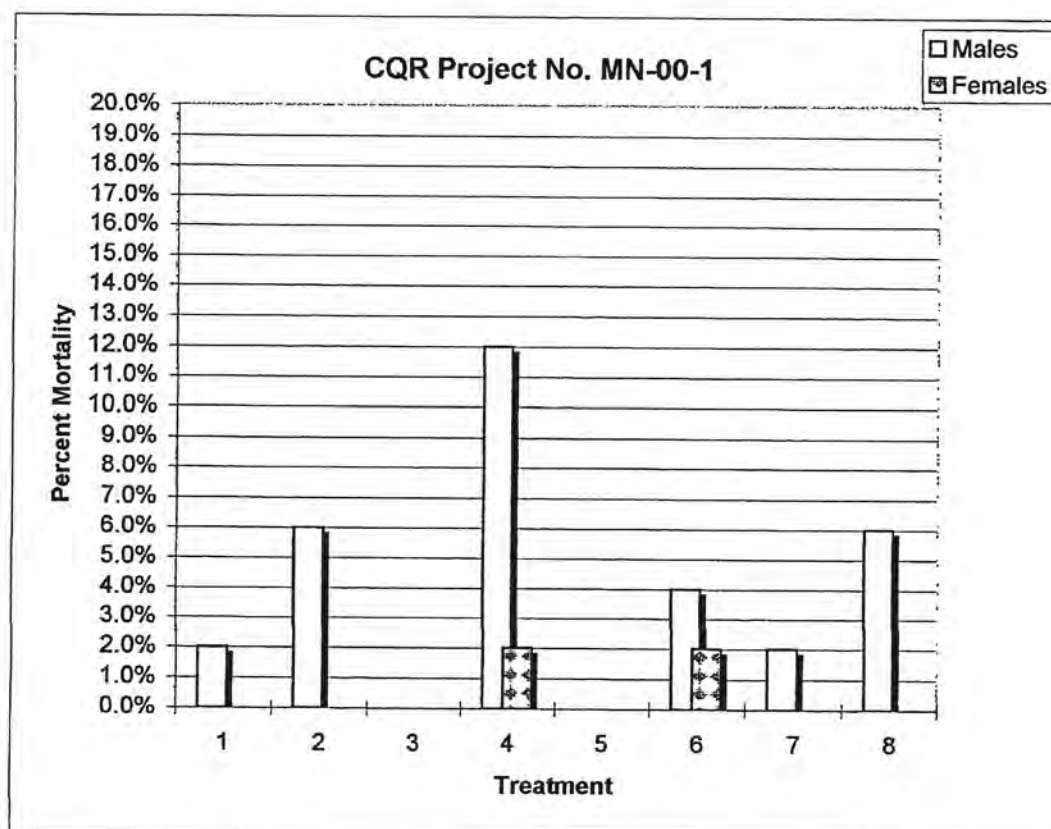
Table P3. Individual female bird processing data at 44 days of age (10/27/00) Project No. MN-00-1  
(live wt is after ~12 hr feed withdrawal)

Treatment	Pen	Bird No.	Live Wt. (kg)	Fat Pad Wt. (kg)	Chill Wt. (kg)	Breast Wt. (kg)	Wings Wt. (kg)	Thighs Wt. (kg)	Drums Wt. (kg)	% Chill	% Fat Pad	Percent of Chill Weight			
												Breast	Wings	Thighs	Drums
3	80	891	2.152	0.0401	1.535	0.400	0.170	0.270	0.202	71.33%	1.86%	26.06%	11.07%	17.59%	13.16%
3	80	892	2.046	0.0496	1.485	0.395	0.175	0.259	0.193	72.58%	2.42%	26.60%	11.78%	17.44%	13.00%
3	80	893	2.040	0.0384	1.460	0.368	0.165	0.254	0.198	71.57%	1.88%	25.21%	11.30%	17.40%	13.56%
3	80	894	2.166	0.0426	1.540	0.409	0.177	0.274	0.224	71.10%	1.97%	26.56%	11.49%	17.79%	14.55%
3	80	895	2.268	0.0265	1.615	0.434	0.183	0.272	0.219	71.21%	1.17%	26.87%	11.33%	16.84%	13.56%
3	80	896	2.104	0.0376	1.520	0.392	0.182	0.235	0.209	72.24%	1.79%	25.79%	11.97%	15.46%	13.75%
3	80	897	1.972	0.0197	1.375	0.367	0.160	0.226	0.199	69.73%	1.00%	26.69%	11.64%	16.44%	14.47%
3	80	898	2.170	0.0279	1.585	0.426	0.180	0.270	0.216	73.04%	1.29%	26.88%	11.36%	17.03%	13.63%
3	80	899	1.974	0.0369	1.430	0.347	0.175	0.232	0.223	72.44%	1.87%	24.27%	12.24%	16.22%	15.59%
3	80	900	2.230	0.0316	1.655	0.441	0.182	0.280	0.255	74.22%	1.42%	26.65%	11.00%	16.92%	15.41%
Number of Birds		10													
Pen Average			2.112	0.0351	1.520	0.398	0.175	0.257	0.214	71.95%	1.67%	26.16%	11.52%	16.91%	14.07%

Percent chill and fat pad are percent of live weight, percent breast, wings, thighs and drums are percent of chill weight

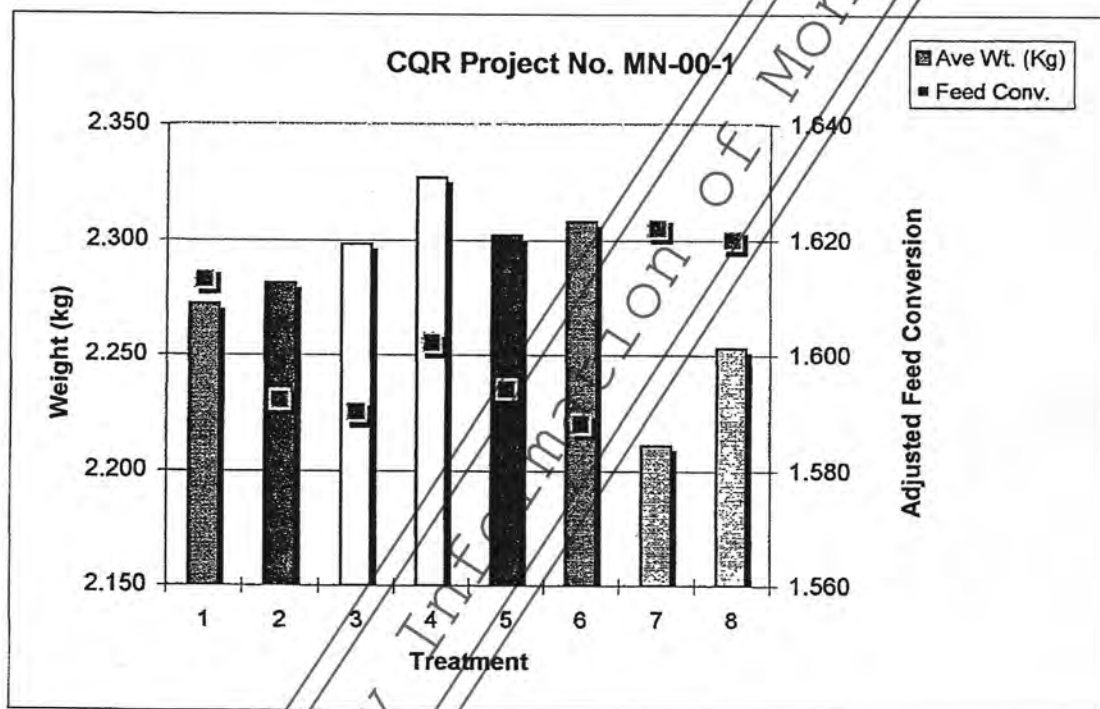
Graph G1. Summary of Day 7-42 mortality, by sex. Project No. MN-00-1  
(Monsanto Study No. 2000-01-39-38)

Treatment	Percent Mortality		Treatment Description
	Males	Females	
1	2.0%	0.0%	RX 826
2	6.0%	0.0%	DK 493
3	0.0%	0.0%	DK 521
4	12.0%	2.0%	DK 539
5	0.0%	0.0%	BX 86
6	4.0%	2.0%	DK 537
7	2.0%	0.0%	LH82 x A634
8	6.0%	0.0%	MON 863



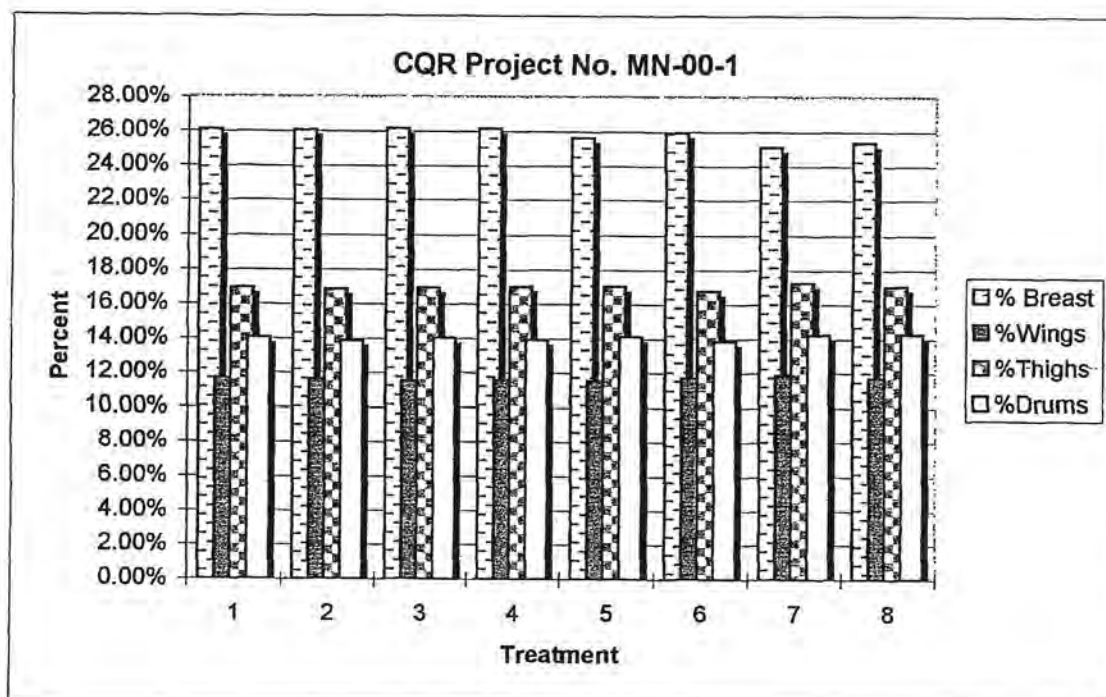
Graph G2. Summary of Day 42 Treatment Average Bird Weight and Adjusted Feed Conversion  
 Project No. MN-00-1 (Monsanto No. 2000-01-39-38) (males & females combined)

