

Report Title

**Amended Report: Statistical Re-analysis of Compositional Data of Soybean
Forage and Seed Collected from MON 87708 Grown in the United States**

Authors

**George G. Harrigan
Susan G. Riordan**

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**Monsanto Company
Product Safety Center
800 North Lindbergh Blvd.
St. Louis, MO 63167**

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George Harrigan
Study Director


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Summary of Changes

The report is amended to correct a typographical error in the literature table (Table 2). The extra text below ‘Total Fat’ ILSI Range (a redundant duplication of the ILSI crude fiber values) was deleted from Table 2 of the report. “Amended” was placed in the footer of pages 1 - 34. These changes improved the clarity of the report and had no impact on the conclusions from the study.

Item No.			Amendment
1	Title Page	Title Page	Added “Amended Report” to study title; “Amended Report Completed On” after “Report Completed on”
2	Title Page	Title Page	Added new signatures and dates.
3	Table 2 (Page 32)	Table 2 (Page 32)	Deleted “4.12 – 13.87” from below ‘Total Fat’, the range was a redundant duplication of the ILSI crude fiber values.

Abbreviations

AA	amino acid
ADF	acid detergent fiber
COA	certificate of analysis
DMO	dicamba mono-oxygenase
DW or dw	dry weight
FA	fatty acid
FW or fw	fresh weight
H.U.	hemagglutinating units
ILSI	International Life Sciences Institute
LOQ	limit of quantitation
NDF	neutral detergent fiber
PCR	polymerase chain reaction
PRESS	predicted residual sum of squares
SOP	standard operating procedure
TIU	trypsin inhibitor units
T/C/R	test/control/reference

1.0 Purpose of Statistical Re-analysis

The original statistical data analysis reported in MSL0022377 included a determination of ranges and a 99% tolerance interval for twenty unique commercial reference varieties. Two of the reference varieties, Dekalb DKB 34-51 and Pioneer 93M50, are transgenic glyphosate-tolerant varieties. The reference ranges and the 99% tolerance interval were re-calculated in this analysis minus compositional values from the two transgenic varieties. This re-analysis will support responses to Regulatory Agencies that may not support reference ranges or statistical intervals that include contributions from transgenic varieties.

2.0 Summary

Monsanto Company has developed herbicide-tolerant soybean MON 87708 that is tolerant to dicamba (3,6-dichloro-2-methoxybenzoic acid) herbicide. MON 87708 contains a demethylase gene from *Stenotrophomonas maltophilia* that expresses the dicamba mono-oxygenase (DMO) protein to confer tolerance to dicamba herbicide. The purpose of this study was to compare the composition of MON 87708 to a conventional soybean variety with background genetics similar to that of MON 87708.

Seed and forage samples were collected from MON 87708 and the near isogenic conventional control, A3525, grown in a 2008 U.S. field production. The field production was conducted at five sites: Jefferson County, Iowa; Stark County, Illinois; Clinton County, Illinois; Parke County, Indiana; and Berks County, Pennsylvania. Four different commercial reference soybean varieties were included at each site of the field production to provide data on natural variability of each compositional component analyzed. Two reference substances at the INRC site (Dekalb DKB 34-51 and Pioneer 93M50) are transgenic lines and compositional data from these lines were excluded from the study reported here. All soybean plants including MON 87708, the conventional control, and commercial reference varieties were treated with maintenance pesticides as necessary throughout the growing season. In addition, MON 87708 plots were treated at the V2-V3 growth stage with dicamba herbicide at the maximum in-crop label rate (0.5 lb acid equivalence [a.e.]/acre).

Compositional analyses were conducted to assess whether levels of key nutrients and anti-nutrients in MON 87708 (dicamba-treated) were equivalent to levels in the conventional control within the natural variability of conventional commercial reference varieties. A description of nutrients and anti-nutrients present in soybean is provided in the OECD consensus document on compositional considerations for soybean (OECD, 2001). Nutrients assessed included proximates (ash, carbohydrates by calculation,

moisture, protein, and fat), fiber, amino acids (18 components), fatty acids (FA, C8-C22), and vitamin E (α -tocopherol) in seed, and proximates (ash, carbohydrates by calculation, moisture, protein, and fat) and fiber in forage. Anti-nutrients assessed in seed included raffinose, stachyose, lectin, phytic acid, trypsin inhibitors, and isoflavones (daidzein, genistein, and glycitein).

In all, 64 different components were measured (seven in forage and 57 in seed). Of those 64 components, 14 had more than 50% of the observations below the assay limit of quantitation (LOQ) and subsequently were excluded from statistical analysis. Therefore, 50 components were statistically assessed using a mixed-model analysis of variance method. Values for all assessed components were reported on a dry weight basis with the exception of moisture, which was reported as % fresh weight and fatty acids (FA), which were reported as % of total FA.

For MON 87708, six statistical comparisons to the conventional control were conducted. One comparison was based on compositional data combined across all five field sites (combined-site analysis) and five separate comparisons were conducted on data from each of the individual field sites. Statistically significant differences were identified at a 5% level of significance. Data from the conventional commercial reference varieties were combined across all sites and used to calculate a 99% tolerance interval for each compositional component to define the natural variability of each component in soybean varieties that have a history of safe consumption and that were grown concurrently with MON 87708 and the conventional control in the same trial.

For the combined-site analysis, statistically significant differences in nutrient and anti-nutrient components were further evaluated using considerations relevant to the safety and nutritional quality of MON 87708 when compared to conventional control A3525, the conventional counterpart with a history of safe consumption: 1) the relative magnitude of the difference expressed as difference in the mean values of nutrient and anti-nutrient components of MON 87708 and the conventional control with respect to the control value 2) whether the MON 87708 component mean value is within the range of natural variability of that component as represented by the 99% tolerance interval of commercial soybean varieties grown concurrently in the same trial, 3) analyses of the reproducibility of the statistically significant combined-site component differences at individual sites, and 4) assessing the combined-site differences within the context of natural variability of commercial soybean composition published in the scientific literature and/or in the International Life Sciences Institute (ILSI) Crop Composition Database (ILSI, 2006).

This analysis provides a comprehensive comparative assessment of the levels of key nutrients and anti-nutrients in seed, and of key nutrients in forage of MON 87708 and the conventional control, discussed in the context of natural variability in commercial soybean. Results of the comparison indicate that the composition of the seed and forage of MON 87708 is equivalent to that of the near isogenic conventional control A3525 and within the natural variability of conventional commercial reference varieties.

For MON 87708, the combined site analysis of both seed and forage showed no statistically significant differences between MON 87708 and the control for 21 (42.0%) of the 50 mean value comparisons. Of the statistically significant differences observed, one was from the forage analysis and 28 were from the seed analysis. For seed, nutrient component differences included mean values for proximates (ash, carbohydrates by calculation, and protein), amino acids (12 components), fatty acids (five components), ADF, NDF, crude fiber, and vitamin E. Seed anti-nutrient differences included phytic acid, raffinose, stachyose, and daidzein. In the combined site analysis of forage, a statistically significant difference for ADF was found between MON 87708 and the control. The relative magnitude of difference in the ADF mean value of MON 87708 was, with respect to the control, 10.45%.

The combined-site analysis showed that the relative magnitudes of differences in these component mean values of MON 87708 with respect to the control were small. For seed nutrients, these magnitudes ranged from 1.51% to 12.37%, for proximates, amino acids, fatty acids, and fibers, and 15.13% for vitamin E. Anti-nutrient component, ranged from 6.14 % (phytic acid) to 11.51% (daidzein). The relative magnitude of difference in the forage ADF mean value of MON 87708 was, with respect to the control, 10.45%. Mean values for all of the statistically significant different components from the combined-site analysis of MON 87708 were within the 99% tolerance interval established from the conventional commercial reference varieties grown concurrently.

In the individual site analyses, two of the nutrient components (18:1 oleic acid and 18:3 linolenic acid) were observed to be statistically significantly different at all sites and one nutrient component (vitamin E) was observed to be different at four of the five sites. None of the anti-nutrient components were observed to be statistically significantly different at more than two of the five sites. No differences between MON 87708 and control forage mean values for ADF were observed at the individual sites. For seed and forage, all mean component values (nutrient and anti-nutrient) of MON 87708 fell within the 99% tolerance interval established from the reference substances grown concurrently and at the same field sites.

In summary, a compositional analysis of nutrients and anti-nutrients of MON 87708 was conducted. MON 87708 component mean values observed to be statistically significantly different from that of the control in the combined-site analysis were shown to be of small relative magnitudes of difference, and not generally reproducible across sites. For MON 87708 two of the 50 components (18:1 oleic acid and 18:3 linolenic acid) were observed to be statistically significantly different at all five individual sites. All MON 87708 mean component values were within the 99% tolerance interval established from the conventional commercial reference substances grown concurrently and at the same field sites.

In summary, a comprehensive evaluation of nutrients and anti-nutrients in seed and nutrients in forage supported the conclusion that soybean seed and forage produced from MON 87708 are compositionally equivalent to that of conventional soybean.

3.0 Statistical Methodology

Compositional data were from dicamba-treated test substance MON 87708, a conventional control substance A3525, an additional test substance, Test 2, and twenty commercial reference substances of which two, DeKalb DKB34-51 and Pioneer 93M50, were transgenic materials and eighteen were conventional materials. The purpose of this statistical reanalysis is to compare the composition of MON 87708, treated with dicamba, to the conventional control, A3525, and to generate ranges and 99% tolerance intervals for the eighteen non-biotech conventional reference materials included in study REG-09-001.

The following formulas were used for re-expression of soybean composition data for statistical analysis:

Component	From (X)	To	Formula ¹
Proximates (excluding Moisture), Fiber, Phytic Acid, Raffinose, Stachyose	% fw	% dw	X/d
Isoflavones	µg/g fw	µg/g dw	X/d
Lectin	H.U./mg fw	H.U./mg dw	X/d
Trypsin Inhibitor	TIU/mg fw	TIU/mg dw	X/d
Vitamin E	mg/100g fw	mg/100g dw	X/d
Amino Acids (AA)	mg/g fw	% dw	X/(10d)
Fatty Acids (FA)	% fw	% Total FA	(100)X _j /ΣX, for each FA _j where ΣX is over all the FA

¹ 'X' is the individual sample value; 'd' is the fraction of the sample that is dry matter.

In order to complete a statistical analysis for a component in this study, at least 50% of the values for an analyte had to be greater than the assay limit of quantitation (LOQ). Analytes with more than 50% of observations below the assay LOQ were excluded from summaries and analysis. The following 14 analytes with more than 50% of observations below the assay LOQ were excluded from statistical analysis:

8:0 caprylic acid, 10:0 capric acid, 12:0 lauric acid, 14:0 myristic acid, 14:1 myristoleic acid, 15:0 pentadecanoic acid, 15:1 pentadecenoic acid, 16:1 palmitoleic acid, 17:0 heptadecanoic acid, 17:1 heptadecenoic acid, 18:3 gamma-linolenic acid, 20:2 eicosadienoic acid, 20:3 eicosatrienoic acid, and 20:4 arachidonic acid.

If less than 50% of the observations for a component were below the LOQ, individual analyses that were below the LOQ were assigned a value equal to one-half the LOQ. The following analyte was assigned a value:

Component	Units	Obs. Below LOQ	Total	LOQ	Value
		N	(%)	N	Assigned
Grain Fatty Acid					
20:1 Eicosenoic	% fw	45	42.9	105	0.020
					0.010

Individual samples assigned a value are presented in Listing 2 of the statistical subreport (Appendix 1).

The data were assessed for potential outliers using a studentized PRESS residuals calculation. A PRESS residual is the difference between any value and its predicted value from a statistical model that excludes the data point. The studentized version scales these residuals so that the values tend to have a standard normal distribution when outliers are absent. Thus, most values are expected to be between ± 3 . Extreme data points that are also outside of the ± 6 studentized PRESS residual range are considered for exclusion, as outliers, from the final analyses. In this study, no results had PRESS residual values outside of the ± 6 range.

All soybean compositional components were statistically analyzed using a mixed model analysis of variance. The five replicated sites were analyzed both separately and combined. Individual replicated site analyses used model (1).

$$(1) Y_{ij} = U + T_i + B_j + e_{ij},$$

where Y_{ij} = unique individual observation, U = overall mean, T_i = substance effect, B_j = random block effect, and e_{ij} = residual error.

Combined site analyses used model (2).

$$(2) Y_{ijk} = U + T_i + L_j + B(L)_{jk} + LT_{ij} + e_{ijk},$$

where Y_{ijk} = unique individual observation, U = overall mean, T_i = substance effect, L_j = random site effect, $B(L)_{jk}$ = random block within site effect, LT_{ij} = random site by substance interaction effect, and e_{ijk} = residual error.

A range of observed values from the reference substances was determined for each analytical component. Additionally, the reference substances data were used to develop population tolerance intervals. A tolerance interval is an interval that one can claim, with

a specified degree of confidence, contains at least a specified proportion, p , of an entire sampled population for the parameter measured.

For each compositional component, 99% tolerance intervals were calculated that are expected to contain, with 95% confidence, 99% of the quantities expressed in the population of reference substances. Because negative quantities are not possible, negative calculated lower tolerance bounds were set to zero.

SAS[®] software was used to generate all summary statistics and perform all analyses. Report tables present p-values from SAS as either <0.001 or the actual value truncated to three decimal places. A statistical subreport was generated by Certus International, Inc. and sent to Monsanto Company (Appendix 1).

4.0 Results and Discussion

Compositional analyses were conducted to assess whether levels of key nutrients and anti-nutrients in MON 87708 (dicamba-treated) were equivalent to levels in the conventional control and within the natural variability of conventional commercial reference varieties. A description of nutrients and anti-nutrients present in soybean is provided in the OECD consensus document on compositional considerations for soybean (OECD, 2001). Nutrients assessed included proximates (ash, carbohydrates by calculation, moisture, protein, and fat), fiber, amino acids (18 components), fatty acids (FA, C8-C22), and vitamin E (α -tocopherol) in seed, and proximates (ash, carbohydrates by calculation, moisture, protein, and fat) and fiber in forage. Anti-nutrients assessed in seed included raffinose, stachyose, lectin, phytic acid, trypsin inhibitors, and isoflavones (daidzein, genistein, and glycitein).

In all, 64 different components were measured (seven in forage and 57 in seed). Of those 64 components, 14 had more than 50% of the observations below the assay limit of quantitation (LOQ) and subsequently were excluded from statistical analysis. Therefore, 50 components were statistically assessed using a mixed-model analysis of variance method. Values for all assessed components were reported on a dry weight basis with the exception of moisture, which was reported as % fresh weight and fatty acids (FA), which were reported as % of total FA.

For MON 87708, six statistical comparisons to the conventional control were conducted. One comparison was based on compositional data combined across all five field sites (combined-site analysis) and five separate comparisons were conducted on data from each of the individual field sites. Statistically significant differences were identified at a 5% level of significance. Data from the conventional commercial reference varieties were combined across all sites and used to calculate a 99% tolerance interval for each

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compositional component to define the natural variability of each component in soybean varieties that have a history of safe consumption and that were grown concurrently with MON 87708 and the conventional control in the same trial.

For the combined-site analysis, statistically significant differences in nutrient and anti-nutrient components were further evaluated using considerations relevant to the safety and nutritional quality of MON 87708 when compared to conventional control A3525, the conventional counterpart with a history of safe consumption: 1) the relative magnitude of the difference expressed as difference in the mean values of nutrient and anti-nutrient components of MON 87708 and the conventional control with respect to the control value, 2) whether the MON 87708 component mean value is within the range of natural variability of that component as represented by the 99% tolerance interval of commercial soybean varieties grown concurrently in the same trial, 3) analyses of the reproducibility of the statistically significant combined-site component differences at individual sites, and 4) assessing the combined-site differences within the context of natural variability of commercial soybean composition published in the scientific literature and/or in the International Life Sciences Institute (ILSI) Crop Composition Database (ILSI, 2006).

This analysis provides a comprehensive comparative assessment of the levels of key nutrients and anti-nutrients in seed, and of key nutrients in forage of MON 87708 and the conventional control, discussed in the context of natural variability in commercial soybean. Results of the comparison indicate that the composition of the seed and forage of MON 87708 is equivalent to that of the conventional control A3525 and within the natural variability of conventional commercial reference varieties.

4.1 Nutrient Levels in MON 87708 Soybean Seed

In the combined-site analysis of nutrient levels in seed, the following components showed no statistically significant differences in mean values between MON 87708 and the conventional control: moisture, total fat, six amino acids (alanine, lysine, methionine, serine, threonine, and tryptophan), and three fatty acids (18:0 stearic acid, 20:0 arachidic acid, and 20:1 eicosenoic acid) (Appendix 1, Table 1).

The components that showed statistically significant differences in mean values between MON 87708 and the conventional control in the combined-site analysis were: three proximates (ash, carbohydrates by calculation, and protein), 12 amino acids (arginine, aspartic acid, cystine, glutamic acid, glycine, histidine, isoleucine, leucine, phenylalanine, proline, tyrosine, and valine), three types of fiber (acid detergent fiber [ADF], neutral detergent fiber [NDF], and crude fiber), five fatty acids (16:0 palmitic acid, 18:1 oleic acid, 18:2 linoleic acid, 18:3 linolenic acid, and 22:0 behenic acid), and vitamin E (Table 1).

These statistically significant differences in nutrients were further evaluated using considerations relevant to the safety and nutritional quality of MON 87708 when compared to the conventional control:

- 1) All nutrient component differences observed in the combined-site analysis, whether reflecting increased or decreased MON 87708 mean values with respect to the conventional control were small. Relative magnitude of differences ranged from 2.65 to 7.91% for amino acids, 1.51 to 8.19% for fatty acids, 15.13% for vitamin E, and 2.41 to 12.37% for proximates and fibers.
- 2) Mean values for all of these statistically significantly different nutrient components from the combined-site analysis of MON 87708 were within the 99% tolerance interval established from the conventional commercial reference varieties grown concurrently (Table 1).
- 3) Assessment of the reproducibility of the combined-site differences at the five individual sites showed: statistically significant differences for carbohydrates by calculation, crude fiber, cystine, and glycine at one site; aspartic acid, phenylalanine, proline, tyrosine, valine, 16:0 palmitic acid, and 18:2 linoleic acid at two sites; protein, arginine, glutamic acid, histidine, isoleucine, leucine, and 22:0 behenic acid at three sites; vitamin E at four sites; and 18:1 oleic acid and 18:3 linolenic acid differed across all five sites. Although they were different in the combined site analysis, no differences were observed for ash, ADF or NDF at any of the individual sites. Individual site mean values of MON 87708 for all nutrient components with statistically significant differences fell within the 99% tolerance interval established from the conventional commercial reference varieties grown concurrently.
- 4) With the exception of the minor fatty acid 22:0 behenic acid, all combined-site mean values of MON 87708 for all nutrient components were within the context of the natural variability of commercial soybean composition as published in the scientific literature and/or available in the ILSI Crop Composition Database (ILSI, 2006).

Thirteen of the 24 differences between MON 87708 and the conventional control observed in the combined-site data analysis were attributable to small differences in protein and 12 individual amino acids (all expressed as % dw). The relative magnitude of difference between the mean protein values for MON 87708 and the conventional control was small (a decrease of 3.65% in the combined-site for MON 87708) and reached statistical significance at only three of the five individual sites (Appendix 1). Correspondingly, differences in all amino acids were small and not observed consistently as statistically significant differences at all individual sites. Eleven of the 12 amino acids observed to be different in the combined-site analysis were decreased (2.65-7.91%) relative to the conventional control and, as with protein, statistically differences were not consistently observed at all individual sites. Cystine showed a relative increase of 3.01% but was statistically significantly different at only one site. Four of the six amino acids (alanine, lysine, serine, and threonine) not observed to be statistically different in the combined-site analysis also showed modest decreases ranging from ~ 1.5-2.3%

(Appendix 1, Table 2) consistent with the directionality of the changes observed in protein content. Overall, observed differences in protein and amino acid levels are not considered to be meaningful from a food and feed safety and nutritional perspective because they were small, and the mean MON 87708 values were within the 99% tolerance interval established by the conventional commercial reference varieties grown concurrently.

Five of the combined-site differences between MON 87708 and the conventional control were attributable to fatty acid levels (all expressed as % total FA) in seed, whereas total fat content was not statistically significantly different. For 18:1 oleic acid and 18:3 linolenic acid, the relative magnitude of differences between the mean values for MON 87708 and conventional control were small in the combined-site analysis (a decrease of 8.19% and an increase of 6.65% compared to the conventional control, respectively) and at the five individual sites (levels were <11% decreased for 18:1 oleic acid and <10% increased for 18:3 linolenic acid at all sites compared to conventional control) (Appendix 1).

By comparison, the observed differences between MON 87708 and conventional control for 18:1 oleic and 18:3 linolenic acids are markedly less than differences in soybean varieties developed through conventional breeding. The average relative levels of 18:3 linolenic acid in commercial soybean are approximately 10% total FA, while the average relative level of 18:1 oleic acid in commercial soybean is approximately 18-25% total FA (Fehr, 2007; Clemente and Cahoon, 2009). In the compositional analysis presented here, the values of FA components in the conventional control, when assessed as individual replicates across all five individual sites, ranged from 19.6 to 22.4% total FA for 18:1 oleic acid and from 8.4 to 10.1% total FA for 18:3 linolenic acid (Appendix 1, Table 2). The values from the conventional commercial reference varieties ranged from 17.9 to 25.3% total FA for 18:1 oleic acid and 7.4 to 10.6% total FA for 18:3 linolenic acid (Appendix 1, Table 2). Additionally, literature data from Lundry et al. (2008) and Berman et al. (2009) and the ILSI Crop Composition Database (ILSI, 2006) highlight the extensive natural variability in fatty acid levels in soybean, as presented in Table 2. The small relative magnitudes of the differences in 18:3 linolenic acid and 18:1 oleic acid compared to the conventional control as well the broad range of these fatty acids present in conventional commercial soybean varieties, suggest that the differences are not meaningful to food and feed safety and nutritional quality in MON 87708.

The relative magnitudes of differences between the mean values for MON 87708 and the conventional control for the other three fatty acids observed in the combined-site analysis were small (2.29% increase for 16:0 palmitic acid, 1.51% increase for 18:2 linoleic acid and a 4.70% decrease for 22:0 behenic acid). These small magnitude of differences as well as the lack of statistically significant differences across all individual sites (Appendix 1) further confirmed that the differences observed in fatty acid composition are not meaningful to food and feed safety and nutritional quality.

One of the combined-site differences observed between MON 87708 and the conventional control was attributable to vitamin E (expressed as mg/100g dw). The relative magnitude of difference between the mean values of MON 87708 and conventional control for vitamin E in the combined-site analysis was an increase of 15.1% with respect to the conventional control (Table 1).

Levels of vitamin E are known to be affected by environmental growing conditions (E) and germplasm (G) as demonstrated in results from recent assessments on soybean varieties grown at three locations in the U.S. over a period of four years (Britz et al., 2008) and across six environments in Eastern Canada in a single year (Seguin et al., 2009). Britz et al. (2008) showed more than a two-fold variation in levels across their study (units expressed as the ratio of α -tocopherol [vitamin E] to total tocopherol content). Vitamin E values in Seguin et al. (2009) ranged from 0.87 to 3.32 mg/100g dw. Both assessments showed that G and E effects as well as G \times E interaction effects influenced vitamin E content. In the compositional analysis presented here, values of vitamin E in the conventional control, when assessed as individual replicates across all sites, ranged by as much as 0.89 to 2.11 mg/100g dw (Appendix 1, Table 2). Ranges of vitamin E values from the concurrently grown commercial reference varieties were even greater and ranged from 0.69 to 2.91 mg/100g dw (Appendix 1, Table 2). Literature data from other compositional assessments (Berman et al., 2009; Lundry et al., 2008; ILSI, 2006) that further highlight the extensive natural variability in vitamin E levels in soybean are presented in Table 2. Therefore, given this established variability of vitamin E levels in conventional soybean and the fact that soybean is not an important nutritional source of vitamin E in human or animal diets, this increase in vitamin E levels in MON 87708 compared to the conventional control supports the conclusion that this observed difference is not meaningful to food and feed safety and nutritional quality.

The remaining combined-site differences between MON 87708 and the conventional control were attributable to two proximates (ash and carbohydrates by calculation) and three fibers (ADF, NDF, and crude fiber). The relative magnitude of these increases were small (2.41% to 12.37%) and there was no consistency of these combined-site differences at the individual sites (carbohydrates by calculation and crude fiber were different at only one site, whereas ash, ADF and NDF were not different at any of the individual sites). The combined-site mean values for these nutrient components also were within the 99% tolerance interval established from the conventional commercial reference varieties grown concurrently, establishing that these differences are not meaningful to food and feed safety and nutrition.

In summary, statistical analyses found no consistent differences across sites in the levels of nutrient components in seed from MON 87708 and the conventional control, except for differences in 18:1 oleic acid, 18:3 linoleic acid, and vitamin E levels that were of small magnitude and were within the natural variability of concurrently grown conventional commercial soybean varieties. These data support the conclusion that MON 87708 is compositionally equivalent to conventional soybean.

4.2 Anti-Nutrient Levels in MON 87708 Soybean Seed

In the combined-site analysis, no statistically significant differences were observed in four of the eight anti-nutrient component comparisons (lectin, trypsin inhibitors, genistein, and glycitein) between MON 87708 and the conventional control. Statistically significant differences were observed between MON 87708 and the conventional control in the other four anti-nutrient components that were measured (Table 1). The differences included decreased mean values for phytic acid, raffinose, stachyose, and an increased mean level of daidzein, compared to the conventional control.

The statistically significant differences in anti-nutrients were further evaluated using considerations relevant to the safety and nutritional quality of MON 87708 when compared to the conventional control:

- 1) All anti-nutrient component differences observed in the combined-site analysis, whether reflecting increased or decreased MON 87708 mean values with respect to the conventional control were small. Relative magnitude of differences in the combined-site analysis for the anti-nutrients that were decreased in MON 87708 ranged from 6.1% (phytic acid) to 7.73% (raffinose). The relative magnitude of difference (increase) in daidzein was 11.5%.
- 2) MON 87708 mean values for these anti-nutrient components from the combined-site analysis were within the 99% tolerance interval established from the conventional commercial reference varieties concurrently grown in the same trial (Table 1).
- 3) Assessment of the reproducibility of the combined-site differences at the five individual sites showed no consistent pattern across sites. A statistically significant decrease was observed for stachyose at one site and phytic acid at two sites, whereas a significant increase was seen for daidzein at two sites. No differences for raffinose were observed at any of the individual sites. Mean values for all of the above anti-nutrient components in MON 87708 at the individual sites were within the 99% tolerance interval established from the concurrently grown conventional commercial reference varieties.
- 4) All combined-site mean values of MON 87708 for all anti-nutrients were within the context of the natural variability of commercial soybean composition as published in the scientific literature and/or available in the ILSI Crop Composition Database (ILSI, 2006).

In summary, statistical analyses found no consistent differences across sites in the levels of anti-nutrient components in seed from MON 87708 and the conventional control. Thus, a comprehensive evaluation of anti-nutrient components in seed support the conclusion that MON 87708 is compositionally equivalent to conventional soybean.

4.3 Nutrient Levels in MON 87708 Soybean Forage

In the combined-site analysis of forage, six of the seven nutrient component comparisons did not have a statistically significant difference between MON 87708 and the conventional control (Table 1). The only statistical difference was for the ADF mean value and it was evaluated using considerations relevant to the safety and nutritional quality of MON 87708 when compared to the conventional control.

- 1) The relative magnitude of difference in ADF, with respect to the conventional control, was small with an increase of 10.45%.
- 2) The mean value for ADF from the combined-site analysis of MON 87708 was within the 99% tolerance interval established from the conventional commercial reference varieties grown concurrently.
- 3) Assessment of the reproducibility of the combined-site difference of ADF across the individual sites showed no statistically significant differences at any of the five individual sites.
- 4) The value the combined-site value for ADF was within the natural variability observed for commercial soybean varieties as published in the scientific literature.

In summary, statistical analyses found no consistent differences across sites in the levels of nutrient components in forage from MON 87708 and the conventional control. Thus, a comprehensive evaluation of nutrient components in forage supports the conclusion that MON 87708 is compositionally equivalent to conventional soybean.