Treatment	Day 42 Ave Wt. (Kg)	Adjusted Feed Conv.	Treatment Description
1	2.272	1.613	RX 826
2	2.281	1.592	DK 493
3	2.298	1.590	DK 521
4	2.327	1.602	DK 539
5	2.302	1.594	BX 86
6	2.308	1.588	DK 537
7	2.211	1.622	LH82 x A634
8	2.253	1.620	MON 863



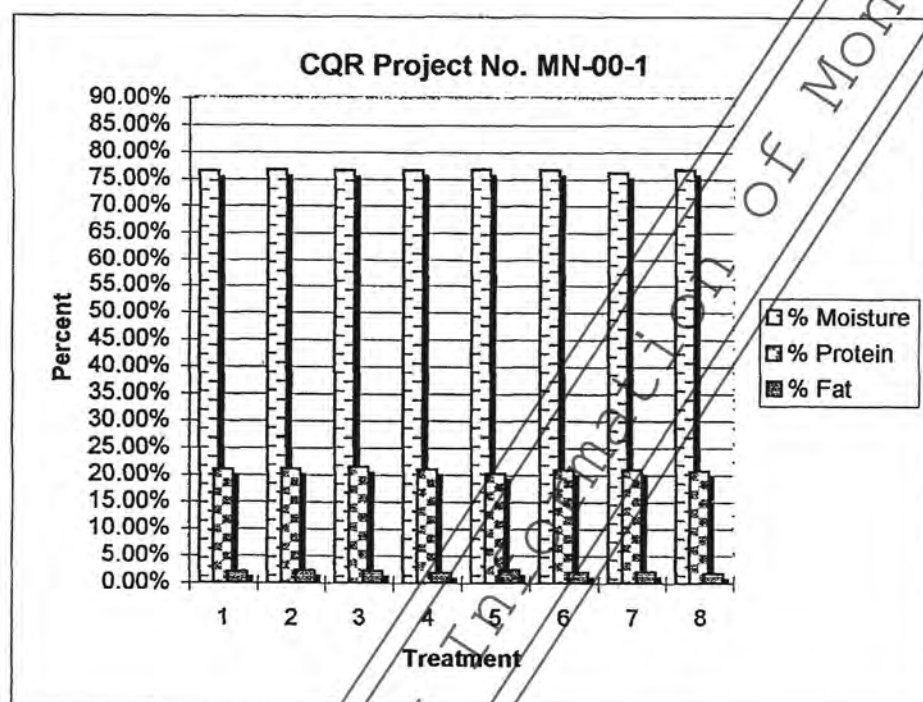
Graph G3. Summary of Day 43 and Day 44 Processing Data - Male & Female combined  
Project No. MN-00-1 (Monsanto Study No. 2000-01-39-38)

Treatment	% Breast	%Wings	%Thighs	%Drums	Treatment Description
1	26.11%	11.67%	16.91%	14.05%	RX 826
2	26.08%	11.60%	16.81%	13.88%	DK 493
3	26.18%	11.52%	16.92%	14.02%	DK 521
4	26.17%	11.56%	17.00%	13.94%	DK 539
5	25.65%	11.54%	17.01%	14.14%	BX 86
6	25.95%	11.70%	16.77%	13.88%	DK 537
7	25.10%	11.87%	17.26%	14.23%	LH82 x A634
8	25.36%	11.71%	17.03%	14.26%	MON 863



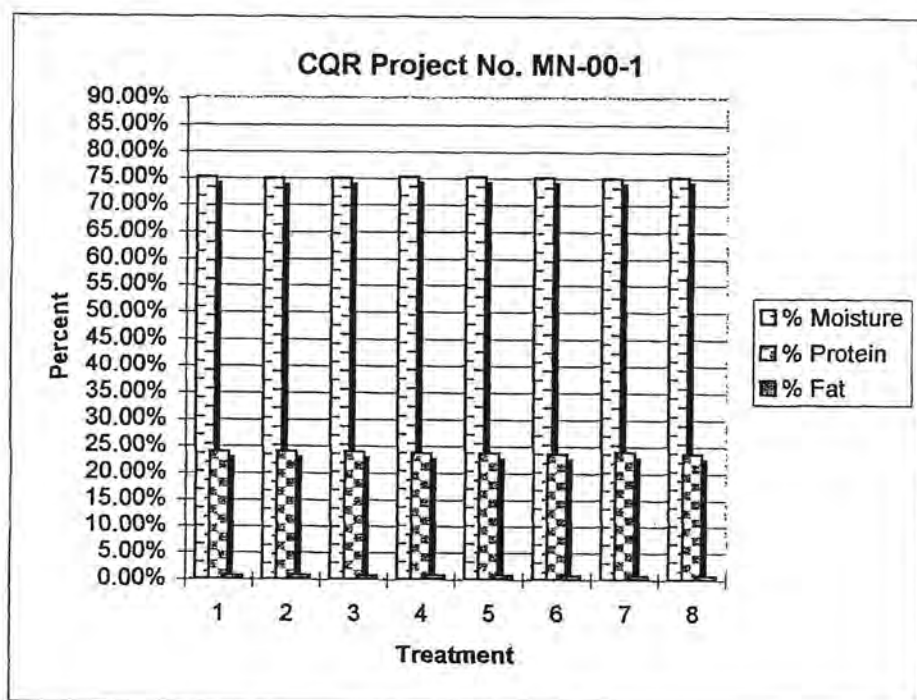
Graph G4. Summary of chicken thigh analysis - average of males and females  
Project No. MN-00-1 (Monsanto #2000-01-39-38)

Treatment	% Moisture	% Protein	% Fat	Treatment Description
1	76.50%	21.02%	2.13%	RX 826
2	76.73%	21.16%	2.38%	DK 493
3	76.62%	21.44%	2.26%	DK 521
4	76.70%	21.03%	1.96%	DK 539
5	76.90%	20.31%	2.51%	BX 86
6	76.70%	21.00%	2.06%	DK 537
7	76.21%	21.01%	2.11%	LH82 x A634
8	76.82%	20.71%	1.79%	MON 863



Graph G5. Summary of chicken breast analysis - average of males and females  
Project No. MN-00-1 (Monsanto #2000-01-39-38)

Treatment	% Moisture	% Protein	% Fat	Treatment Description
1	75.10%	23.89%	0.78%	RX 826
2	74.91%	24.08%	0.87%	DK 493
3	75.07%	23.94%	0.80%	DK 521
4	75.21%	23.77%	0.89%	DK 539
5	75.21%	23.75%	0.81%	BX 86
6	75.12%	23.67%	0.80%	DK 537
7	75.08%	23.94%	0.78%	LH82 x A634
8	75.26%	23.63%	0.79%	MON 863



## **Appendix 2**

### **Trilogy Consulting Corporation Statistical Report**

**pp. 103-169**



Statistical Report  
CQR Project No. MN-00-1  
Monsanto Study No. 2000-01-39-38  
Comparison of Broiler Performance When Fed Diets Containing Events MON863  
Parental Line or Commercial Corn  
David Mark Carpenter, Ph.D.  
6/18/2001

## Data

The data consist of several responses: live weight, live pen weight on day 1, live bird weight on day 1 (g/bird), fat pad weight, chill weight, breast weight, wing weight, thigh weight, drum weight, percent fat pad, percent chill weight (chill weight/live weight), percent breast weight (breast weight/chill weight), percent wings weight (wings weight/chill weight), percent thighs weight (thighs weight/chill weight), percent drums weight (drums weight/chill weight), final pen weight, R/M weight (final pen weight plus the weight of all removed and dead birds), food consumption, feed intake average weight, feed efficiency, adjusted feed efficiency, and moisture protein, and fat for both breasts and thighs. These responses were measured on chicks fed one of eight corn diets and are listed in Table 1.

Raw data was supplied by CQR in the form of EXCEL spreadsheets. These data were sorted and/or combined and saved in several text files. The text files were read and saved in a form amenable to analysis by Release 8 of the Statistical Analysis System (SAS®).

## Statistical Analyses

Pens were set up as a randomized complete block experimental design with 8 diets (treatments) in each of five replicated blocks of pens. Each block contained 16 pens (eight male and eight female) with 10 birds/pen for a total of 80 pens and 800 birds (400 male, 400 female). The GLM and Mixed procedures in Release 8 of the Statistical Analysis System (SAS®) were used to analyses each experiment.

Two statistical analyses were done. The first analysis used the model:

Model 1: 
$$y_{ijk} = \mu + \tau_i + \beta_j + (\tau\beta)_{ij} + \eta_k + \epsilon_{ijk}$$

where

$y_{ijk}$  is the value of the pen response for diet i, sex j, in block k  
 $\mu$  is the overall mean

$\tau_i$  is the mean effect for diet  $i$ ,  $i=1, \dots, 8$   
 $\beta_j$  is the mean effect for sex  $j$ ,  $j=1,2$ .  
 $(\tau\beta)_{ij}$  is the diet by sex interaction  
 $\eta_k$  is the effect of block  $k$ ,  $k=1, \dots, 5$ .  
 $\epsilon_{ijk}$  is the random error for the pen corresponding to diet  $i$ , sex  $j$ , and block  $k$ .

The second analysis is similar to Model 1 except that a separate analysis was performed for each sex. The model used in this case is:

Model 2: 
$$y_{ik} = \mu + \tau_i + \eta_k + \epsilon_{ik}.$$

The general linear model (GLM) procedure in SAS was used to fit both models. The results of the analyses from the first model are in Tables 2 - 29 while the results of the analyses from the second model are in Tables 30 - 57. The tables contain the means along with 5% LSD values for a comparison of the transgenic (MON863) to its non-transgenic parent and the commercial controls. Means, followed by the same letter, are not significantly different. The convention used is that if the overall treatment effect is not significant,  $p > 0.05$ , then all pairwise comparisons are also not significant. Thus, in these cases, each mean is assigned the same letter in Tables 2-57. In addition, plots of the means, for final pen weight, food consumption, feed efficiency, adjusted feed efficiency, along with error bars, which are  $\pm$  one half of the 5% LSD, are in Figures 1 - 4. The overall p-values for blocks, diets, gender and the interaction between diets and gender are also provided at the top of each table.

Included at the bottom of each of Tables 2 - 29 is a comparison of the MON863 transgenic diet to the population of commercial varieties. The hypothesis being tested is:  $H_0$ : the expected response for chicks fed the MON863 diet is consistent with the variation of the response from diets containing different commercial varieties. Tables 30 - 57 include a similar comparison of the MON863 transgenic diet to the population of commercial varieties broken down by sex. This analysis uses the following linear mixed model:

Model 3: 
$$y_{ijk} = \mu + \beta_i + \tau_j + \delta_{k(j)} + \epsilon_{ijk}$$

where

$y_{ijk}$  is the value of the pen response corresponding to block  $i$ ,  
 treatment  $j$  (either MON863 or commercial), and  
 diet  $k$  within treatment  $j$

$\mu$  is overall mean

$\beta_i$  is  $i$ th block effect,  $i=1, \dots, 5$

$\tau_j$  is  $j$ th treatment effect,  $j=1,2$

$\delta_{k(j)}$  is the random diet effect.

$\varepsilon_{ijk}$  is random pen error for block  $i$  fed diet  $k$  within treatment  $j$ .

In most cases of Model 3, block effects were negligible in the, i.e.,  $p$ -value  $> 0.05$ . In these cases, the model was refitted without block effects, i.e., the block effects were pooled in the error term, to get a more powerful test. The mixed procedure in SAS was used to do the actual analysis.

### Results/Conclusions

There are only a few responses for which statistical significance between diets was observed (ten cases in Model 1, eight in Model 2 and two cases in Model 3). In these few cases there are no clear-cut patterns in differences between the MON863 and the non-transgenic diets. In most cases, significant differences between blocks and significant differences between males and females were observed.

1. Model 1, i.e., analysis across sex, there was only one instance, Percent Breast Weight, for which statistical significant diet\*sex interaction was observed ( $p=0.020$ ). All other diet\*sex interactions were not significant. There were ten cases in which statistical significance between diets were observed:
  - a. Breast Weight ( $p=0.005$ ). Closer inspection via the LSD multiple comparisons indicates that MON863 is statistically different from DK521 and DK539, but not statistically different than any of the other lines.
  - b. Percent Chill Weight ( $p=0.032$ ). Closer inspection via the LSD multiple comparisons indicates that MON863 is statistically different than DK521 and BX86, but not statistically different than any of the other lines.
  - c. Percent Breast Weight ( $p<0.001$ ). Through LSD comparisons, MON863 is statistically different from RX826, DK493, DK521, DK539 and DK537, but not statistically different than LH82xA634 and BX86.
  - d. Percent Wing Weight ( $p=0.008$ ). Through LSD comparisons, MON863 is not statistically different from any of the other lines.
  - e. Percent Thigh Weight ( $p=0.013$ ). Through LSD comparisons, MON863 is statistically different from DK537 but not statistically different than the other lines.
  - f. Percent Drum Weight ( $p=0.008$ ). Through LSD comparisons, MON863 is statistically different than DK493, DK539, and DK537 only.
  - g. Final Pen Weight ( $p=0.051$ , slightly above the 0.05 level of significance). Through LSD comparisons, MON863 is statistically different than DK521 and BX86.

- h. R/M Weight ( $p=0.042$ ). Through LSD comparisons, MON863 is statistically different than DK539 only and DK539 is statistically different than all lines.
  - i. Feed Efficiency ( $p=0.045$ ). Through LSD comparisons, MON863 is not statistically different than any of the other lines.
  - j. Adjusted Feed Efficiency ( $p=0.011$ ). Through LSD comparisons, MON863 is statistically different than DK493, DK521, BX86 and DK537, but not statistically different than the other lines.
2. Model 2, i.e., analysis by sex, statistical differences due to diets were seen in eight instances:
- a. Breast Weight – male, statistical significance ( $p=0.012$ ), with LSD comparisons yielding MON863 statistically different than DK539 and DK537 only; female, no statistical significance ( $p=0.653$ ).
  - b. Percent Chill Weight – male, no statistical significance ( $p=0.194$ ); female, statistical significance ( $p=0.003$ ) with LSD comparisons yielding MON863 statistically different than RX826, DK521, DK539 and BX86.
  - c. Percent Breast Weight – male, statistical significance ( $p<0.001$ ), with MON863 testing statistically different than all other lines except LH82xA634 and BX86; female, no statistical significance ( $p=0.244$ ).
  - d. Percent Wing Weight – male, statistical significance ( $p=0.009$ ), with MON863 testing statistically different than LH82xA634 only; female, no statistical significance ( $p=0.110$ ).
  - e. Percent Drum Weight – male, statistical significance ( $p=0.021$ ), with MON863 testing statistically different than RX826, DK539, DK493 and DK537; female, no statistical significance ( $p=0.536$ ).
  - f. Final Pen Weight – male, statistical significance ( $p=0.044$ ), with MON863 testing statistically different than DK521 and BX86; female, no statistical significance ( $p=0.897$ ).
  - g. Adjusted Feed Efficiency – male, statistical significance ( $p=0.035$ ), with MON863 testing statistically different than DK493 and DK537; female, no statistical significance ( $p=0.328$ ).
  - h. Breast Moisture – male, no statistical significance ( $p=0.458$ ); female, statistical significance ( $p=0.032$ ), with MON863 testing significantly different than DK493 only.
3. Model 3, i.e., direct comparison of MON863 to the population of commercial diets across sex yielded significance in only one case, Fat Pad Weight; by sex, there was significant direct comparison of MON863 to the population of commercial diets, in two cases, Fat Pad Weight and Percent Fat Pad:
- a. Fat Pad Weight – across sex, statistical significance ( $p=0.034$ ); male, no statistical significance ( $p=0.140$ ); female, statistical significance ( $p=0.046$ ).

- b. Percent Fat Pad – Across sex, no statistical significance (0.145); Male, no statistical significance ( $p=0.252$ ); female, statistical significance ( $p=0.035$ ).

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Table 1: Diets

Type	Code
Test Article	1. MON863
Control Article	1. LH82xA634 (parental control for MON863)
Commercial controls varieties)	Non-genetically modified corn (commercial 1. RX826 2. DK493 3. DK521 4. DK539 5. BX86 6. DK537

Table 2 - Statistical Analysis Across Sex for Live Weight, kg

**ANOVA Summary**

p-value, Blocks	0.089
p-value, Diets	0.119
p-value, Sex	<0.001
p-value, Diets*Sex	0.607
LSD 5%	0.076

**Diet Means**

MON863	2.239a
LH82xA634	2.198a
RX826	2.270a
DK493	2.266a
DK521	2.278a
DK539	2.318a
BX86	2.287a
DK537	2.290a
All Commercial*	2.272

p-value for MON863 compared to population of commercial diets\* 0.554

5% LSD for MON863 compared to population of commercial diets 0.111

a,b Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 3 - Statistical Analysis Across Sex for Live Pen Weight, kg/pen, Day1

**ANOVA Summary**

p-value, Blocks	0.125
p-value, Diets	0.890
p-value, Sex	0.074
p-value, Diets*Sex	0.525
LSD 5%	11.214

**Diet Means**

MON863	468.000a
LH82xA634	472.600a
RX826	474.200a
DK493	470.800a
DK521	473.400a
DK539	474.600a
BX86	474.000a
DK537	468.800a
All Commercial*	472.630

**p-value for MON863 compared to population of commercial diets \*** 0.280

**5% LSD for MON863 compared to population of commercial diets** 8.476

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 4 - Statistical Analysis Across Sex for Live Weight Day 1, g/bird

**ANOVA Summary**

p-value, Blocks	0.125
p-value, Diets	0.890
p-value, Sex	0.074
p-value, Diets*Sex	0.525
LSD 5%	0.935

**Diet Means**

MON863	39.000a
LH82xA634	39.383a
RX826	39.517a
DK493	39.233a
DK521	39.450a
DK539	39.550a
BX86	39.500a
DK537	39.067a
All Commercial*	39.386

p-value for MON863 compared to population of commercial diets\* 0.280

5% LSD for MON863 compared to population of commercial diets 0.706

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 5- Statistical Analysis Across Sex for Fat Pad Weight, kg