5.0 Conclusions

Detailed comparisons of nutrient and anti-nutrient levels in MON 87708 to corresponding levels in conventional soybean control, A3525, were conducted. These compositional comparisons were made by analyzing the seed and forage harvested from plants grown at each of five field sites in the U.S. during the 2008 field season. The composition analysis, conducted in accordance with OECD guidelines, also included measurement of nutrients and anti-nutrients in a total of 18 conventional commercial soybean varieties, known as reference substances, to provide data on natural variability of each compositional component analyzed.

For MON 87708, the combined site analysis of both seed and forage showed no statistically significant differences between MON 87708 and the control for 21 (42.0%) of the 50 mean value comparisons. Of the statistically significant differences observed, one was from the forage analysis and 28 were from the seed analysis. For seed, nutrient component differences included mean values for proximates (ash, carbohydrates by calculation, and protein), amino acids (12 components), fatty acids (five components), ADF, NDF, crude fiber, and vitamin E. Seed anti-nutrient differences included phytic

acid, raffinose, stachyose, and daidzein. In the combined site analysis of forage, a statistically significant difference for ADF was found between MON 87708 and the control. The relative magnitude of difference in the ADF mean value of MON 87708 was, with respect to the control, 10.45%.

The combined-site analysis showed that the relative magnitudes of differences in these component mean values of MON 87708 with respect to the control were small. For seed nutrients, these magnitudes ranged from 1.51% to 12.37%, for proximates, amino acids, fatty acids, and fibers, and 15.13% for vitamin E. Anti-nutrient component, ranged from 6.14 % (phytic acid) to 11.51% (daidzein). The relative magnitude of difference in the forage ADF mean value of MON 87708 was, with respect to the control, 10.45%. Mean values for all of the statistically significant different components from the combined-site analysis of MON 87708 were within the 99% tolerance interval established from the conventional commercial reference varieties grown concurrently

In the individual site analyses, two of the nutrient components (18:1 oleic acid and 18:3 linolenic acid) were observed to be statistically significantly different at all sites and one nutrient component (vitamin E) was observed to be different at four of the five sites. None of the anti-nutrient components were observed to be statistically significantly different at more than two of the five sites. No differences between MON 87708 and control forage mean values for ADF were observed at the individual sites. For seed and forage, all mean component values (nutrient and anti-nutrient) of MON 87708 fell within the 99% tolerance interval established from the reference substances grown concurrently and at the same field sites.

In summary, a compositional analysis of nutrients and anti-nutrients of MON 87708 was conducted. MON 87708 component mean values observed to be statistically significantly different from that of the control in the combined-site analysis were shown to be of small relative magnitudes of difference, and not generally reproducible across sites. For MON 87708 two of the 50 components (18:1 oleic acid and 18:3 linolenic acid) were observed to be statistically different at all five individual sites. All MON 87708 mean component values were within the 99% tolerance interval established from the conventional commercial reference substances grown concurrently and at the same field sites. Additionally, these component values were within the range of values reported in the scientific literature and/or in the ILSI Crop Composition Database.

In summary, a comprehensive evaluation of nutrients and anti-nutrients in seed and nutrients in forage supported the conclusion that soybean seed and forage produced from MON 87708 are compositionally equivalent to those of conventional soybean.

6.0 References

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Table 1. Summary of Differences (p<0.05) for the Comparison of Soybean Component Levels for MON 87708 vs. A3525

Analytical Component (Units) ¹	Test ² Mean ³	Control ⁴ Mean	Mean Difference (Test minus Control)		Test Range	Commercial Tolerance Interval ⁵
			Mean Difference (% of Control)	Significance (p-Value)		
Statistical Differences Observed in Combined-Site Analysis						
Seed Proximate (% dw)						
Ash	5.24	5.12	2.41	0.031	4.94 - 5.69	4.75, 6.04
Carbohydrates	37.93	36.64	3.50	0.012	35.65 - 39.21	31.73, 40.38
Protein	40.86	42.41	-3.65	0.016	39.00 - 42.53	35.15, 45.33
Seed Fiber (% dw)						
Acid Detergent Fiber	13.55	12.86	5.30	0.009	12.45 - 15.57	9.73, 18.36
Crude Fiber	8.29	7.37	12.37	<0.001	6.23 - 9.65	5.71, 10.92
Neutral Detergent Fiber	15.29	14.34	6.63	0.028	13.11 - 17.83	11.03, 19.66
Seed Amino Acid (% dw)						
Arginine	3.30	3.58	-7.91	0.006	3.09 - 3.50	2.50, 3.88

Table 1. Summary of Differences (p<0.05) for the Comparison of Soybean Component Levels for MON 87708 vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean ³	Control ⁴ Mean	Mean Difference (Test minus Control)		Test Range	Commercial Tolerance Interval ⁵
			Mean Difference (% of Control)	Significance (p-Value)		
Statistical Differences Observed in Combined-Site Analysis						
Seed Amino Acid (% dw)						
Aspartic Acid	4.63	4.78	-3.18	0.016	4.44 - 4.80	4.00, 5.16
Cystine	0.61	0.59	3.01	<0.001	0.58 - 0.63	0.50, 0.67
Glutamic Acid	7.38	7.69	-4.03	0.010	7.05 - 7.73	6.20, 8.36
Glycine	1.76	1.81	-2.65	0.020	1.67 - 1.83	1.51, 1.93
Histidine	1.06	1.09	-3.07	0.017	1.02 - 1.10	0.92, 1.17
Isoleucine	1.88	1.95	-3.58	0.006	1.75 - 1.97	1.63, 2.08
Leucine	3.06	3.17	-3.37	0.008	2.93 - 3.19	2.69, 3.41
Phenylalanine	2.06	2.13	-3.33	0.034	1.92 - 2.18	1.78, 2.31

Table 1. Summary of Differences (p<0.05) for the Comparison of Soybean Component Levels for MON 87708 vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean ³	Control ⁴ Mean	Mean Difference (Test minus Control)		Test Range	Commercial Tolerance Interval ⁵
			Mean Difference (% of Control)	Significance (p-Value)		
Statistical Differences Observed in Combined-Site Analysis						
Seed Amino Acid (% dw)						
Proline	1.99	2.05	-3.24	0.017	1.90 - 2.09	1.62, 2.28
Tyrosine	1.37	1.42	-3.47	0.048	1.28 - 1.46	1.23, 1.51
Valine	1.98	2.06	-3.89	0.006	1.82 - 2.09	1.70, 2.22
Seed Fatty Acid (% Total FA)						
16:0 Palmitic	11.59	11.33	2.29	0.002	11.25 - 12.16	8.44, 12.65
18:1 Oleic	19.20	20.91	-8.19	<0.001	17.85 - 19.94	15.67, 27.49
18:2 Linoleic	54.40	53.59	1.51	0.010	53.42 - 55.67	48.22, 59.63
18:3 Linolenic	10.12	9.49	6.65	<0.001	8.99 - 10.88	5.92, 12.52
22:0 Behenic	0.27	0.28	-4.70	0.001	0.25 - 0.29	0.24, 0.40

Table 1. Summary of Differences (p<0.05) for the Comparison of Soybean Component Levels for MON 87708 vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean ³	Control ⁴ Mean	Mean Difference (Test minus Control)		Test Range	Commercial Tolerance Interval ⁵
			Mean Difference (% of Control)	Significance (p-Value)		
Statistical Differences Observed in Combined-Site Analysis						
Seed Vitamin (mg/100g dw)						
Vitamin E	1.41	1.23	15.13	0.001	1.08 - 2.17	0, 3.61
Seed Anti-nutrient						
Phytic Acid (% dw)	1.30	1.39	-6.14	0.043	1.08 - 1.51	0.80, 1.93
Raffinose (% dw)	0.43	0.47	-7.73	0.045	0.32 - 0.59	0.11, 0.73
Stachyose (% dw)	3.36	3.62	-7.24	0.011	3.07 - 4.02	2.23, 4.11
Seed Isoflavone (µg/g dw)						
Daidzein	1494.97	1340.71	11.51	0.046	899.83 - 2305.26	0, 2357.53
Forage Fiber (% dw)						
Acid Detergent Fiber	30.58	27.69	10.45	0.021	23.30 - 45.11	15.60, 42.84

Table 1. Summary of Differences (p<0.05) for the Comparison of Soybean Component Levels for MON 87708 vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean ³	Control ⁴ Mean	Mean Difference (Test minus Control)		Test Range	Commercial Tolerance Interval ⁵
			Mean Difference (% of Control)	Significance (p-Value)		
Statistical Differences Observed in More than One Individual Site						
Seed Fatty Acid (% Total FA)						
18:1 Oleic Site IARL	19.38	21.67	-10.58	0.001	19.07 - 19.73	15.67, 27.49
18:1 Oleic Site ILCY	19.74	21.57	-8.46	0.011	19.44 - 19.94	15.67, 27.49
18:1 Oleic Site ILWY	19.52	21.14	-7.66	0.010	19.34 - 19.64	15.67, 27.49
18:1 Oleic Site INRC	18.78	20.19	-6.96	<0.001	18.58 - 18.95	15.67, 27.49
18:1 Oleic Site PAHM	18.58	20.01	-7.13	0.015	17.85 - 19.42	15.67, 27.49
18:3 Linolenic Site IARL	10.64	10.04	5.94	0.033	10.58 - 10.74	5.92, 12.52
18:3 Linolenic Site ILCY	9.07	8.58	5.78	0.007	8.99 - 9.16	5.92, 12.52
18:3 Linolenic Site ILWY	10.54	10.05	4.92	0.026	10.51 - 10.59	5.92, 12.52

Table 1. Summary of Differences (p<0.05) for the Comparison of Soybean Component Levels for MON 87708 vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean ³	Control ⁴ Mean	Mean Difference (Test minus Control)		Test Range	Commercial Tolerance Interval ⁵
			Mean Difference (% of Control)	Significance (p-Value)		
Statistical Differences Observed in More than One Individual Site						
Seed Fatty Acid (% Total FA)						
18:3 Linolenic Site INRC	10.03	9.31	7.65	<0.001	9.89 - 10.10	5.92, 12.52
18:3 Linolenic Site PAHM	10.33	9.47	9.02	0.006	9.91 - 10.88	5.92, 12.52
Seed Vitamin (mg/100g dw)						
Vitamin E Site IARL	1.15	0.94	22.25	0.033	1.10 - 1.22	0, 3.61
Vitamin E Site ILCY	2.13	1.86	14.43	0.038	2.10 - 2.17	0, 3.61
Vitamin E Site ILWY	1.18	0.94	24.64	0.011	1.08 - 1.26	0, 3.61
Vitamin E Site PAHM	1.32	1.23	7.90	0.010	1.21 - 1.54	0, 3.61
Seed Proximate (% dw)						
Protein Site ILCY	40.17	41.72	-3.72	0.047	39.44 - 40.96	35.15, 45.33

Table 1. Summary of Differences (p<0.05) for the Comparison of Soybean Component Levels for MON 87708 vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean ³	Control ⁴ Mean	Mean Difference (Test minus Control)		Test Range	Commercial Tolerance Interval ⁵
			Mean Difference (% of Control)	Significance (p-Value)		
Statistical Differences Observed in More than One Individual Site						
Seed Proximate (% dw)						
Protein Site ILWY	40.88	41.99	-2.64	0.042	40.56 - 41.37	35.15, 45.33
Protein Site PAHM	40.25	43.69	-7.86	0.002	39.00 - 41.05	35.15, 45.33
Seed Amino Acid (% dw)						
Arginine Site ILWY	3.30	3.57	-7.58	0.002	3.24 - 3.33	2.50, 3.88
Arginine Site INRC	3.44	3.72	-7.37	0.011	3.39 - 3.50	2.50, 3.88
Arginine Site PAHM	3.25	3.88	-16.13	0.001	3.09 - 3.36	2.50, 3.88
Glutamic Acid Site ILCY	7.43	7.61	-2.38	0.032	7.27 - 7.54	6.20, 8.36
Glutamic Acid Site ILWY	7.29	7.51	-2.86	0.002	7.20 - 7.35	6.20, 8.36
Glutamic Acid Site PAHM	7.28	8.00	-9.08	0.003	7.06 - 7.40	6.20, 8.36

Table 1. Summary of Differences (p<0.05) for the Comparison of Soybean Component Levels for MON 87708 vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean ³	Control ⁴ Mean	Mean Difference (Test minus Control)		Test Range	Commercial Tolerance Interval ⁵
			Mean Difference (% of Control)	Significance (p-Value)		
Statistical Differences Observed in More than One Individual Site						
Seed Amino Acid (% dw)						
Histidine Site ILCY	1.06	1.08	-1.84	0.022	1.04 - 1.07	0.92, 1.17
Histidine Site ILWY	1.05	1.07	-1.62	0.019	1.05 - 1.05	0.92, 1.17
Histidine Site PAHM	1.05	1.13	-7.52	0.002	1.02 - 1.06	0.92, 1.17
Isoleucine Site ILCY	1.89	1.97	-3.98	0.010	1.87 - 1.93	1.63, 2.08
Isoleucine Site ILWY	1.87	1.90	-1.22	0.004	1.85 - 1.89	1.63, 2.08
Isoleucine Site PAHM	1.85	2.00	-7.59	0.014	1.79 - 1.90	1.63, 2.08
Leucine Site ILCY	3.09	3.17	-2.42	0.002	3.04 - 3.14	2.69, 3.41
Leucine Site ILWY	3.02	3.10	-2.49	<0.001	3.00 - 3.04	2.69, 3.41

Table 1. Summary of Differences (p<0.05) for the Comparison of Soybean Component Levels for MON 87708 vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean ³	Control ⁴ Mean	Mean Difference (Test minus Control)		Test Range	Commercial Tolerance Interval ⁵
			Mean Difference (% of Control)	Significance (p-Value)		
Statistical Differences Observed in More than One Individual Site						
Seed Amino Acid (% dw)						
Leucine Site PAHM	3.03	3.28	-7.42	0.002	2.96 - 3.09	2.69, 3.41
Seed Fatty Acid (% Total FA)						
22:0 Behenic Site IARL	0.26	0.28	-5.49	0.022	0.25 - 0.27	0.24, 0.40
22:0 Behenic Site ILWY	0.26	0.28	-6.67	0.008	0.26 - 0.27	0.24, 0.40
22:0 Behenic Site INRC	0.28	0.29	-4.85	0.038	0.27 - 0.29	0.24, 0.40
Seed Proximate (% dw)						
Moisture (% fw) Site ILWY	6.96	6.16	12.99	0.022	6.80 - 7.17	4.10, 9.78
Moisture (% fw) Site PAHM	7.84	10.50	-25.30	<0.001	7.38 - 8.47	4.10, 9.78
Seed Amino Acid (% dw)						
Aspartic Acid Site ILWY	4.59	4.67	-1.90	0.011	4.55 - 4.61	4.00, 5.16