**ANOVA Summary**

p-value, Blocks	0.896
p-value, Diets	0.136
p-value, Sex	<0.001
p-value, Diets*Sex	0.981
LSD 5%	0.004

**Diet Means**

MON863	0.033a
LH82xA634	0.036a
RX826	0.034a
DK493	0.036a
DK521	0.036a
DK539	0.036a
BX86	0.036a
DK537	0.038a
All Commercial*	0.036

**p-value for MON863 compared to population of commercial diets \*** 0.034

**5% LSD for MON863 compared to population of commercial diets** 0.003

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 6 - Statistical Analysis Across Sex for Chill Weight, kg

**ANOVA Summary**

p-value, Blocks	0.098
p-value, Diets	0.093
p-value, Sex	<0.001
p-value, Diets*Sex	0.905
LSD 5%	0.062

**Diet Means**

MON863	1.591a
LH82xA634	1.557a
RX826	1.619a
DK493	1.621a
DK521	1.633a
DK539	1.645a
BX86	1.637a
DK537	1.638a
All Commercial*	1.621

p-value for MON863 compared to population of commercial diets\* 0.435

5% LSD for MON863 compared to population of commercial diets 0.078

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 7 - Statistical Analysis Across Sex for Breast Weight, kg

**ANOVA Summary**

p-value, Blocks	0.368
p-value, Diets	0.005
p-value, Sex	<0.001
p-value, Diets*Sex	0.386
LSD 5%	0.021

**Diet Means**

MON863	0.405bc
LH82xA634	0.392c
RX826	0.423ab
DK493	0.423ab
DK521	0.428a
DK539	0.432a
BX86	0.420ab
DK537	0.426ab
All Commercial*	0.421

p-value for MON863 compared to population of commercial diets \* 0.303

5% LSD for MON863 compared to population of commercial diets 0.035

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 8 - Statistical Analysis Across Sex for Wings Weight, kg

**ANOVA Summary**

p-value, Blocks	0.263
p-value, Diets	0.297
p-value, Sex	<0.001
p-value, Diets*Sex	0.772
LSD 5%	0.006

**Diet Means**

MON863	0.186a
LH82xA634	0.184a
RX826	0.189a
DK493	0.188a
DK521	0.188a
DK539	0.190a
BX86	0.188a
DK537	0.191a
All Commercial*	0.188

**p-value for MON863 compared to population of commercial diets \*** 0.547

**5% LSD for MON863 compared to population of commercial diets** 0.008

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 9 - Statistical Analysis Across Sex for Thighs Weight, kg

**ANOVA Summary**

p-value, Blocks	0.036
p-value, Diets	0.649
p-value, Sex	<0.001
p-value, Diets*Sex	0.918
LSD 5%	0.012

**Diet Means**

MON863	0.272a
LH82xA634	0.269a
RX826	0.274a
DK493	0.273a
DK521	0.276a
DK539	0.280a
BX86	0.279a
DK537	0.275a
All Commercial*	0.275

p-value for MON863 compared to population of commercial diets \* 0.639

5% LSD for MON863 compared to population of commercial diets 0.015

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 10 - Statistical Analysis Across Sex for Drums Weight, kg

**ANOVA Summary**

p-value, Blocks	0.105
p-value, Diets	0.440
p-value, Sex	<0.001
p-value, Diets*Sex	0.943
LSD 5%	0.009

**Diet Means**

MON863	0.227a
LH82xA634	0.221a
RX826	0.228a
DK493	0.225a
DK521	0.229a
DK539	0.229a
BX86	0.231a
DK537	0.227a
All Commercial*	0.227

**p-value for MON863 compared to population of commercial diets \*** 0.953

**5% LSD for MON863 compared to population of commercial diets** 0.014

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 11 - Statistical Analysis Across Sex for % Fat Pad Weight, (FatPad wt / Live Wt),

**ANOVA Summary**

p-value, Blocks	>0.999
p-value, Diets	0.123
p-value, Sex	<0.001
p-value, Diets*Sex	0.873
LSD 5%	0.002

**Diet Means**

MON863	0.015a
LH82xA634	0.016a
RX826	0.015a
DK493	0.016a
DK521	0.016a
DK539	0.016a
BX86	0.016a
DK537	0.017a
All Commercial*	0.016

**p-value for MON863 compared to population of commercial diets \*** 0.145

**5% LSD for MON863 compared to population of commercial diets** 0.002

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 12 - Statistical Analysis Across Sex for Percent Chill Weight

**ANOVA Summary**

p-value, Blocks	0.508
p-value, Diets	0.032
p-value, Sex	<0.001
p-value, Diets*Sex	0.167
LSD 5%	0.006

**Diet Means**

MON863	0.710bc
LH82xA634	0.708c
RX826	0.713ab
DK493	0.715ab
DK521	0.716a
DK539	0.712abc
BX86	0.716a
DK537	0.715ab
All Commercial*	0.714

**p-value for MON863 compared to population of commercial diets \*** 0.335

**5% LSD for MON863 compared to population of commercial diets** 0.008

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table.13 - Statistical Analysis Across Sex for Percent Breast Weight

**ANOVA Summary**

p-value, Blocks	0.791
p-value, Diets	<0.001
p-value, Sex	0.140
p-value, Diets*Sex	0.020
LSD 5%	0.005

**Diet Means**

MON863	0.254bc
LH82xA634	0.251c
RX826	0.261a
DK493	0.261a
DK521	0.262a
DK539	0.262a
BX86	0.257ab
DK537	0.260a
All Commercial*	0.259

**p-value for MON863 compared to population of commercial diets \*** 0.275

**5% LSD for MON863 compared to population of commercial diets** 0.010

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 14 - Statistical Analysis Across Sex for Percent Wing Weight

**ANOVA Summary**

p-value, Blocks	0.022
p-value, Diets	0.008
p-value, Sex	0.506
p-value, Diets*Sex	0.412
LSD 5%	0.002

**Diet Means**

MON863	0.117ab
LH82xA634	0.119a
RX826	0.117b
DK493	0.116b
DK521	0.115b
DK539	0.116b
BX86	0.115b
DK537	0.117ab

All Commercial\* 0.116

p-value for MON863 compared to population of commercial diets\* 0.619

5% LSD for MON863 compared to population of commercial diets 0.003

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 15 - Statistical Analysis Across Sex for Percent Thigh Weight

**ANOVA Summary**

p-value, Blocks	0.011
p-value, Diets	0.013
p-value, Sex	<0.001
p-value, Diets*Sex	0.887
LSD 5%	0.003

**Diet Means**

MON863	0.171ab
LH82xA634	0.173a
RX826	0.169bc
DK493	0.168bc
DK521	0.169bc
DK539	0.170abc
BX86	0.170abc
DK537	0.168c
All Commercial*	0.170

**p-value for MON863 compared to population of commercial diets \*** 0.526

**5% LSD for MON863 compared to population of commercial diets** 0.004

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 16 - Statistical Analysis Across Sex for Percent Drum Weight

**ANOVA Summary**

p-value, Blocks	0.160
p-value, Diets	0.008
p-value, Sex	<0.001
p-value, Diets*Sex	0.447
LSD 5%	0.002

**Diet Means**

MON863	0.143a
LH82xA634	0.142a
RX826	0.140abc
DK493	0.139c
DK521	0.140abc
DK539	0.139bc
BX86	0.141ab
DK537	0.139c
All Commercial*	0.140

**p-value for MON863 compared to population of commercial diets \*** 0.097

**5% LSD for MON863 compared to population of commercial diets** 0.003

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 17 - Statistical Analysis Across Sex for Final Pen Weight, kg

**ANOVA Summary**

p-value, Blocks	0.372
p-value, Diets	0.051
p-value, Sex	<0.001
p-value, Diets*Sex	0.074
LSD 5%	1.165

**Diet Means**

MON863	21.800bc
LH82xA634	21.880abc
RX826	22.470ab
DK493	22.070abc
DK521	22.980a
DK539	21.250c
BX86	23.020a
DK537	22.370abc
All Commercial*	22.291

**p-value for MON863 compared to population of commercial diets \*** 0.490

**5% LSD for MON863 compared to population of commercial diets** 1.636

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 18 - Statistical Analysis Across Sex for R/M Weight, kg

**ANOVA Summary**

p-value, Blocks	0.894
p-value, Diets	0.042
p-value, Sex	0.001
p-value, Diets*Sex	0.089
LSD 5%	0.640

**Diet Means**

MON863	0.587b
LH82xA634	0.311b
RX826	0.388b
DK493	0.380b
DK521	0.241b
DK539	1.269a
BX86	0.232b
DK537	0.587b
All Commercial*	0.487

**p-value for MON863 compared to population of commercial diets\*** 0.807

**5% LSD for MON863 compared to population of commercial diets** 0.955

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 19 - Statistical Analysis Across Sex for Food Consumption, kg

**ANOVA Summary**

p-value, Blocks	0.071
p-value, Diets	0.488
p-value, Sex	<0.001
p-value, Diets*Sex	0.219
LSD 5%	1.395

**Diet Means**

MON863	36.250a
LH82xA634	35.960a
RX826	36.790a
DK493	35.680a
DK521	36.860a
DK539	36.010a
BX86	36.990a
DK537	36.360a
All Commercial*	36.379

**p-value for MON863 compared to population of commercial diets \*** 0.874

**5% LSD for MON863 compared to population of commercial diets** 1.608

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 20 - Statistical Analysis Across Sex for Average Food Consumption, kg

**ANOVA Summary**

p-value, Blocks	0.674
p-value, Diets	0.116
p-value, Sex	<0.001
p-value, Diets*Sex	0.194
LSD 5%	0.225

**Diet Means**

MON863	3.754a
LH82xA634	3.636a
RX826	3.723a
DK493	3.687a
DK521	3.686a
DK539	3.981a
BX86	3.699a
DK537	3.754a
All Commercial*	3.738

**p-value for MON863 compared to population of commercial diets \*** 0.898

**5% LSD for MON863 compared to population of commercial diets** 0.249

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 21 - Statistical Analysis Across Sex for Average Weight, kg/bird

**ANOVA Summary**

p-value, Blocks	0.152
p-value, Diets	0.150
p-value, Sex	<0.001
p-value, Diets*Sex	0.486
LSD 5%	0.081

**Diet Means**

MON863	2.253a
LH82xA634	2.211a
RX826	2.272a
DK493	2.281a
DK521	2.298a
DK539	2.327a
BX86	2.302a
DK537	2.308a
All Commercial*	2.286

**p-value for MON863 compared to population of commercial diets \*** 0.634

**5% LSD for MON863 compared to population of commercial diets** 0.136

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 22 - Statistical Analysis Across Sex for Feed Efficiency

**ANOVA Summary**

p-value, Blocks	0.828
p-value, Diets	0.045
p-value, Sex	0.066
p-value, Diets*Sex	0.051
LSD 5%	0.061

**Diet Means**

MON863	1.666ab
LH82xA634	1.645ab
RX826	1.641b
DK493	1.619b
DK521	1.607b
DK539	1.703a
BX86	1.610b
DK537	1.629b
All Commercial*	1.636

**p-value for MON863 compared to population of commercial diets \*** 0.434

**5% LSD for MON863 compared to population of commercial diets** 0.086

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 23 - Statistical Analysis Across Sex for Adjusted Feed Efficiency

**ANOVA Summary**

p-value, Blocks	0.041
p-value, Diets	0.011
p-value, Sex	<0.001
p-value, Diets*Sex	0.128
LSD 5%	0.023

**Diet Means**

MON863	1.620a
LH82xA634	1.622a
RX826	1.613ab
DK493	1.592bc
DK521	1.590bc
DK539	1.602abc
BX86	1.594bc
DK537	1.588c
All Commercial*	1.600

**p-value for MON863 compared to population of commercial diets \*** 0.181

**5% LSD for MON863 compared to population of commercial diets** 0.030

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 24 - Statistical Analysis Across Sex for Breast Moisture

**ANOVA Summary**

p-value, Blocks	0.114
p-value, Diets	0.481
p-value, Sex	<0.001
p-value, Diets*Sex	0.252
LSD 5%	0.322

**Diet Means**

MON863	75.258a
LH82xA634	75.080a
RX826	75.100a
DK493	74.908a
DK521	75.069a
DK539	75.212a
BX86	75.212a
DK537	75.120a
All Commercial*	75.100

**p-value for MON863 compared to population of commercial diets \*** 0.246

**5% LSD for MON863 compared to population of commercial diets** 0.269

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 25 - Statistical Analysis Across Sex for Breast Protein

**ANOVA Summary**

p-value, Blocks	0.699
p-value, Diets	0.559
p-value, Sex	0.051
p-value, Diets*Sex	0.531
LSD 5%	0.475

**Diet Means**

MON863	23.632a
LH82xA634	23.942a
RX826	23.888a
DK493	24.076a
DK521	23.943a
DK539	23.766a
BX86	23.751a
DK537	23.667a
All Commercial*	23.862

**p-value for MON863 compared to population of commercial diets \*** 0.199

**5% LSD for MON863 compared to population of commercial diets** 0.354

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 26 - Statistical Analysis Across Sex for Breast Fat

**ANOVA Summary**

p-value, Blocks	0.007
p-value, Diets	0.910
p-value, Sex	0.009
p-value, Diets*Sex	0.181
LSD 5%	0.194

**Diet Means**

MON863	0.792a
LH82xA634	0.780a
RX826	0.780a
DK493	0.873a
DK521	0.801a
DK539	0.891a
BX86	0.812a
DK537	0.801a
All Commercial*	0.820

**p-value for MON863 compared to population of commercial diets \*** 0.734

**5% LSD for MON863 compared to population of commercial diets** 0.162

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 27 - Statistical Analysis Across Sex for Thigh Moisture

**ANOVA Summary**

p-value, Blocks	0.892
p-value, Diets	0.699
p-value, Sex	0.790
p-value, Diets*Sex	0.852
LSD 5%	0.739

**Diet Means**

MON863	76.820a
LH82xA634	76.210a
RX826	76.504a
DK493	76.727a
DK521	76.620a
DK539	76.699a
BX86	76.901a
DK537	76.703a
All Commercial*	76.623

**p-value for MON863 compared to population of commercial diets \*** 0.456

**5% LSD for MON863 compared to population of commercial diets** 0.522

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 28 - Statistical Analysis Across Sex for Thigh Protein

**ANOVA Summary**

p-value, Blocks	0.058
p-value, Diets	0.523
p-value, Sex	0.368
p-value, Diets*Sex	0.564
LSD 5%	0.998

**Diet Means**

MON863	20.710a
LH82xA634	21.013a
RX826	21.021a
DK493	21.164a
DK521	21.438a
DK539	21.032a
BX86	20.307a
DK537	20.998a
All Commercial*	20.996

**p-value for MON863 compared to population of commercial diets \*** 0.462

**5% LSD for MON863 compared to population of commercial diets** 0.770

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 29 - Statistical Analysis Across Sex for Thigh Fat

**ANOVA Summary**

p-value, Blocks	0.724
p-value, Diets	0.718
p-value, Sex	0.159
p-value, Diets*Sex	0.352
LSD 5%	0.807

**Diet Means**

MON863	1.791a
LH82xA634	2.114a
RX826	2.132a
DK493	2.380a
DK521	2.261a
DK539	1.959a
BX86	2.505a
DK537	2.058a

All Commercial*	2.201
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**p-value for MON863 compared to population of commercial diets \*** 0.173

**5% LSD for MON863 compared to population of commercial diets** 0.594

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 30 - Statistical Analysis For Each Sex for Live Weight, kg

ANOVA Summary	Male	Female
p-value, Blocks	0.365	0.078
p-value, Diets	0.164	0.797
LSD 5%	0.125	0.093
Diet Means	Male	Female
MON863	2.367a	2.110a
LH82xA634	2.293a	2.104a
RX826	2.445a	2.096a
DK493	2.397a	2.135a
DK521	2.413a	2.144a
DK539	2.473a	2.153a
BX86	2.433a	2.141a
DK537	2.424a	2.156a
All Commercial*	2.411	2.133
p-value for MON863 compared to population of commercial diets *	0.504	0.525
5% LSD for MON863 compared to population of commercial diets	0.151	0.072

a,b Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 31 - Statistical Analysis For Each Sex for Live Pen Weight Day 1, kg/pen

<b>ANOVA Summary</b>	<b>Male</b>	<b>Female</b>
p-value, Blocks	0.419	0.418
p-value, Diets	0.757	0.722
LSD 5%	15.812	17.486
<b>Diet Means</b>	<b>Male</b>	<b>Female</b>
MON863	464.800a	471.200a
LH82xA634	471.200a	474.000a
RX826	470.000a	478.400a
DK493	475.600a	466.000a
DK521	473.200a	473.600a
DK539	471.200a	478.000a
BX86	466.400a	481.600a
DK537	463.600a	474.000a
All Commercial*	470.17	475.09
<b>p-value for MON863 compared to population of commercial diets *</b>	0.346	0.541
<b>5% LSD for MON863 compared to population of commercial diets</b>	11.391	12.739

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 32 - Statistical Analysis For Each Sex for Live Weight Day 1, g/bird

<b>ANOVA Summary</b>	<b>Male</b>	<b>Female</b>
p-value, Blocks	0.419	0.418
p-value, Diets	0.757	0.722
LSD 5%	1.318	1.457
<b>Diet Means</b>	<b>Male</b>	<b>Female</b>
MON863	38.733a	39.267a
LH82xA634	39.267a	39.500a
RX826	39.167a	39.867a
DK493	39.633a	38.833a
DK521	39.433a	39.467a
DK539	39.267a	39.833a
BX86	38.867a	40.133a
DK537	38.633a	39.500a
All Commercial*	39.181	39.591
p-value for MON863 compared to population of commercial diets*	0.346	0.541
5% LSD for MON863 compared to population of commercial diets	0.949	1.062

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 33 - Statistical Analysis For Each Sex for Fat Pad Weight, kg

<b>ANOVA Summary</b>	<b>Male</b>	<b>Female</b>
p-value, Blocks	0.677	0.463
p-value, Diets	0.822	0.289
LSD 5%	0.005	0.006
<b>Diet Means</b>	<b>Male</b>	<b>Female</b>
MON863	0.031a	0.034a
LH82xA634	0.033a	0.038a
RX826	0.032a	0.036a
DK493	0.034a	0.038a
DK521	0.034a	0.039a
DK539	0.033a	0.039a
BX86	0.034a	0.039a
DK537	0.035a	0.042a
All Commercial*	0.033	0.039
<b>p-value for MON863 compared to population of commercial diets *</b>	0.140	0.046
<b>5% LSD for MON863 compared to population of commercial diets</b>	0.003	0.004

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 34 - Statistical Analysis For Each Sex for Chill Weight, kg