Table 1. Summary of Differences (p<0.05) for the Comparison of Soybean Component Levels for MON 87708 vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean ³	Control ⁴ Mean	Mean Difference (Test minus Control)		Test Range	Commercial Tolerance Interval ⁵
			Mean Difference (% of Control)	Significance (p-Value)		
Statistical Differences Observed in More than One Individual Site						
Seed Amino Acid (% dw)						
Aspartic Acid Site PAHM	4.56	4.94	-7.65	0.002	4.45 - 4.63	4.00, 5.16
Phenylalanine Site ILWY	2.01	2.07	-2.95	0.046	1.96 - 2.06	1.78, 2.31
Phenylalanine Site PAHM	2.04	2.21	-7.96	0.010	2.00 - 2.07	1.78, 2.31
Proline Site ILWY	1.94	2.05	-5.09	0.020	1.93 - 1.96	1.62, 2.28
Proline Site PAHM	1.98	2.10	-5.98	0.016	1.94 - 2.00	1.62, 2.28
Threonine Site ILWY	1.52	1.55	-1.69	0.005	1.51 - 1.53	1.39, 1.69
Threonine Site PAHM	1.55	1.62	-4.23	0.029	1.52 - 1.57	1.39, 1.69
Tyrosine Site INRC	1.38	1.44	-4.49	0.044	1.35 - 1.43	1.23, 1.51

Table 1. Summary of Differences (p<0.05) for the Comparison of Soybean Component Levels for MON 87708 vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean ³	Control ⁴ Mean	Mean Difference (Test minus Control)		Test Range	Commercial Tolerance Interval ⁵
			Mean Difference (% of Control)	Significance (p-Value)		
Statistical Differences Observed in More than One Individual Site						
Seed Amino Acid (% dw)						
Tyrosine Site PAHM	1.35	1.49	-9.43	0.011	1.28 - 1.43	1.23, 1.51
Valine Site ILCY	1.96	2.05	-4.37	0.013	1.94 - 2.01	1.70, 2.22
Valine Site PAHM	1.95	2.13	-8.17	0.012	1.89 - 2.00	1.70, 2.22
Seed Fatty Acid (% Total FA)						
16:0 Palmitic Site IARL	11.49	11.00	4.47	0.001	11.44 - 11.54	8.44, 12.65
16:0 Palmitic Site ILWY	11.26	11.04	2.02	0.017	11.25 - 11.27	8.44, 12.65
18:2 Linoleic Site ILCY	54.54	53.26	2.40	0.021	54.45 - 54.70	48.22, 59.63
18:2 Linoleic Site INRC	54.98	54.43	1.00	0.019	54.80 - 55.14	48.22, 59.63

Table 1. Summary of Differences (p<0.05) for the Comparison of Soybean Component Levels for MON 87708 vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean ³	Control ⁴ Mean	Mean Difference (Test minus Control)		Test Range	Commercial Tolerance Interval ⁵
			Mean Difference (% of Control)	Significance (p-Value)		
Statistical Differences Observed in More than One Individual Site						
Seed Anti-nutrient						
Phytic Acid (% dw) Site IARL	1.36	1.53	-11.28	0.018	1.33 - 1.38	0.80, 1.93
Phytic Acid (% dw) Site ILWY	1.40	1.55	-9.34	0.030	1.33 - 1.46	0.80, 1.93
Seed Isoflavone (µg/g dw)						
Daidzein Site ILWY	1458.08	1271.60	14.67	0.004	1416.31 - 1535.98	0, 2357.53
Daidzein Site INRC	1683.50	1419.40	18.61	0.049	1593.24 - 1777.49	0, 2357.53
Glycitein Site ILWY	111.77	79.70	40.23	<0.001	109.88 - 113.86	24.51, 238.51
Glycitein Site INRC	111.51	98.42	13.31	0.016	110.91 - 112.28	24.51, 238.51
Forage Proximate (% dw)						
Protein Site IARL	25.21	23.00	9.63	0.043	24.71 - 25.52	15.28, 27.10

Table 1. Summary of Differences (p<0.05) for the Comparison of Soybean Component Levels for MON 87708 vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean ³	Control ⁴ Mean	Mean Difference (Test minus Control)		Test Range	Commercial Tolerance Interval ⁵
			Mean Difference (% of Control)	Significance (p-Value)		
Statistical Differences Observed in More than One Individual Site						
Forage Proximate (% dw)						
Protein Site INRC	21.78	23.33	-6.63	0.019	20.99 - 22.51	15.28, 27.10
Statistical Differences Observed in One Individual Site						
Seed Proximate (% dw)						
Carbohydrates Site PAHM	38.30	35.23	8.71	0.008	37.69 - 38.65	31.73, 40.38
Seed Fiber (% dw)						
Crude Fiber Site INRC	8.06	6.89	17.03	0.009	7.76 - 8.47	5.71, 10.92
Seed Amino Acid (% dw)						
Alanine Site PAHM	1.75	1.86	-5.81	0.010	1.74 - 1.77	1.55, 1.92
Cystine Site PAHM	0.62	0.59	4.79	0.024	0.60 - 0.63	0.50, 0.68
Glycine Site PAHM	1.73	1.86	-6.78	0.004	1.69 - 1.75	1.53, 1.92

Table 1. Summary of Differences (p<0.05) for the Comparison of Soybean Component Levels for MON 87708 vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean ³	Control ⁴ Mean	Mean Difference (Test minus Control)		Test Range	Commercial Tolerance Interval ⁵
			Mean Difference (% of Control)	Significance (p-Value)		
Statistical Differences Observed in One Individual Site						
Seed Amino Acid (% dw)						
Lysine Site PAHM	2.60	2.75	-5.39	0.009	2.53 - 2.65	2.31, 2.84
Serine Site ILWY	1.98	2.06	-3.83	0.003	1.97 - 2.00	1.76, 2.27
Tryptophan Site ILCY	0.51	0.48	6.21	0.024	0.49 - 0.53	0.37, 0.52
Seed Anti-nutrient						
Lectin (H.U./mg dw) Site ILWY	1.10	2.33	-52.88	0.045	0.59 - 1.51	0, 8.11
Stachyose (% dw) Site INRC	3.14	3.46	-9.18	0.043	3.12 - 3.17	2.23, 4.11
Forage Proximate (% dw)						
Carbohydrates Site PAHM	70.95	65.81	7.81	0.015	69.23 - 73.31	60.23, 74.00
Moisture (% fw) Site PAHM	74.27	74.91	-0.86	0.021	73.40 - 75.40	62.12, 90.55

¹dw = dry weight; fw = fresh weight; FA = fatty acid; H.U. = Hemagglutinating Units.

²Test refers to MON 87708

³Mean = least-square mean.

⁴Control refers to the non-biotechnology derived, conventional control (A3525).

⁵With 95% confidence, interval contains 99% of the values expressed in the population of reference substances. Negative limits set to zero.

Table 2. Literature and ILSI Ranges for Components in Soybean Seed and Forage

Tissue Components¹	Literature Range²	ILSI Range³
Seed Nutrients		
Proximates (% dw)		
Ash	4.61 – 6.32 ^a ; 4.32 – 5.88 ^b	3.89 – 6.99
Carbohydrates by calculation	32.75 – 40.98 ^a ; 29.88 – 43.48 ^b	29.6 – 50.2
Moisture (% fw)	6.24 – 12.10 ^a ; 5.44 – 11.70 ^b	4.7 – 34.4
Protein	34.78 – 43.35 ^a ; 32.29 – 42.66 ^b	33.19 – 45.48
Total Fat	14.40 – 20.91 ^a ; 15.10 – 23.56 ^b ; 15.5 ⁴ – 24.7 ⁴	8.10 – 23.56
Fiber (% dw)		
Acid Detergent Fiber	9.22 – 26.26 ^a ; 11.81 – 19.45 ^b	7.81 – 18.61
Neutral Detergent Fiber	10.79 – 23.90 ^a ; 13.32 – 23.57 ^b	8.53 – 21.25
Crude Fiber	-	4.12 – 13.87
Amino Acids (% dw)		
Alanine	1.62 – 1.89 ^a ; 1.43 – 1.93 ^b	1.51 – 2.10
Arginine	2.57 – 3.34 ^a ; 2.15 – 3.05 ^b	2.29 – 3.40
Aspartic acid	4.16 – 5.02 ^a ; 4.01 – 5.72 ^b	3.81 – 5.12
Cystine/Cysteine	0.52 – 0.69 ^a ; 0.41 – 0.71 ^b	0.37 – 0.81
Glutamic acid	6.52 – 8.19 ^a ; 5.49 – 8.72 ^b	5.84 – 8.20
Glycine	1.59 – 1.90 ^a ; 1.41 – 1.99 ^b	1.46 – 2.00
Histidine	0.96 – 1.13 ^a ; 0.86 – 1.24 ^b	0.88 – 1.18
Isoleucine	1.59 – 2.00 ^a ; 1.41 – 2.02 ^b	1.54 – 2.08
Leucine	2.79 – 3.42 ^a ; 2.39 – 3.32 ^b	2.59 – 3.62
Lysine	2.36 – 2.77 ^a ; 2.19 – 3.15 ^b	2.29 – 2.84
Methionine	0.45 – 0.63 ^a ; 0.39 – 0.65 ^b	0.43 – 0.68
Phenylalanine	1.82 – 2.29 ^a ; 1.62 – 2.44 ^b	1.63 – 2.35
Proline	1.83 – 2.23 ^a ; 1.63 – 2.25 ^b	1.69 – 2.28
Serine	1.95 – 2.42 ^a ; 1.51 – 2.30 ^b	1.11 – 2.48
Threonine	1.44 – 1.71 ^a ; 1.23 – 1.74 ^b	1.14 – 1.86
Tryptophan	0.30 – 0.48 ^a ; 0.41 – 0.56 ^b	0.36 – 0.50
Tyrosine	1.27 – 1.53 ^a ; 0.74 – 1.31 ^b	1.02 – 1.61
Valine	1.68 – 2.11 ^a ; 1.50 – 2.13 ^b	1.60 – 2.20
Fatty Acids (% total FA)		
8:0 Caprylic	not available	0.148 – 0.148
10:0 Capric	0.15 – 0.27 ^b	not available
12:0 Lauric	not available	0.082 – 0.132
14:0 Myristic	0.063 – 0.11 ^b	0.071 – 0.238
14:1 Myristoleic	not available	0.121 – 0.125
15:0 Pentadecanoic	not available	not available
15:1 Pentadecenoic	not available	not available
16:0 Palmitic	9.80 – 12.63 ^b	9.55 – 15.77
16:1 Palmitoleic	0.055 – 0.14 ^b	0.086 – 0.194
17:0 Heptadecanoic	0.076 – 0.13 ^b	0.085 – 0.146
17:1 Heptadecenoic	0.019 – 0.064 ^b	0.073 – 0.087
18:0 Stearic	3.21 – 5.63 ^b	2.70 – 5.88
18:1 Oleic	16.69 – 35.16 ^b	14.3 – 32.2
18:2 Linoleic	44.17 – 57.72 ^b	42.3 – 58.8

Table 2. Literature and ILSI Ranges for Components in Soybean Seed and Forage

Seed Tissue Components¹	Literature Range²	ILSI Range³
18:3 Gamma Linolenic	not available	not available
18:3 Linolenic	4.27 – 9.90 ^b	3.00 – 12.52
20:0 Arachidic	0.35 – 0.57 ^b	0.163 – 0.482
20:1 Eicosenoic	0.13 – 0.30 ^b	0.140 – 0.350
20:2 Eicosadienoic	0.016 – 0.071 ^b	0.077 – 0.245
20:3 Eicosatrienoic	not available	not available
20:4 Arachidonic	not available	not available
22:0 Behenic	0.35 – 0.59 ^b	0.277 – 0.595
22:1 Erucic	not available	not available
Vitamins (mg/100g dw)		
Vitamin E	1.29 – 4.80 ^a ; 1.12 – 8.08 ^b	0.19 – 6.17
Seed Anti-Nutrients		
Lectin (H.U./mg fw)	0.45 – 10.87 ^a ; 0.090 – 11.18 ^b	0.09 – 8.46
Trypsin Inhibitor (TIU/mg dw)	20.79 – 59.03 ^a ; 18.14 – 42.51 ^b	19.59 – 118.68
Phytic Acid (% dw)	0.41 – 1.92 ^a ; 0.81 – 2.66 ^b	0.63 – 1.96
Raffinose (% dw)	0.26 – 0.84 ^a ; 0.43 – 1.85 ^b	0.21 – 0.66
Stachyose (% dw)	1.53 – 3.04 ^a ; 1.97 – 6.65 ^b	1.21 – 3.50
Isoflavones		
	(µg/g dw)	(mg/kg dw)
Daidzein	224.03 – 1571.91 ^a ; 198.95 – 1458.24 ^b	60.0 – 2453.5
Genistein	338.24 – 1488.89 ^a ; 148.06 – 1095.57 ^b	144.3 – 2837.2
Glycitein	52.72 – 298.57 ^a ; 32.42 – 255.94 ^b	15.3 – 310.4
Forage Tissue Components¹	Literature Range²	ILSI Range³
Forage Nutrients		
Proximate (% dw)		
Ash	5.28 – 9.24 ^a ; 4.77 – 8.54 ^b	6.72 – 10.78
Carbohydrates by calculation	62.25 – 72.30 ^a ; 60.61 – 77.26 ^b	59.8 – 74.7
Moisture (% fw)	68.50 – 78.40 ^a ; 62.76 – 80.20 ^b	73.5 – 81.6
Protein	16.48 – 24.29 ^a ; 12.68 – 23.29 ^b	14.38 – 24.71
Total Fat	2.65 ⁴ – 9.87 ^a ; 2.96 – 7.88 ^b	1.302 – 5.132
Fiber (% dw)		
Acid Detergent Fiber	23.86 – 50.89 ^a ; 25.49 – 47.33 ^b	not available
Neutral Detergent Fiber	19.61 – 43.70 ^a ; 30.96 – 54.55 ^b	not available

¹fw=fresh weight; dw=dry weight; H.U. = hemagglutinating unit; TIU = trypsin inhibitor unit.

²Literature range references; ^aLundry et al. (2008); ^bBerman et al. (2009).

³ILSI Crop Composition Database, (2006).

⁴OECD (2001).

Appendix 1. Statistical Subreport

Statistical Re-analysis of Compositional Data of Soybean Forage and Seed Collected from MON 87708 Grown in the United States

The following 85 pages are the statistical subreport
Pages 35 — 119

STATISTICAL REPORT


Statistical Re-analysis of Compositional Data of Soybean Forage and Seed Collected from MON 87708 Grown in the United States

STUDY NUMBER: RAR-10-407

SPONSOR: Monsanto Company
Biotechnology Regulatory Affairs
800 North Lindbergh Blvd.
St. Louis, MO 63167

PREPARED BY: Certus International, Inc.
1422 Elbridge Payne Road
Suite 200
Chesterfield, MO 63017

DATE: August 30, 2010



Roy Sorbet, M.S., M.Ap.Stat.
Manager, Biostatistics and Data Management

8-30-2010

Date

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1. Data Description

A SAS[®] dataset (datareg09001.sas7bdat, created 3/1/2010) containing soybean forage and seed compositional analysis data was received from Monsanto. Data were from dicamba-treated test substance MON 87708, a conventional control substance A3525, an additional test substance, Test 2, and twenty commercial reference substances of which two, DeKalb DKB34-51 and Pioneer 93M50, were transgenic materials and eighteen were conventional materials.

Soybean forage and seed of the test, control, and reference substances were collected from replicated plots at five United States sites during the 2008 growing season. One replicate of control forage data was unavailable from site PAHM. Reference substances were distributed as follows across sites:

Site IARL	Site ILCY	Site ILWY	Site INRC	Site PAHM
CST3461 Wilken 3316 Midland 363 Stine 3300-0	Stine 3608-0 Quality Plus 365C Crows C37003N NK S38-T8	Croplan HT3596STS FS 3591 Garst 3585N Pioneer 93M52	Lewis 372 Pioneer 93M50 Dekalb DKB34-51 Stewart SB3454	Dekalb DKB31-51 NK 32Z3 Hoegemeyer 333 Pioneer 93B15

Components with greater than fifty percent of observations below the assay's limit of quantitation (LOQ) were excluded from analysis. Excluded components are presented in Listing 1. Otherwise, results below the LOQ were assigned a value equal to half the LOQ. The following component was assigned values:

		Obs. Below LOQ				
Component	Units	N	(%)	Total N	LOQ	Value Assigned
Seed Fatty Acid						
20:1 Eicosenoic	% fw	45	42.9	105	0.020	0.010

Individual samples assigned a value are presented in Listing 2.

The following formulas were used for re-expression of soybean composition data for statistical analysis:

Component	From (X)	To	Formula ¹
Proximates (excluding Moisture), Fiber, Phytic Acid, Raffinose, Stachyose	% fw	% dw	X/d
Isoflavones	µg/g fw	µg/g dw	X/d
Lectin	H.U./mg fw	H.U./mg dw	X/d
Trypsin Inhibitor	TIU/mg fw	TIU/mg dw	X/d
Vitamin E	mg/100g fw	mg/100g dw	X/d
Amino Acids (AA)	mg/g fw	% dw	X/(10d)

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(cont.)

Component	From (X)	To	Formula ¹
Fatty Acids (FA)	% fw	% Total FA	$(100)X_j/\Sigma X$, for each FA _j where ΣX is over all the FA
¹ 'X' is the individual sample value; 'd' is the fraction of the sample that is dry matter.			

2. Statistical Methods

The purpose of this statistical reanalysis is to compare the composition of MON 87708, treated with dicamba, to a conventional control, A3525, which has a genetic background representative of the test substance, and to generate ranges and 99% tolerance intervals for the eighteen non-biotech conventional reference materials included in study REG-09-001.

The SAS¹ GLM procedure was applied to all data (test, control and reference) to detect potential outliers in the dataset by screening studentized PRESS residuals. Substance, site, and replication effects were included in the model.

A PRESS residual² is the difference between any value and its predicted value from a statistical model that excludes the data point. The studentized version scales these residuals so that the values tend to have a standard normal distribution when outliers are absent. Thus, most values are expected to be between ± 3 . Extreme data points that are also outside of the ± 6 studentized PRESS residual range are considered for exclusion, as outliers, from the final analyses. In this study, no results had PRESS residual values outside of the ± 6 range.

All soybean compositional components were statistically analyzed using a mixed model analysis of variance with the SAS MIXED procedure. The five replicated sites were analyzed both separately and combined. Individual replicated site analyses used model (1).

$$(1) Y_{ij} = U + T_i + B_j + e_{ij},$$

where Y_{ij} = unique individual observation, U = overall mean, T_i = substance effect, B_j = random block effect, and e_{ij} = residual error.

Combined site analyses used model (2).

$$(2) Y_{ijk} = U + T_i + L_j + B(L)_{jk} + LT_{ij} + e_{ijk},$$

where Y_{ijk} = unique individual observation, U = overall mean, T_i = substance effect, L_j = random site effect, $B(L)_{jk}$ = random block within site effect, LT_{ij} = random site by substance interaction effect, and e_{ijk} = residual error.

A tolerance interval is an interval that one can claim, with a specified degree of confidence, contains at least a specified proportion, p , of an entire sampled population for the parameter measured.

For each compositional component, 99% tolerance intervals were calculated that are expected to contain, with 95% confidence, 99% of the quantities expressed in the population of commercial conventional substances. Each estimate was based upon the average of three observations per unique conventional reference substance. The transgenic reference materials, DeKalb DKB34-51 and Pioneer 93M50, were not included in the estimates. Because negative quantities are not possible, negative calculated lower tolerance bounds were set to zero.

3. Statistical Results

SAS software was used to generate all summary statistics and perform all analyses. Report tables present p -values from SAS as either <0.001 or the actual value truncated to three decimal places.

Components with a statistically significant comparison ($p < 0.05$) for the test substance vs. the control (A3525) are summarized in Table 1. Test vs. control statistical results are further summarized in Tables 2 through 19. For each component, least-square means, standard errors (S.E.), and the range of observed values are presented for each substance. Mean differences, standard errors of the differences, the range of observed differences, 95% confidence intervals for the mean differences and the significance probability are presented for each comparison. In addition, the range of the observed reference values and 99% tolerance intervals are presented.

Numbers of significant comparisons ($p < 0.05$) observed are summarized below:

	No. of Significant Comparisons vs. Control (A3525)					
Site:	IARL	ILCY	ILWY	INRC	PAHM	Combined
Comparisons Tested:	50	50	50	50	50	50
MON 87708 (Herbicide-Treated)	7	11	21	11	23	29

4. References

1. SAS Software Release 9.2 (TS1M0). Copyright (c) 2002-2008 by SAS Institute Inc., Cary, NC, USA.
2. Belsley, D. A., Kuh, E., Welsch, R. E. 1980. Regression Diagnostics: Identifying Influential Data and Sources of Collinearity. John Wiley & Sons, New York.

Table 1. Summary of Differences (p<0.05) for the Comparison of Soybean Component Levels for MON 87708 (Dicamba-Treated) vs. A3525

Analytical Component (Units) ¹	Test ² Mean ³	Control ⁴ Mean	Mean Difference (Test minus Control)		Test Range	Commercial Tolerance Interval ⁵
			Mean Difference (% of Control)	Significance (p-Value)		
Statistical Differences Observed in Combined-Site Analysis						
Seed Proximate (% dw)						
Ash	5.24	5.12	2.41	0.031	4.94 - 5.69	4.75, 6.04
Carbohydrates	37.93	36.64	3.50	0.012	35.65 - 39.21	31.73, 40.38
Protein	40.86	42.41	-3.65	0.016	39.00 - 42.53	35.15, 45.33
Seed Fiber (% dw)						
Acid Detergent Fiber	13.55	12.86	5.30	0.009	12.45 - 15.57	9.73, 18.36
Crude Fiber	8.29	7.37	12.37	<0.001	6.23 - 9.65	5.71, 10.92
Neutral Detergent Fiber	15.29	14.34	6.63	0.028	13.11 - 17.83	11.03, 19.66
Seed Amino Acid (% dw)						
Arginine	3.30	3.58	-7.91	0.006	3.09 - 3.50	2.50, 3.88

Table 1. Summary of Differences (p<0.05) for the Comparison of Soybean Component Levels for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean ³	Control ⁴ Mean	Mean Difference (Test minus Control)		Test Range	Commercial Tolerance Interval ⁵
			Mean Difference (% of Control)	Significance (p-Value)		
Statistical Differences Observed in Combined-Site Analysis						
Seed Amino Acid (% dw)						
Aspartic Acid	4.63	4.78	-3.18	0.016	4.44 - 4.80	4.00, 5.16
Cystine	0.61	0.59	3.01	<0.001	0.58 - 0.63	0.50, 0.67
Glutamic Acid	7.38	7.69	-4.03	0.010	7.05 - 7.73	6.20, 8.36
Glycine	1.76	1.81	-2.65	0.020	1.67 - 1.83	1.51, 1.93
Histidine	1.06	1.09	-3.07	0.017	1.02 - 1.10	0.92, 1.17
Isoleucine	1.88	1.95	-3.58	0.006	1.75 - 1.97	1.63, 2.08
Leucine	3.06	3.17	-3.37	0.008	2.93 - 3.19	2.69, 3.41
Phenylalanine	2.06	2.13	-3.33	0.034	1.92 - 2.18	1.78, 2.31

Table 1. Summary of Differences (p<0.05) for the Comparison of Soybean Component Levels for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean ³	Control ⁴ Mean	Mean Difference (Test minus Control)		Test Range	Commercial Tolerance Interval ⁵
			Mean Difference (% of Control)	Significance (p-Value)		
Statistical Differences Observed in Combined-Site Analysis						
Seed Amino Acid (% dw)						
Proline	1.99	2.05	-3.24	0.017	1.90 - 2.09	1.62, 2.28
Tyrosine	1.37	1.42	-3.47	0.048	1.28 - 1.46	1.23, 1.51
Valine	1.98	2.06	-3.89	0.006	1.82 - 2.09	1.70, 2.22
Seed Fatty Acid (% Total FA)						
16:0 Palmitic	11.59	11.33	2.29	0.002	11.25 - 12.16	8.44, 12.65
18:1 Oleic	19.20	20.91	-8.19	<0.001	17.85 - 19.94	15.67, 27.49
18:2 Linoleic	54.40	53.59	1.51	0.010	53.42 - 55.67	48.22, 59.63
18:3 Linolenic	10.12	9.49	6.65	<0.001	8.99 - 10.88	5.92, 12.52
22:0 Behenic	0.27	0.28	-4.70	0.001	0.25 - 0.29	0.24, 0.40

Table 1. Summary of Differences (p<0.05) for the Comparison of Soybean Component Levels for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean ³	Control ⁴ Mean	Mean Difference (Test minus Control)		Test Range	Commercial Tolerance Interval ⁵
			Mean Difference (% of Control)	Significance (p-Value)		
Statistical Differences Observed in Combined-Site Analysis						
Seed Vitamin (mg/100g dw)						
Vitamin E	1.41	1.23	15.13	0.001	1.08 - 2.17	0, 3.61
Seed Anti-nutrient						
Phytic Acid (% dw)	1.30	1.39	-6.14	0.043	1.08 - 1.51	0.80, 1.93
Raffinose (% dw)	0.43	0.47	-7.73	0.045	0.32 - 0.59	0.11, 0.73
Stachyose (% dw)	3.36	3.62	-7.24	0.011	3.07 - 4.02	2.23, 4.11
Seed Isoflavone (µg/g dw)						
Daidzein	1494.97	1340.71	11.51	0.046	899.83 - 2305.26	0, 2357.53
Forage Fiber (% dw)						
Acid Detergent Fiber	30.58	27.69	10.45	0.021	23.30 - 45.11	15.60, 42.84

Table 1. Summary of Differences (p<0.05) for the Comparison of Soybean Component Levels for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean ³	Control ⁴ Mean	Mean Difference (Test minus Control)		Test Range	Commercial Tolerance Interval ⁵
			Mean Difference (% of Control)	Significance (p-Value)		
Statistical Differences Observed in More than One Individual Site						
Seed Fatty Acid (% Total FA)						
18:1 Oleic Site IARL	19.38	21.67	-10.58	0.001	19.07 - 19.73	15.67, 27.49
18:1 Oleic Site ILCY	19.74	21.57	-8.46	0.011	19.44 - 19.94	15.67, 27.49
18:1 Oleic Site ILWY	19.52	21.14	-7.66	0.010	19.34 - 19.64	15.67, 27.49
18:1 Oleic Site INRC	18.78	20.19	-6.96	<0.001	18.58 - 18.95	15.67, 27.49
18:1 Oleic Site PAHM	18.58	20.01	-7.13	0.015	17.85 - 19.42	15.67, 27.49
18:3 Linolenic Site IARL	10.64	10.04	5.94	0.033	10.58 - 10.74	5.92, 12.52
18:3 Linolenic Site ILCY	9.07	8.58	5.78	0.007	8.99 - 9.16	5.92, 12.52
18:3 Linolenic Site ILWY	10.54	10.05	4.92	0.026	10.51 - 10.59	5.92, 12.52

Table 1. Summary of Differences (p<0.05) for the Comparison of Soybean Component Levels for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean ³	Control ⁴ Mean	Mean Difference (Test minus Control)		Test Range	Commercial Tolerance Interval ⁵
			Mean Difference (% of Control)	Significance (p-Value)		
Statistical Differences Observed in More than One Individual Site						
Seed Fatty Acid (% Total FA)						
18:3 Linolenic Site INRC	10.03	9.31	7.65	<0.001	9.89 - 10.10	5.92, 12.52
18:3 Linolenic Site PAHM	10.33	9.47	9.02	0.006	9.91 - 10.88	5.92, 12.52
Seed Vitamin (mg/100g dw)						
Vitamin E Site IARL	1.15	0.94	22.25	0.033	1.10 - 1.22	0, 3.61
Vitamin E Site ILCY	2.13	1.86	14.43	0.038	2.10 - 2.17	0, 3.61
Vitamin E Site ILWY	1.18	0.94	24.64	0.011	1.08 - 1.26	0, 3.61
Vitamin E Site PAHM	1.32	1.23	7.90	0.010	1.21 - 1.54	0, 3.61
Seed Proximate (% dw)						
Protein Site ILCY	40.17	41.72	-3.72	0.047	39.44 - 40.96	35.15, 45.33