ANOVA Summary	Male	Female
p-value, Blocks	0.344	0.033
p-value, Diets	0.255	0.655
LSD 5%	0.102	0.072
<b>Diet Means</b>	<b>Male</b>	<b>Female</b>
MON863	1.680a	1.501a
LH82xA634	1.618a	1.495a
RX826	1.727a	1.512a
DK493	1.715a	1.527a
DK521	1.719a	1.546a
DK539	1.746a	1.545a
BX86	1.735a	1.540a
DK537	1.730a	1.546a
All Commercial*	1.713	1.530
p-value for MON863 compared to population of commercial diets	0.500	0.268**
5% LSD for MON863 compared to population of commercial diets	0.112	0.052

a,b Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

\*\*p-value for Blocks is 0.023

Table 35 - Statistical Analysis For Each Sex for Breast Weight, kg

<b>ANOVA Summary</b>	<b>Male</b>	<b>Female</b>
p-value, Blocks	0.469	0.124
p-value, Diets	0.012	0.653
LSD 5%	0.033	0.026
<b>Diet Means</b>	<b>Male</b>	<b>Female</b>
MON863	0.421bc	0.388a
LH82xA634	0.400c	0.383a
RX826	0.450ab	0.396a
DK493	0.443ab	0.404a
DK521	0.449ab	0.408a
DK539	0.465a	0.399a
BX86	0.444ab	0.397a
DK537	0.454a	0.397a
All Commercial*	0.444	0.398
<b>p-value for MON863 compared to population of commercial diets *</b>	0.340	0.363
<b>5% LSD for MON863 compared to population of commercial diets</b>	0.054	0.020

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 36 - Statistical Analysis For Each Sex for Wings Weight, kg

ANOVA Summary	Male	Female
p-value, Blocks	0.468	0.252
p-value, Diets	0.586	0.395
LSD 5%	0.010	0.006
Diet Means	Male	Female
MON863	0.196a	0.176a
LH82xA634	0.192a	0.176a
RX826	0.201a	0.176a
DK493	0.198a	0.177a
DK521	0.198a	0.177a
DK539	0.202a	0.178a
BX86	0.199a	0.178a
DK537	0.199a	0.183a
All Commercial*	0.198	0.178
p-value for MON863 compared to population of commercial diets*	0.475	0.374
5% LSD for MON863 compared to population of commercial diets	0.007	0.006

a,b Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 37 - Statistical Analysis For Each Sex for Thigh Weight, kg

<b>ANOVA Summary</b>	<b>Male</b>	<b>Female</b>
p-value, Blocks	0.122	0.064
p-value, Diets	0.781	0.772
LSD 5%	0.020	0.014
<b>Diet Means</b>	<b>Male</b>	<b>Female</b>
MON863	0.290a	0.253a
LH82xA634	0.282a	0.257a
RX826	0.296a	0.252a
DK493	0.291a	0.255a
DK521	0.293a	0.260a
DK539	0.297a	0.262a
BX86	0.297a	0.260a
DK537	0.292a	0.257a
All Commercial*	0.293	0.258
<b>p-value for MON863 compared to population of commercial diets *</b>	0.737	0.387
<b>5% LSD for MON863 compared to population of commercial diets</b>	0.015	0.011

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 38 - Statistical Analysis For Each Sex for Drum Weight, kg

ANOVA Summary	Male	Female
p-value, Blocks	0.277	0.377
p-value, Diets	0.682	0.814
LSD 5%	0.015	0.009
<b>Diet Means</b>	<b>Male</b>	<b>Female</b>
MON863	0.247a	0.207a
LH82xA634	0.236a	0.207a
RX826	0.247a	0.208a
DK493	0.243a	0.207a
DK521	0.248a	0.211a
DK539	0.247a	0.211a
BX86	0.251a	0.212a
DK537	0.244a	0.211a
All Commercial*	0.245	0.210
p-value for MON863 compared to population of commercial diets*	0.745	0.413
5% LSD for MON863 compared to population of commercial diets	0.012	0.007

a,b Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 39 - Statistical Analysis For Each Sex for % Fat Pad Weight (FatPad wt / Live Wt),

<b>ANOVA Summary</b>	<b>Male</b>	<b>Female</b>
p-value, Blocks	0.638	0.803
p-value, Diets	0.686	0.283
LSD 5%	0.002	0.002
<b>Diet Means</b>	<b>Male</b>	<b>Female</b>
MON863	0.013a	0.016a
LH82xA634	0.014a	0.018a
RX826	0.013a	0.017a
DK493	0.014a	0.018a
DK521	0.014a	0.018a
DK539	0.013a	0.018a
BX86	0.014a	0.018a
DK537	0.014a	0.020a
All Commercial*	0.014	0.018
<b>p-value for MON863 compared to population of commercial diets *</b>	0.252	0.035
<b>5% LSD for MON863 compared to population of commercial diets</b>	0.001	0.002

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 40 - Statistical Analysis For Each Sex for Percent Chill Weight

ANOVA Summary	Male	Female
p-value, Blocks	0.331	0.005
p-value, Diets	0.194	0.003
LSD 5%	0.009	0.006
Diet Means	Male	Female
MON863	0.709a	0.711cd
LH82xA634	0.705a	0.710d
RX826	0.706a	0.721ab
DK493	0.715a	0.715bcd
DK521	0.712a	0.721a
DK539	0.706a	0.717ab
BX86	0.713a	0.719ab
DK537	0.713a	0.717abc
All Commercial*	0.710	0.717
p-value for MON863 compared to population of commercial diets *	0.838	0.188**
5% LSD for MON863 compared to population of commercial diets	0.011	0.010

a,b Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

\*\*p-value for Blocks is 0.005.

Table 41 - Statistical Analysis For Each Sex for Percent Breast Weight

<b>ANOVA Summary</b>	<b>Male</b>	<b>Female</b>
p-value, Blocks	0.186	0.887
p-value, Diets	<0.001	0.244
LSD 5%	0.008	0.008
<b>Diet Means</b>	<b>Male</b>	<b>Female</b>
MON863	0.250cd	0.258a
LH82xA634	0.246d	0.256a
RX826	0.260ab	0.262a
DK493	0.258ab	0.264a
DK521	0.260ab	0.263a
DK539	0.266a	0.258a
BX86	0.255bc	0.258a
DK537	0.263ab	0.256a
All Commercial*	0.258	0.260
<b>p-value for MON863 compared to population of commercial diets *</b>	0.241	0.697
<b>5% LSD for MON863 compared to population of commercial diets</b>	0.016	0.009

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 42 - Statistical Analysis For Each Sex for Percent Wing Weight

ANOVA Summary	Male	Female
p-value, Blocks	0.017	0.020
p-value, Diets	0.009	0.110
LSD 5%	0.002	0.003

Diet Means	Male	Female
MON863	0.117b	0.117a
LH82xA634	0.119a	0.118a
RX826	0.116b	0.117a
DK493	0.116b	0.116a
DK521	0.116b	0.115a
DK539	0.116b	0.115a
BX86	0.115b	0.116a
DK537	0.115b	0.119a

All Commercial*	0.116	0.117
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p-value for MON863 compared to population of commercial diets	0.671**	0.665***
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5% LSD for MON863 compared to population of commercial diets	0.004	0.004
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a,b Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

\*\* p-value for Blocks is 0.017

\*\*\* p-value for Blocks is 0.020.

Table 43 - Statistical Analysis For Each Sex for Percent Thigh Weight

<b>ANOVA Summary</b>	<b>Male</b>	<b>Female</b>
p-value, Blocks	0.046	0.404
p-value, Diets	0.239	0.139
LSD 5%	0.004	0.004
<b>Diet Means</b>	<b>Male</b>	<b>Female</b>
MON863	0.173a	0.169a
LH82xA634	0.174a	0.171a
RX826	0.171a	0.167a
DK493	0.169a	0.167a
DK521	0.170a	0.168a
DK539	0.170a	0.170a
BX86	0.171a	0.169a
DK537	0.169a	0.166a
All Commercial*	0.171	0.168
<b>p-value for MON863 compared to population of commercial diets *</b>	0.274	0.899
<b>5% LSD for MON863 compared to population of commercial diets</b>	0.004	0.005

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 44 - Statistical Analysis For Each Sex for Percent Drum Weight

<b>ANOVA Summary</b>	<b>Male</b>	<b>Female</b>
p-value, Blocks	0.597	0.002
p-value, Diets	0.021	0.536
LSD 5%	0.004	0.003
<b>Diet Means</b>	<b>Male</b>	<b>Female</b>
MON863	0.147a	0.138a
LH82xA634	0.146ab	0.138a
RX826	0.143bc	0.138a
DK493	0.142c	0.136a
DK521	0.144abc	0.136a
DK539	0.142c	0.137a
BX86	0.145abc	0.138a
DK537	0.141c	0.137a
All Commercial*	0.143	0.137
p-value for MON863 compared to population of commercial diets*	0.096	0.369**
5% LSD for MON863 compared to population of commercial diets	0.005	0.002

a,b Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

\*\*p-value for Blocks is 0.001.

Table 45 - Statistical Analysis For Each Sex for Final Pen Weight, kg

<b>ANOVA Summary</b>	<b>Male</b>	<b>Female</b>
p-value, Blocks	0.784	0.195
p-value, Diets	0.044	0.897
LSD 5%	2.145	1.158
<b>Diet Means</b>	<b>Male</b>	<b>Female</b>
MON863	22.480bc	21.120a
LH82xA634	23.040abc	20.720a
RX826	24.460ab	20.480a
DK493	23.100abc	21.040a
DK521	24.740a	21.220a
DK539	21.620c	20.880a
BX86	24.860a	21.180a
DK537	23.820ab	20.920a
All Commercial*	23.660	20.920
<b>p-value for MON863 compared to population of commercial diets *</b>	0.379	0.638
<b>5% LSD for MON863 compared to population of commercial diets</b>	3.045	0.855

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 46 - Statistical Analysis For Each Sex for R/M Weight, kg

ANOVA Summary	Male	Female
p-value, Blocks	0.916	0.278
p-value, Diets	0.094	0.764
LSD 5%	1.338	0.147
<b>Diet Means</b>	<b>Male</b>	<b>Female</b>
MON863	0.955a	0.218a
LH82xA634	0.408a	0.214a
RX826	0.590a	0.186a
DK493	0.559a	0.201a
DK521	0.236a	0.246a
DK539	2.225a	0.313a
BX86	0.238a	0.225a
DK537	0.933a	0.241a
All Commercial*	0.741	0.232
<b>p-value for MON863 compared to population of commercial diets*</b>	0.784	0.792
<b>5% LSD for MON863 compared to population of commercial diets</b>	1.823	0.109

a,b Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 47 - Statistical Analysis For Each Sex for Food Consumption, kg

<b>ANOVA Summary</b>	<b>Male</b>	<b>Female</b>
p-value, Blocks	0.651	0.046
p-value, Diets	0.160	0.934
LSD 5%	2.263	1.795
<b>Diet Means</b>	<b>Male</b>	<b>Female</b>
MON863	37.400a	35.100a
LH82xA634	37.480a	34.440a
RX826	39.580a	34.000a
DK493	36.580a	34.780a
DK521	38.820a	34.900a
DK539	37.660a	34.360a
BX86	39.100a	34.880a
DK537	38.060a	34.660a
All Commercial*	38.183	34.574
<b>p-value for MON863 compared to population of commercial diets *</b>	0.510	0.401
<b>5% LSD for MON863 compared to population of commercial diets</b>	2.733	1.257

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 48 - Statistical Analysis For Each Sex for Average Food Consumption, g/bird.

<b>ANOVA Summary</b>	<b>Male</b>	<b>Female</b>
p-value, Blocks	0.936	0.026
p-value, Diets	0.152	0.755
LSD 5%	0.438	0.161
<b>Diet Means</b>	<b>Male</b>	<b>Female</b>
MON863	3.998a	3.510a
LH82xA634	3.828a	3.444a
RX826	4.046a	3.400a
DK493	3.895a	3.478a
DK521	3.882a	3.490a
DK539	4.453a	3.508a
BX86	3.910a	3.488a
DK537	3.971a	3.537a
All Commercial*	3.998	3.478
p-value for MON863 compared to population of commercial diets*	>0.999	0.580
5% LSD for MON863 compared to population of commercial diets	0.556	0.117

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 49 - Statistical Analysis For Each Sex for Average Weight, kg/bird

<b>ANOVA Summary</b>	<b>Male</b>	<b>Female</b>
p-value, Blocks	0.358	0.081
p-value, Diets	0.184	0.591
LSD 5%	0.132	0.098
<b>Diet Means</b>	<b>Male</b>	<b>Female</b>
MON863	2.394a	2.112a
LH82xA634	2.351a	2.072a
RX826	2.497a	2.048a
DK493	2.459a	2.104a
DK521	2.474a	2.122a
DK539	2.523a	2.131a
BX86	2.486a	2.118a
DK537	2.481a	2.135a
All Commercial*	2.467	2.104
<b>p-value for MON863 compared to population of commercial diets *</b>	0.262	0.841
<b>5% LSD for MON863 compared to population of commercial diets</b>	0.144	0.078

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 50 - Statistical Analysis For Each Sex for Feed Efficiency

<b>ANOVA Summary</b>	<b>Male</b>	<b>Female</b>
p-value, Blocks	0.893	0.385
p-value, Diets	0.070	0.761
LSD 5%	0.125	0.027
<b>Diet Means</b>	<b>Male</b>	<b>Female</b>
MON863	1.669a	1.662a
LH82xA634	1.628a	1.662a
RX826	1.621a	1.660a
DK493	1.584a	1.653a
DK521	1.569a	1.645a
DK539	1.759a	1.647a
BX86	1.573a	1.647a
DK537	1.601a	1.657a
All Commercial*	1.619	1.653
p-value for MON863 compared to population of commercial diets*	0.503	0.377
5% LSD for MON863 compared to population of commercial diets	0.171	0.020

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

\*\*p-value for Blocks is 0.014.

Table 51 - Statistical Analysis For Each Sex for Adjusted Feed Efficiency

<b>ANOVA Summary</b>	<b>Male</b>	<b>Female</b>
p-value, Blocks	0.278	0.094
p-value, Diets	0.035	0.328
LSD 5%	0.041	0.025
<b>Diet Means</b>	<b>Male</b>	<b>Female</b>
MON863	1.596ab	1.645a
LH82xA634	1.598a	1.645a
RX826	1.581abc	1.645a
DK493	1.546cd	1.637a
DK521	1.555bcd	1.626a
DK539	1.582abc	1.621a
BX86	1.558abcd	1.629a
DK537	1.538d	1.638a
All Commercial*	1.565	1.635
<b>p-value for MON863 compared to population of commercial diets *</b>	0.241	0.352
<b>5% LSD for MON863 compared to population of commercial diets</b>	0.057	0.024

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 52 - Statistical Analysis For Each Sex for Breast Moisture

ANOVA Summary	Male	Female
p-value, Blocks	<0.001	0.074
p-value, Diets	0.458	0.032
LSD 5%	0.443	0.338
<b>Diet Means</b>	<b>Male</b>	<b>Female</b>
MON863	75.096a	75.420ab
LH82xA634	74.886a	75.274bc
RX826	74.888a	75.312abc
DK493	74.796a	75.020c
DK521	74.996a	75.142bc
DK539	75.206a	75.218bc
BX86	74.794a	75.630a
DK537	75.092a	75.148bc
All Commercial*	74.951	75.249
p-value for MON863 compared to population of commercial diets*	0.483	0.441
5% LSD for MON863 compared to population of commercial diets	0.414	0.506

a,b Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 53 - Statistical Analysis For Each Sex for Breast Protein

<b>ANOVA Summary</b>	<b>Male</b>	<b>Female</b>
p-value, Blocks	0.181	0.361
p-value, Diets	0.709	0.361
LSD 5%	0.632	0.692
<b>Diet Means</b>	<b>Male</b>	<b>Female</b>
MON863	23.714a	23.550a
LH82xA634	24.093a	23.791a
RX826	24.025a	23.752a
DK493	24.081a	24.071a
DK521	23.885a	24.000a
DK539	23.795a	23.737a
BX86	24.212a	23.289a
DK537	23.805a	23.528a
All Commercial*	23.985	23.738
<b>p-value for MON863 compared to population of commercial diets *</b>	0.251	0.534
<b>5% LSD for MON863 compared to population of commercial diets</b>	0.472	0.699

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 54 - Statistical Analysis For Each Sex for Breast Fat

<b>ANOVA Summary</b>	<b>Male</b>	<b>Female</b>
p-value, Blocks	0.217	0.029
p-value, Diets	0.581	0.397
LSD 5%	0.320	0.245

<b>Diet Means</b>	<b>Male</b>	<b>Female</b>
MON863	0.780a	0.804a
LH82xA634	0.882a	0.678a
RX826	0.844a	0.716a
DK493	0.914a	0.832a
DK521	0.990a	0.612a
DK539	1.036a	0.746a
BX86	0.736a	0.888a
DK537	0.874a	0.728a

All Commercial*	0.897	0.742
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p-value for MON863 compared to population of commercial diets	0.335	0.551
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5% LSD for MON863 compared to population of commercial diets	0.242	0.206
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<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 55 - Statistical Analysis For Each Sex for Thigh Moisture

<b>ANOVA Summary</b>	<b>Male</b>	<b>Female</b>
p-value, Blocks	0.639	0.359
p-value, Diets	0.746	0.767
LSD 5%	0.974	1.123
<b>Diet Means</b>	<b>Male</b>	<b>Female</b>
MON863	76.798a	76.842a
LH82xA634	76.086a	76.334a
RX826	76.488a	76.520a
DK493	76.620a	76.834a
DK521	76.988a	76.252a
DK539	76.644a	76.754a
BX86	76.648a	77.154a
DK537	76.714a	76.692a
All Commercial*	76.598	76.649
<b>p-value for MON863 compared to population of commercial diets *</b>	0.563	0.636
<b>5% LSD for MON863 compared to population of commercial diets</b>	0.693	0.821

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 56 - Statistical Analysis For Each Sex for Thigh Protein

<b>ANOVA Summary</b>	<b>Male</b>	<b>Female</b>
p-value, Blocks	0.015	0.474
p-value, Diets	0.647	0.367
LSD 5%	1.428	1.357
<b>Diet Means</b>	<b>Male</b>	<b>Female</b>
MON863	20.687a	20.733a
LH82xA634	20.897a	21.129a
RX826	20.849a	21.194a
DK493	21.310a	21.017a
DK521	20.695a	22.181a
DK539	20.996a	21.068a
BX86	20.003a	20.610a
DK537	21.341a	20.654a
All Commercial*	20.870	21.122
p-value for MON863 compared to population of commercial diets*	0.758	0.510
5% LSD for MON863 compared to population of commercial diets	1.197	1.360

a,b Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Table 57 - Statistical Analysis For Each Sex for Thigh Fat

<b>ANOVA Summary</b>	<b>Male</b>	<b>Female</b>
p-value, Blocks	0.951	0.754
p-value, Diets	0.222	0.941
LSD 5%	1.154	1.247
<b>Diet Means</b>	<b>Male</b>	<b>Female</b>
MON863	1.808a	1.774a
LH82xA634	2.068a	2.160a
RX826	2.376a	1.888a
DK493	2.876a	1.884a
DK521	1.992a	2.530a
DK539	1.964a	1.954a
BX86	3.162a	1.848a
DK537	2.106a	2.010a
All Commercial*	2.363	2.039
<b>p-value for MON863 compared to population of commercial diets *</b>	0.316	0.533
<b>5% LSD for MON863 compared to population of commercial diets</b>	1.242	0.852

<sup>a,b</sup> Individual diet means with the same letter are not statistically different at the 5% level.