Table 1. Summary of Differences (p<0.05) for the Comparison of Soybean Component Levels for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean ³	Control ⁴ Mean	Mean Difference (Test minus Control)		Test Range	Commercial Tolerance Interval ⁵
			Mean Difference (% of Control)	Significance (p-Value)		
Statistical Differences Observed in More than One Individual Site						
Seed Proximate (% dw)						
Protein Site ILWY	40.88	41.99	-2.64	0.042	40.56 - 41.37	35.15, 45.33
Protein Site PAHM	40.25	43.69	-7.86	0.002	39.00 - 41.05	35.15, 45.33
Seed Amino Acid (% dw)						
Arginine Site ILWY	3.30	3.57	-7.58	0.002	3.24 - 3.33	2.50, 3.88
Arginine Site INRC	3.44	3.72	-7.37	0.011	3.39 - 3.50	2.50, 3.88
Arginine Site PAHM	3.25	3.88	-16.13	0.001	3.09 - 3.36	2.50, 3.88
Glutamic Acid Site ILCY	7.43	7.61	-2.38	0.032	7.27 - 7.54	6.20, 8.36
Glutamic Acid Site ILWY	7.29	7.51	-2.86	0.002	7.20 - 7.35	6.20, 8.36
Glutamic Acid Site PAHM	7.28	8.00	-9.08	0.003	7.06 - 7.40	6.20, 8.36

Table 1. Summary of Differences (p<0.05) for the Comparison of Soybean Component Levels for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean ³	Control ⁴ Mean	Mean Difference (Test minus Control)		Test Range	Commercial Tolerance Interval ⁵
			Mean Difference (% of Control)	Significance (p-Value)		
Statistical Differences Observed in More than One Individual Site						
Seed Amino Acid (% dw)						
Histidine Site ILCY	1.06	1.08	-1.84	0.022	1.04 - 1.07	0.92, 1.17
Histidine Site ILWY	1.05	1.07	-1.62	0.019	1.05 - 1.05	0.92, 1.17
Histidine Site PAHM	1.05	1.13	-7.52	0.002	1.02 - 1.06	0.92, 1.17
Isoleucine Site ILCY	1.89	1.97	-3.98	0.010	1.87 - 1.93	1.63, 2.08
Isoleucine Site ILWY	1.87	1.90	-1.22	0.004	1.85 - 1.89	1.63, 2.08
Isoleucine Site PAHM	1.85	2.00	-7.59	0.014	1.79 - 1.90	1.63, 2.08
Leucine Site ILCY	3.09	3.17	-2.42	0.002	3.04 - 3.14	2.69, 3.41
Leucine Site ILWY	3.02	3.10	-2.49	<0.001	3.00 - 3.04	2.69, 3.41

Table 1. Summary of Differences (p<0.05) for the Comparison of Soybean Component Levels for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean ³	Control ⁴ Mean	Mean Difference (Test minus Control)		Test Range	Commercial Tolerance Interval ⁵
			Mean Difference (% of Control)	Significance (p-Value)		
Statistical Differences Observed in More than One Individual Site						
Seed Amino Acid (% dw)						
Leucine Site PAHM	3.03	3.28	-7.42	0.002	2.96 - 3.09	2.69, 3.41
Seed Fatty Acid (% Total FA)						
22:0 Behenic Site IARL	0.26	0.28	-5.49	0.022	0.25 - 0.27	0.24, 0.40
22:0 Behenic Site ILWY	0.26	0.28	-6.67	0.008	0.26 - 0.27	0.24, 0.40
22:0 Behenic Site INRC	0.28	0.29	-4.85	0.038	0.27 - 0.29	0.24, 0.40
Seed Proximate						
Moisture (% fw) Site ILWY	6.96	6.16	12.99	0.022	6.80 - 7.17	4.10, 9.78
Moisture (% fw) Site PAHM	7.84	10.50	-25.30	<0.001	7.38 - 8.47	4.10, 9.78
Seed Amino Acid (% dw)						
Aspartic Acid Site ILWY	4.59	4.67	-1.90	0.011	4.55 - 4.61	4.00, 5.16

Table 1. Summary of Differences (p<0.05) for the Comparison of Soybean Component Levels for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean ³	Control ⁴ Mean	Mean Difference (Test minus Control)		Test Range	Commercial Tolerance Interval ⁵
			Mean Difference (% of Control)	Significance (p-Value)		
Statistical Differences Observed in More than One Individual Site						
Seed Amino Acid (% dw)						
Aspartic Acid Site PAHM	4.56	4.94	-7.65	0.002	4.45 - 4.63	4.00, 5.16
Phenylalanine Site ILWY	2.01	2.07	-2.95	0.046	1.96 - 2.06	1.78, 2.31
Phenylalanine Site PAHM	2.04	2.21	-7.96	0.010	2.00 - 2.07	1.78, 2.31
Proline Site ILWY	1.94	2.05	-5.09	0.020	1.93 - 1.96	1.62, 2.28
Proline Site PAHM	1.98	2.10	-5.98	0.016	1.94 - 2.00	1.62, 2.28
Threonine Site ILWY	1.52	1.55	-1.69	0.005	1.51 - 1.53	1.39, 1.69
Threonine Site PAHM	1.55	1.62	-4.23	0.029	1.52 - 1.57	1.39, 1.69
Tyrosine Site INRC	1.38	1.44	-4.49	0.044	1.35 - 1.43	1.23, 1.51

Table 1. Summary of Differences (p<0.05) for the Comparison of Soybean Component Levels for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean ³	Control ⁴ Mean	Mean Difference (Test minus Control)		Test Range	Commercial Tolerance Interval ⁵
			Mean Difference (% of Control)	Significance (p-Value)		
Statistical Differences Observed in More than One Individual Site						
Seed Amino Acid (% dw)						
Tyrosine Site PAHM	1.35	1.49	-9.43	0.011	1.28 - 1.43	1.23, 1.51
Valine Site ILCY	1.96	2.05	-4.37	0.013	1.94 - 2.01	1.70, 2.22
Valine Site PAHM	1.95	2.13	-8.17	0.012	1.89 - 2.00	1.70, 2.22
Seed Fatty Acid (% Total FA)						
16:0 Palmitic Site IARL	11.49	11.00	4.47	0.001	11.44 - 11.54	8.44, 12.65
16:0 Palmitic Site ILWY	11.26	11.04	2.02	0.017	11.25 - 11.27	8.44, 12.65
18:2 Linoleic Site ILCY	54.54	53.26	2.40	0.021	54.45 - 54.70	48.22, 59.63
18:2 Linoleic Site INRC	54.98	54.43	1.00	0.019	54.80 - 55.14	48.22, 59.63

Table 1. Summary of Differences (p<0.05) for the Comparison of Soybean Component Levels for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean ³	Control ⁴ Mean	Mean Difference (Test minus Control)		Test Range	Commercial Tolerance Interval ⁵
			Mean Difference (% of Control)	Significance (p-Value)		
Statistical Differences Observed in More than One Individual Site						
Seed Anti-nutrient						
Phytic Acid (% dw) Site IARL	1.36	1.53	-11.28	0.018	1.33 - 1.38	0.80, 1.93
Phytic Acid (% dw) Site ILWY	1.40	1.55	-9.34	0.030	1.33 - 1.46	0.80, 1.93
Seed Isoflavone (µg/g dw)						
Daidzein Site ILWY	1458.08	1271.60	14.67	0.004	1416.31 - 1535.98	0, 2357.53
Daidzein Site INRC	1683.50	1419.40	18.61	0.049	1593.24 - 1777.49	0, 2357.53
Glycitein Site ILWY	111.77	79.70	40.23	<0.001	109.88 - 113.86	24.51, 238.51
Glycitein Site INRC	111.51	98.42	13.31	0.016	110.91 - 112.28	24.51, 238.51
Forage Proximate (% dw)						
Protein Site IARL	25.21	23.00	9.63	0.043	24.71 - 25.52	15.28, 27.10

Table 1. Summary of Differences (p<0.05) for the Comparison of Soybean Component Levels for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean ³	Control ⁴ Mean	Mean Difference (Test minus Control)		Test Range	Commercial Tolerance Interval ⁵
			Mean Difference (% of Control)	Significance (p-Value)		
Statistical Differences Observed in More than One Individual Site						
Forage Proximate (% dw)						
Protein Site INRC	21.78	23.33	-6.63	0.019	20.99 - 22.51	15.28, 27.10
Statistical Differences Observed in One Individual Site						
Seed Proximate (% dw)						
Carbohydrates Site PAHM	38.30	35.23	8.71	0.008	37.69 - 38.65	31.73, 40.38
Seed Fiber (% dw)						
Crude Fiber Site INRC	8.06	6.89	17.03	0.009	7.76 - 8.47	5.71, 10.92
Seed Amino Acid (% dw)						
Alanine Site PAHM	1.75	1.86	-5.81	0.010	1.74 - 1.77	1.55, 1.92
Cystine Site PAHM	0.62	0.59	4.79	0.024	0.60 - 0.63	0.50, 0.67
Glycine Site PAHM	1.73	1.86	-6.78	0.004	1.69 - 1.75	1.51, 1.93

Table 1. Summary of Differences (p<0.05) for the Comparison of Soybean Component Levels for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean ³	Control ⁴ Mean	Mean Difference (Test minus Control)		Test Range	Commercial Tolerance Interval ⁵
			Mean Difference (% of Control)	Significance (p-Value)		
Statistical Differences Observed in One Individual Site						
Seed Amino Acid (% dw)						
Lysine Site PAHM	2.60	2.75	-5.39	0.009	2.53 - 2.65	2.31, 2.84
Serine Site ILWY	1.98	2.06	-3.83	0.003	1.97 - 2.00	1.76, 2.27
Tryptophan Site ILCY	0.51	0.48	6.21	0.024	0.49 - 0.53	0.37, 0.52
Seed Anti-nutrient						
Lectin (H.U./mg dw) Site ILWY	1.10	2.33	-52.88	0.045	0.59 - 1.51	0, 8.11
Stachyose (% dw) Site INRC	3.14	3.46	-9.18	0.043	3.12 - 3.17	2.23, 4.11
Forage Proximate (% dw)						
Carbohydrates Site PAHM	70.95	65.81	7.81	0.015	69.23 - 73.31	60.23, 74.00
Moisture (% fw) Site PAHM	74.27	74.91	-0.86	0.021	73.40 - 75.40	62.12, 90.55

¹dw = dry weight; fw = fresh weight; FA = fatty acid; H.U. = Hemagglutinating Units.

²Test refers to MON 87708 (Dicamba-Treated).

³Mean = least-square mean.

⁴Control refers to the non-biotechnology derived, conventional control (A3525).

⁵With 95% confidence, interval contains 99% of the values expressed in the population of commercial substances. Negative limits set to zero.

Table 2. Statistical Summary of Combined-Site Soybean Seed Nutrients for MON 87708 (Dicamba-Treated) vs. A3525

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Proximate (% dw)						
Ash	5.24 (0.067) (4.94 - 5.69)	5.12 (0.067) (4.73 - 5.47)	0.12 (0.055) (-0.28 - 0.45)	0.011, 0.24	0.031	4.75, 6.04 (5.00 - 5.88)
Carbohydrates	37.93 (0.50) (35.65 - 39.21)	36.64 (0.50) (34.11 - 38.45)	1.28 (0.40) (-0.38 - 4.07)	0.36, 2.20	0.012	31.73, 40.38 (33.82 - 39.26)
Moisture (% fw)	6.88 (0.65) (5.17 - 8.47)	7.14 (0.65) (5.79 - 10.60)	-0.26 (0.52) (-3.12 - 1.43)	-1.46, 0.94	0.629	4.10, 9.78 (5.50 - 9.23)
Protein	40.86 (0.39) (39.00 - 42.53)	42.41 (0.39) (40.69 - 43.85)	-1.55 (0.51) (-4.84 - 0.088)	-2.73, -0.37	0.016	35.15, 45.33 (37.06 - 43.42)
Total Fat	15.97 (0.59) (14.00 - 18.56)	15.84 (0.59) (14.40 - 18.39)	0.13 (0.31) (-1.90 - 2.37)	-0.58, 0.84	0.691	12.09, 24.56 (15.47 - 21.34)
Fiber (% dw)						
Acid Detergent Fiber	13.55 (0.40) (12.45 - 15.57)	12.86 (0.40) (11.62 - 14.57)	0.68 (0.25) (-0.71 - 2.13)	0.18, 1.19	0.009	9.73, 18.36 (12.07 - 17.46)

Table 2. Statistical Summary of Combined-Site Soybean Seed Nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Fiber (% dw)						
Crude Fiber	8.29 (0.26) (6.23 - 9.65)	7.37 (0.26) (6.05 - 8.64)	0.91 (0.26) (-0.34 - 2.67)	0.40, 1.43	<0.001	5.71, 10.92 (6.35 - 11.31)
Neutral Detergent Fiber	15.29 (0.59) (13.11 - 17.83)	14.34 (0.59) (11.81 - 17.99)	0.95 (0.41) (-1.31 - 4.57)	0.11, 1.79	0.028	11.03, 19.66 (11.66 - 19.45)
Amino Acid (% dw)						
Alanine	1.76 (0.018) (1.66 - 1.83)	1.80 (0.018) (1.69 - 1.90)	-0.037 (0.017) (-0.16 - 0.042)	-0.075, 0.0018	0.059	1.55, 1.92 (1.59 - 1.86)
Arginine	3.30 (0.069) (3.09 - 3.50)	3.58 (0.069) (3.19 - 3.93)	-0.28 (0.078) (-0.83 - 0.0059)	-0.46, -0.10	0.006	2.50, 3.88 (2.88 - 3.74)
Aspartic Acid	4.63 (0.044) (4.44 - 4.80)	4.78 (0.044) (4.46 - 5.01)	-0.15 (0.050) (-0.56 - 0.12)	-0.27, -0.037	0.016	4.00, 5.16 (4.22 - 4.94)
Cystine	0.61 (0.0049) (0.58 - 0.63)	0.59 (0.0049) (0.56 - 0.62)	0.018 (0.0046) (-0.0071 - 0.053)	0.0085, 0.027	<0.001	0.50, 0.67 (0.53 - 0.64)

Table 2. Statistical Summary of Combined-Site Soybean Seed Nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Amino Acid (% dw)						
Glutamic Acid	7.38 (0.085) (7.05 - 7.73)	7.69 (0.085) (7.12 - 8.14)	-0.31 (0.093) (-1.09 - 0.17)	-0.53, -0.095	0.010	6.20, 8.36 (6.69 - 7.92)
Glycine	1.76 (0.016) (1.67 - 1.83)	1.81 (0.016) (1.70 - 1.89)	-0.048 (0.017) (-0.20 - 0.042)	-0.086, -0.0096	0.020	1.51, 1.93 (1.58 - 1.84)
Histidine	1.06 (0.0095) (1.02 - 1.10)	1.09 (0.0095) (1.02 - 1.14)	-0.033 (0.011) (-0.12 - 0.031)	-0.059, -0.0076	0.017	0.92, 1.17 (0.95 - 1.13)
Isoleucine	1.88 (0.019) (1.75 - 1.97)	1.95 (0.019) (1.79 - 2.04)	-0.070 (0.019) (-0.24 - 0.11)	-0.11, -0.026	0.006	1.63, 2.08 (1.68 - 2.02)
Leucine	3.06 (0.029) (2.93 - 3.19)	3.17 (0.029) (2.96 - 3.32)	-0.11 (0.031) (-0.36 - 0.072)	-0.18, -0.035	0.008	2.69, 3.41 (2.80 - 3.27)
Lysine	2.64 (0.019) (2.53 - 2.71)	2.68 (0.019) (2.54 - 2.77)	-0.041 (0.023) (-0.23 - 0.090)	-0.094, 0.012	0.110	2.31, 2.84 (2.38 - 2.74)

Table 2. Statistical Summary of Combined-Site Soybean Seed Nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Amino Acid (% dw)						
Methionine	0.58 (0.0053) (0.53 - 0.60)	0.58 (0.0053) (0.53 - 0.60)	0.00012 (0.0062) (-0.039 - 0.071)	-0.013, 0.013	0.985	0.50, 0.63 (0.52 - 0.63)
Phenylalanine	2.06 (0.028) (1.92 - 2.18)	2.13 (0.028) (1.95 - 2.27)	-0.071 (0.028) (-0.27 - 0.048)	-0.13, -0.0067	0.034	1.78, 2.31 (1.85 - 2.21)
Proline	1.99 (0.021) (1.90 - 2.09)	2.05 (0.021) (1.89 - 2.13)	-0.067 (0.022) (-0.17 - 0.065)	-0.12, -0.015	0.017	1.62, 2.28 (1.74 - 2.16)
Serine	2.04 (0.023) (1.92 - 2.12)	2.09 (0.023) (1.95 - 2.21)	-0.048 (0.026) (-0.19 - 0.054)	-0.11, 0.013	0.105	1.76, 2.27 (1.90 - 2.18)
Threonine	1.56 (0.015) (1.48 - 1.62)	1.58 (0.015) (1.51 - 1.64)	-0.023 (0.015) (-0.10 - 0.052)	-0.058, 0.012	0.169	1.39, 1.69 (1.47 - 1.64)
Tryptophan	0.47 (0.0085) (0.44 - 0.53)	0.46 (0.0085) (0.43 - 0.50)	0.0070 (0.0097) (-0.035 - 0.064)	-0.015, 0.029	0.494	0.37, 0.52 (0.39 - 0.50)

Table 2. Statistical Summary of Combined-Site Soybean Seed Nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Amino Acid (% dw)						
Tyrosine	1.37 (0.018) (1.28 - 1.46)	1.42 (0.018) (1.34 - 1.52)	-0.049 (0.021) (-0.20 - 0.078)	-0.098, -0.00046	0.048	1.23, 1.51 (1.26 - 1.49)
Valine	1.98 (0.020) (1.82 - 2.09)	2.06 (0.020) (1.90 - 2.17)	-0.080 (0.022) (-0.27 - 0.13)	-0.13, -0.030	0.006	1.70, 2.22 (1.73 - 2.13)
Fatty Acid (% Total FA)						
16:0 Palmitic	11.59 (0.16) (11.25 - 12.16)	11.33 (0.16) (10.92 - 12.08)	0.26 (0.060) (-0.15 - 0.62)	0.12, 0.40	0.002	8.44, 12.65 (9.42 - 11.54)
18:0 Stearic	4.06 (0.10) (3.60 - 4.40)	4.04 (0.10) (3.67 - 4.31)	0.028 (0.049) (-0.19 - 0.42)	-0.085, 0.14	0.584	2.81, 5.23 (3.24 - 4.67)
18:1 Oleic	19.20 (0.30) (17.85 - 19.94)	20.91 (0.30) (19.60 - 22.44)	-1.71 (0.19) (-2.71 - -0.90)	-2.15, -1.27	<0.001	15.67, 27.49 (17.88 - 25.31)
18:2 Linoleic	54.40 (0.37) (53.42 - 55.67)	53.59 (0.37) (52.33 - 54.99)	0.81 (0.24) (-0.59 - 1.68)	0.25, 1.37	0.010	48.22, 59.63 (50.95 - 56.68)

Table 2. Statistical Summary of Combined-Site Soybean Seed Nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Fatty Acid (% Total FA)						
18:3 Linolenic	10.12 (0.27) (8.99 - 10.88)	9.49 (0.27) (8.42 - 10.14)	0.63 (0.072) (0.36 - 1.20)	0.46, 0.80	<0.001	5.92, 12.52 (7.43 - 10.65)
20:0 Arachidic	0.26 (0.0052) (0.23 - 0.27)	0.26 (0.0052) (0.24 - 0.27)	-0.0012 (0.0031) (-0.013 - 0.020)	-0.0082, 0.0059	0.707	0.19, 0.34 (0.20 - 0.30)
20:1 Eicosenoic	0.093 (0.017) (0.069 - 0.16)	0.090 (0.017) (0.068 - 0.17)	0.0029 (0.0042) (-0.010 - 0.050)	-0.0056, 0.011	0.495	0.015, 0.24 (0.065 - 0.17)
22:0 Behenic	0.27 (0.0038) (0.25 - 0.29)	0.28 (0.0038) (0.27 - 0.30)	-0.013 (0.0029) (-0.023 - 0.0024)	-0.020, -0.0066	0.001	0.24, 0.40 (0.28 - 0.35)
Vitamin (mg/100g dw)						
Vitamin E	1.41 (0.18) (1.08 - 2.17)	1.23 (0.18) (0.89 - 2.11)	0.19 (0.038) (0.018 - 0.42)	0.098, 0.27	0.001	0, 3.61 (0.69 - 2.91)

¹dw = dry weight; fw = fresh weight; FA = fatty acid.

²Test refers to MON 87708 (Dicamba-Treated).

³Mean (S.E.) = least-square mean (standard error).

⁴Control refers to the non-biotechnology derived, conventional control (A3525).

⁵With 95% confidence, interval contains 99% of the values expressed in the population of commercial substances. Negative limits set to zero.

Table 3. Statistical Summary of Combined-Site Soybean Seed Anti-nutrients for MON 87708 (Dicamba-Treated) vs. A3525

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Anti-nutrient						
Lectin (H.U./mg dw)	3.17 (0.76) (0.59 - 10.27)	3.16 (0.76) (0.46 - 10.38)	0.013 (0.67) (-4.27 - 8.13)	-1.54, 1.57	0.984	0, 8.11 (0.68 - 8.34)
Phytic Acid (% dw)	1.30 (0.071) (1.08 - 1.51)	1.39 (0.071) (1.09 - 1.62)	-0.085 (0.035) (-0.29 - 0.15)	-0.17, -0.0034	0.043	0.80, 1.93 (1.00 - 1.64)
Raffinose (% dw)	0.43 (0.038) (0.32 - 0.59)	0.47 (0.038) (0.36 - 0.60)	-0.036 (0.018) (-0.24 - 0.069)	-0.072, -0.00077	0.045	0.11, 0.73 (0.26 - 0.59)
Stachyose (% dw)	3.36 (0.078) (3.07 - 4.02)	3.62 (0.078) (3.07 - 4.15)	-0.26 (0.099) (-1.00 - 0.40)	-0.46, -0.062	0.011	2.23, 4.11 (2.50 - 3.94)
Trypsin Inhibitor (TIU/mg dw)	32.27 (1.40) (26.09 - 39.27)	30.37 (1.40) (25.22 - 34.22)	1.90 (1.79) (-4.76 - 8.72)	-2.23, 6.04	0.319	22.50, 41.37 (23.37 - 44.56)
Isoflavone (µg/g dw)						
Daidzein	1494.97 (155.94) (899.83 - 2305.26)	1340.71 (155.94) (762.49 - 1729.91)	154.26 (65.62) (-258.27 - 795.19)	2.95, 305.57	0.046	0, 2357.53 (451.33 - 2033.05)

Table 3. Statistical Summary of Combined-Site Soybean Seed Anti-nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Isoflavone (µg/g dw)						
Genistein	967.01 (90.36) (594.13 - 1496.78)	886.57 (90.36) (588.17 - 1162.01)	80.44 (41.86) (-185.98 - 513.56)	-4.30, 165.19	0.062	25.23, 1945.44 (533.88 - 1726.03)
Glycitein	108.01 (5.24) (77.67 - 119.09)	95.85 (5.24) (68.68 - 122.09)	12.16 (6.91) (-43.86 - 50.41)	-3.77, 28.09	0.116	24.51, 238.51 (73.61 - 231.75)

¹dw = dry weight; H.U. = Hemagglutinating Units; TIU = Trypsin Inhibitor Units.

²Test refers to MON 87708 (Dicamba-Treated).

³Mean (S.E.) = least-square mean (standard error).

⁴Control refers to the non-biotechnology derived, conventional control (A3525).

⁵With 95% confidence, interval contains 99% of the values expressed in the population of commercial substances. Negative limits set to zero.

Table 4. Statistical Summary of Combined-Site Soybean Forage Nutrients for MON 87708 (Dicamba-Treated) vs. A3525

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Proximate (% dw)						
Ash	7.29 (0.54) (5.94 - 9.65)	7.39 (0.54) (6.10 - 10.46)	-0.10 (0.27) (-0.89 - 1.56)	-0.71, 0.51	0.712	3.24, 11.08 (5.20 - 9.81)
Carbohydrates	66.48 (1.03) (62.21 - 73.31)	65.66 (1.04) (62.91 - 67.94)	0.83 (0.96) (-3.95 - 6.90)	-1.40, 3.05	0.414	60.23, 74.00 (62.73 - 71.72)
Moisture (% fw)	75.63 (1.82) (72.40 - 82.80)	75.55 (1.82) (71.60 - 82.70)	0.081 (0.27) (-1.40 - 1.30)	-0.55, 0.71	0.775	62.12, 90.55 (71.00 - 84.10)
Protein	21.52 (0.95) (15.23 - 25.52)	22.32 (0.95) (20.88 - 24.11)	-0.80 (0.80) (-6.26 - 2.75)	-2.67, 1.07	0.350	15.28, 27.10 (18.50 - 25.86)
Total Fat	4.67 (0.66) (2.00 - 7.34)	4.64 (0.66) (2.01 - 6.72)	0.032 (0.26) (-0.68 - 1.96)	-0.57, 0.63	0.904	0, 10.16 (1.57 - 7.99)
Fiber (% dw)						
Acid Detergent Fiber	30.58 (1.79) (23.30 - 45.11)	27.69 (1.80) (21.79 - 38.15)	2.89 (1.19) (-4.78 - 16.24)	0.45, 5.34	0.021	15.60, 42.84 (20.98 - 39.23)

Table 4. Statistical Summary of Combined-Site Soybean Forage Nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Fiber (% dw)						
Neutral Detergent Fiber	29.63 (1.68) (24.21 - 38.51)	30.49 (1.70) (23.66 - 39.42)	-0.86 (1.22) (-8.13 - 11.03)	-3.65, 1.94	0.503	20.40, 44.62 (24.81 - 42.80)

¹dw = dry weight; fw = fresh weight.

²Test refers to MON 87708 (Dicamba-Treated).

³Mean (S.E.) = least-square mean (standard error).

⁴Control refers to the non-biotechnology derived, conventional control (A3525).

⁵With 95% confidence, interval contains 99% of the values expressed in the population of commercial substances. Negative limits set to zero.