\* Derived from a mixed linear model accounting for variation among as well as within diets.

Figure 1. Average Weight (expressed as kg/bird) for broilers fed each variety. Error bars are  $\pm$  one half the 5% Least Significant Difference (LSD). Therefore any two non-overlapping varieties are statistically different at the 5% level of significance.

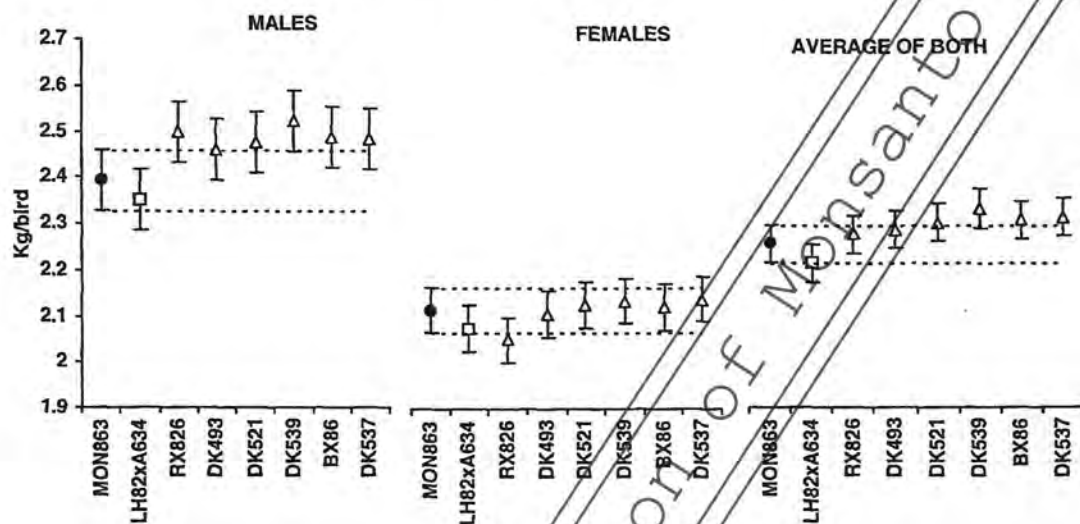
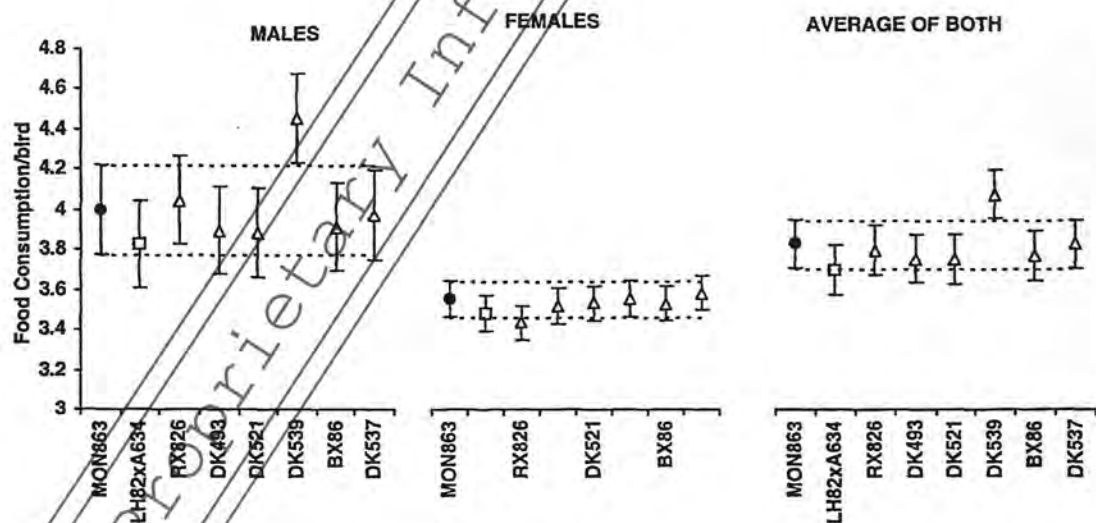
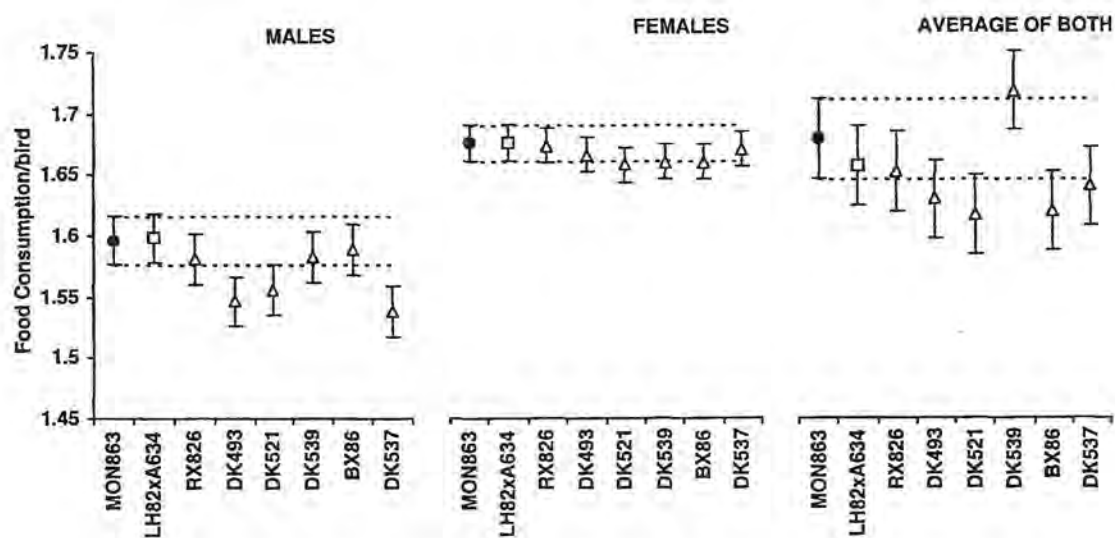


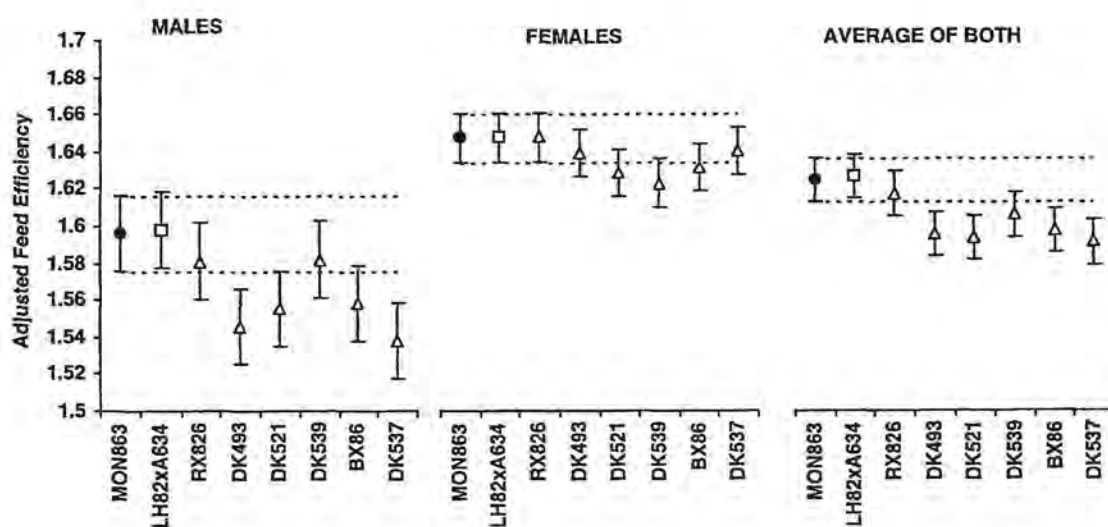
Figure 2. Average Food Consumption for broilers fed each variety. Error bars are  $\pm$  one half the 5% Least Significant Difference (LSD). Therefore any two non-overlapping varieties are statistically different at the 5% level of significance.



**Figure 3.** Mean feed efficiency for broilers fed each variety. Error bars are  $\pm$  one half the 5% Least Significant Difference (LSD). Therefore any two non-overlapping varieties are statistically different at the 5% level of significance.



**Figure 4.** Adjusted feed efficiency for broilers fed each variety. Error bars are  $\pm$  one half the 5% Least Significant Difference (LSD). Therefore any two non-overlapping varieties are statistically different at the 5% level of significance.



**Report Submitted by:**

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*6/18/01*

Date

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### Quality Assurance Statement

Study Title: Comparison of Broiler Performance When Fed Diets Containing Event MON863, Parental Line or Commercial Corn

Study Number: MN-00-1 (Monsanto Study Number: 2000-01-39-38)

Unique identifier for the portion of the study: Statistical analysis

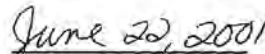
Reviews conducted by the Quality Assurance Unit confirm that this sub-report accurately describes the methods and standard operating procedures followed and accurately reflects the raw data for this portion of the study.

Following is a list of reviews conducted by the Monsanto Regulatory Quality Assurance Unit on the portion of the study reported herein.

Dates of Inspection /Audit	Phase	Date Reported To: Study Director	Management
May 30, 2001	Draft Report Review	June 4, 2001	June 4, 2001



Paula A. Price  
Quality Assurance Unit  
Monsanto Regulatory, Monsanto Company

  
Date