Table 5. Statistical Summary of Site IARL Soybean Seed Nutrients for MON 87708 (Dicamba-Treated) vs. A3525

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Proximate (% dw)						
Ash	5.30 (0.070) (5.20 - 5.37)	5.29 (0.070) (5.19 - 5.47)	0.0063 (0.098) (-0.27 - 0.17)	-0.27, 0.28	0.952	4.75, 6.04 (5.00 - 5.88)
Carbohydrates	38.55 (0.56) (38.03 - 39.11)	37.97 (0.56) (37.17 - 38.45)	0.57 (0.55) (-0.27 - 1.33)	-0.96, 2.11	0.358	31.73, 40.38 (33.82 - 39.26)
Moisture (% fw)	7.13 (0.28) (6.92 - 7.27)	6.07 (0.28) (5.84 - 6.36)	1.06 (0.39) (0.56 - 1.43)	-0.033, 2.15	0.054	4.10, 9.78 (5.50 - 9.23)
Protein	40.92 (0.27) (40.40 - 41.41)	41.09 (0.27) (40.69 - 41.74)	-0.18 (0.16) (-0.33 - 0.088)	-0.63, 0.28	0.342	35.15, 45.33 (37.06 - 43.42)
Total Fat	15.22 (0.47) (14.77 - 15.62)	15.61 (0.47) (15.38 - 15.82)	-0.40 (0.66) (-1.05 - -0.017)	-2.23, 1.43	0.579	12.09, 24.56 (15.47 - 21.34)
Fiber (% dw)						
Acid Detergent Fiber	13.03 (0.38) (12.68 - 13.58)	12.60 (0.38) (11.92 - 13.17)	0.43 (0.54) (-0.34 - 1.66)	-1.08, 1.94	0.472	9.73, 18.36 (12.07 - 17.46)

Table 5. Statistical Summary of Site IARL Soybean Seed Nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Fiber (% dw)						
Crude Fiber	7.71 (0.33) (7.26 - 8.48)	7.41 (0.33) (7.17 - 7.60)	0.30 (0.46) (-0.34 - 1.03)	-0.98, 1.58	0.545	5.71, 10.92 (6.35 - 11.31)
Neutral Detergent Fiber	14.25 (0.89) (13.11 - 16.38)	13.27 (0.89) (11.81 - 14.42)	0.98 (1.25) (-1.31 - 4.57)	-2.51, 4.46	0.479	11.03, 19.66 (11.66 - 19.45)
Amino Acid (% dw)						
Alanine	1.72 (0.026) (1.66 - 1.76)	1.74 (0.026) (1.69 - 1.77)	-0.027 (0.036) (-0.11 - 0.042)	-0.13, 0.074	0.502	1.55, 1.92 (1.59 - 1.86)
Arginine	3.28 (0.055) (3.26 - 3.30)	3.45 (0.055) (3.27 - 3.56)	-0.17 (0.061) (-0.26 - -0.013)	-0.33, 0.0040	0.053	2.50, 3.88 (2.88 - 3.74)
Aspartic Acid	4.55 (0.060) (4.44 - 4.63)	4.63 (0.060) (4.46 - 4.74)	-0.076 (0.084) (-0.29 - 0.12)	-0.31, 0.16	0.416	4.00, 5.16 (4.22 - 4.94)
Cystine	0.61 (0.0094) (0.60 - 0.62)	0.59 (0.0094) (0.56 - 0.62)	0.018 (0.013) (-0.0056 - 0.053)	-0.019, 0.054	0.257	0.50, 0.67 (0.53 - 0.64)

Table 5. Statistical Summary of Site IARL Soybean Seed Nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Amino Acid (% dw)						
Glutamic Acid	7.24 (0.10) (7.05 - 7.38)	7.41 (0.10) (7.12 - 7.58)	-0.16 (0.15) (-0.53 - 0.17)	-0.57, 0.25	0.332	6.20, 8.36 (6.69 - 7.92)
Glycine	1.72 (0.024) (1.67 - 1.76)	1.76 (0.024) (1.70 - 1.79)	-0.037 (0.034) (-0.12 - 0.042)	-0.13, 0.057	0.331	1.51, 1.93 (1.58 - 1.84)
Histidine	1.04 (0.014) (1.02 - 1.06)	1.06 (0.014) (1.02 - 1.08)	-0.018 (0.019) (-0.066 - 0.031)	-0.071, 0.036	0.408	0.92, 1.17 (0.95 - 1.13)
Isoleucine	1.84 (0.038) (1.75 - 1.90)	1.88 (0.038) (1.79 - 1.94)	-0.036 (0.054) (-0.16 - 0.11)	-0.19, 0.11	0.540	1.63, 2.08 (1.68 - 2.02)
Leucine	3.01 (0.041) (2.93 - 3.07)	3.07 (0.041) (2.96 - 3.14)	-0.055 (0.058) (-0.21 - 0.072)	-0.22, 0.11	0.401	2.69, 3.41 (2.80 - 3.27)
Lysine	2.60 (0.030) (2.53 - 2.64)	2.62 (0.030) (2.54 - 2.66)	-0.017 (0.042) (-0.12 - 0.090)	-0.13, 0.10	0.710	2.31, 2.84 (2.38 - 2.74)

Table 5. Statistical Summary of Site IARL Soybean Seed Nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Amino Acid (% dw)						
Methionine	0.58 (0.013) (0.56 - 0.60)	0.56 (0.013) (0.53 - 0.60)	0.016 (0.019) (-0.022 - 0.071)	-0.037, 0.068	0.452	0.50, 0.63 (0.52 - 0.63)
Phenylalanine	1.98 (0.036) (1.92 - 2.04)	2.03 (0.036) (1.95 - 2.09)	-0.052 (0.050) (-0.17 - 0.023)	-0.19, 0.087	0.357	1.78, 2.31 (1.85 - 2.21)
Proline	1.92 (0.035) (1.90 - 1.96)	1.98 (0.035) (1.89 - 2.07)	-0.063 (0.050) (-0.17 - 0.065)	-0.20, 0.076	0.274	1.62, 2.28 (1.74 - 2.16)
Serine	1.98 (0.044) (1.92 - 2.03)	2.00 (0.044) (1.95 - 2.08)	-0.024 (0.036) (-0.087 - 0.047)	-0.12, 0.076	0.545	1.76, 2.27 (1.90 - 2.18)
Threonine	1.53 (0.023) (1.48 - 1.56)	1.54 (0.023) (1.51 - 1.58)	-0.011 (0.023) (-0.051 - 0.052)	-0.075, 0.053	0.653	1.39, 1.69 (1.47 - 1.64)
Tryptophan	0.45 (0.0092) (0.45 - 0.46)	0.45 (0.0092) (0.44 - 0.47)	0.00085 (0.013) (-0.0079 - 0.0069)	-0.035, 0.037	0.950	0.37, 0.52 (0.39 - 0.50)

Table 5. Statistical Summary of Site IARL Soybean Seed Nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Amino Acid (% dw)						
Tyrosine	1.34 (0.013) (1.32 - 1.37)	1.38 (0.013) (1.37 - 1.42)	-0.042 (0.016) (-0.079 - -0.00044)	-0.087, 0.0035	0.062	1.23, 1.51 (1.26 - 1.49)
Valine	1.95 (0.046) (1.82 - 2.03)	1.99 (0.046) (1.90 - 2.05)	-0.042 (0.065) (-0.20 - 0.13)	-0.22, 0.14	0.552	1.70, 2.22 (1.73 - 2.13)
Fatty Acid (% Total FA)						
16:0 Palmitic	11.49 (0.051) (11.44 - 11.54)	11.00 (0.051) (10.92 - 11.08)	0.49 (0.062) (0.39 - 0.62)	0.32, 0.66	0.001	8.44, 12.65 (9.42 - 11.54)
18:0 Stearic	4.06 (0.067) (3.99 - 4.19)	4.00 (0.067) (3.99 - 4.01)	0.059 (0.095) (-0.016 - 0.20)	-0.21, 0.32	0.568	2.81, 5.23 (3.24 - 4.67)
18:1 Oleic	19.38 (0.20) (19.07 - 19.73)	21.67 (0.20) (21.48 - 21.78)	-2.29 (0.28) (-2.71 - -1.75)	-3.07, -1.52	0.001	15.67, 27.49 (17.88 - 25.31)
18:2 Linoleic	53.85 (0.33) (53.42 - 54.07)	52.70 (0.33) (52.66 - 52.73)	1.16 (0.46) (0.68 - 1.41)	-0.13, 2.44	0.066	48.22, 59.63 (50.95 - 56.68)

Table 5. Statistical Summary of Site IARL Soybean Seed Nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Fatty Acid (% Total FA)						
18:3 Linolenic	10.64 (0.13) (10.58 - 10.74)	10.04 (0.13) (10.00 - 10.12)	0.60 (0.19) (0.46 - 0.74)	0.074, 1.12	0.033	5.92, 12.52 (7.43 - 10.65)
20:0 Arachidic	0.25 (0.0038) (0.25 - 0.26)	0.25 (0.0038) (0.25 - 0.26)	0.0016 (0.0054) (-0.0021 - 0.0080)	-0.013, 0.017	0.777	0.19, 0.34 (0.20 - 0.30)
20:1 Eicosenoic	0.073 (0.0020) (0.071 - 0.075)	0.070 (0.0020) (0.069 - 0.071)	0.0030 (0.0028) (0.0011 - 0.0062)	-0.0048, 0.011	0.348	0.015, 0.24 (0.065 - 0.17)
22:0 Behenic	0.26 (0.0035) (0.25 - 0.27)	0.28 (0.0035) (0.27 - 0.28)	-0.015 (0.0042) (-0.023 - -0.0038)	-0.027, -0.0036	0.022	0.24, 0.40 (0.28 - 0.35)
Vitamin (mg/100g dw)						
Vitamin E	1.15 (0.058) (1.10 - 1.22)	0.94 (0.058) (0.89 - 0.97)	0.21 (0.066) (0.18 - 0.24)	0.027, 0.39	0.033	0, 3.61 (0.69 - 2.91)

¹dw = dry weight; fw = fresh weight; FA = fatty acid.

²Test refers to MON 87708 (Dicamba-Treated).

³Mean (S.E.) = least-square mean (standard error).

⁴Control refers to the non-biotechnology derived, conventional control (A3525).

⁵With 95% confidence, interval contains 99% of the values expressed in the population of commercial substances. Negative limits set to zero.

Table 6. Statistical Summary of Site IARL Soybean Seed Anti-nutrients for MON 87708 (Dicamba-Treated) vs. A3525

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Anti-nutrient						
Lectin (H.U./mg dw)	2.04 (0.64) (0.80 - 3.44)	1.53 (0.64) (0.46 - 2.70)	0.52 (0.90) (-0.81 - 2.98)	-1.98, 3.02	0.595	0, 8.11 (0.68 - 8.34)
Phytic Acid (% dw)	1.36 (0.032) (1.33 - 1.38)	1.53 (0.032) (1.47 - 1.62)	-0.17 (0.045) (-0.29 - -0.10)	-0.30, -0.048	0.018	0.80, 1.93 (1.00 - 1.64)
Raffinose (% dw)	0.38 (0.022) (0.34 - 0.42)	0.43 (0.022) (0.40 - 0.45)	-0.051 (0.020) (-0.10 - -0.018)	-0.11, 0.0034	0.059	0.11, 0.73 (0.26 - 0.59)
Stachyose (% dw)	3.61 (0.20) (3.15 - 4.02)	3.89 (0.20) (3.76 - 4.15)	-0.29 (0.28) (-1.00 - 0.26)	-1.06, 0.49	0.365	2.23, 4.11 (2.50 - 3.94)
Trypsin Inhibitor (TIU/mg dw)	33.59 (2.63) (29.66 - 37.60)	29.67 (2.63) (25.64 - 32.71)	3.92 (3.19) (-3.05 - 7.87)	-4.94, 12.79	0.286	22.50, 41.37 (23.37 - 44.56)
Isoflavone (µg/g dw)						
Daidzein	1489.23 (145.92) (1175.46 - 1654.49)	1447.97 (145.92) (1404.40 - 1505.77)	41.27 (206.36) (-258.27 - 233.35)	-531.67, 614.20	0.851	0, 2357.53 (451.33 - 2033.05)

Table 6. Statistical Summary of Site IARL Soybean Seed Anti-nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Isoflavone (µg/g dw)						
Genistein	1050.87 (83.29) (1019.09 - 1070.05)	954.99 (83.29) (900.10 - 984.62)	95.88 (117.79) (38.84 - 163.37)	-231.16, 422.92	0.461	25.23, 1945.44 (533.88 - 1726.03)
Glycitein	108.39 (5.35) (97.06 - 117.44)	106.40 (5.35) (97.49 - 111.71)	1.98 (2.24) (-0.44 - 5.73)	-4.23, 8.20	0.425	24.51, 238.51 (73.61 - 231.75)

¹dw = dry weight; H.U. = Hemagglutinating Units; TIU = Trypsin Inhibitor Units.

²Test refers to MON 87708 (Dicamba-Treated).

³Mean (S.E.) = least-square mean (standard error).

⁴Control refers to the non-biotechnology derived, conventional control (A3525).

⁵With 95% confidence, interval contains 99% of the values expressed in the population of commercial substances. Negative limits set to zero.

Table 7. Statistical Summary of Site IARL Soybean Forage Nutrients for MON 87708 (Dicamba-Treated) vs. A3525

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Proximate (% dw)						
Ash	9.44 (0.62) (9.14 - 9.65)	8.87 (0.62) (7.58 - 10.46)	0.57 (0.52) (-0.81 - 1.56)	-0.88, 2.03	0.334	3.24, 11.08 (5.20 - 9.81)
Carbohydrates	63.02 (0.80) (62.21 - 63.79)	65.57 (0.80) (63.58 - 67.74)	-2.55 (1.13) (-3.95 - -1.37)	-5.69, 0.60	0.087	60.23, 74.00 (62.73 - 71.72)
Moisture (% fw)	82.60 (0.33) (82.40 - 82.80)	81.97 (0.33) (81.40 - 82.70)	0.63 (0.44) (0.10 - 1.20)	-0.59, 1.86	0.223	62.12, 90.55 (71.00 - 84.10)
Protein	25.21 (0.54) (24.71 - 25.52)	23.00 (0.54) (22.15 - 24.07)	2.21 (0.76) (1.33 - 2.75)	0.098, 4.33	0.043	15.28, 27.10 (18.50 - 25.86)
Total Fat	2.30 (0.32) (2.00 - 2.59)	2.52 (0.32) (2.01 - 3.27)	-0.22 (0.46) (-0.68 - 0.042)	-1.49, 1.06	0.662	0, 10.16 (1.57 - 7.99)
Fiber (% dw)						
Acid Detergent Fiber	40.04 (2.83) (32.90 - 45.11)	32.62 (2.83) (28.87 - 38.15)	7.42 (3.30) (2.07 - 16.24)	-1.75, 16.59	0.088	15.60, 42.84 (20.98 - 39.23)

Table 7. Statistical Summary of Site IARL Soybean Forage Nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Fiber (% dw)						
Neutral Detergent Fiber	35.16 (2.66) (30.00 - 38.51)	35.01 (2.66) (27.47 - 39.42)	0.15 (3.76) (-8.13 - 11.03)	-10.30, 10.60	0.969	20.40, 44.62 (24.81 - 42.80)

¹dw = dry weight; fw = fresh weight.

²Test refers to MON 87708 (Dicamba-Treated).

³Mean (S.E.) = least-square mean (standard error).

⁴Control refers to the non-biotechnology derived, conventional control (A3525).

⁵With 95% confidence, interval contains 99% of the values expressed in the population of commercial substances. Negative limits set to zero.

Table 8. Statistical Summary of Site ILCY Soybean Seed Nutrients for MON 87708 (Dicamba-Treated) vs. A3525

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Proximate (% dw)						
Ash	5.10 (0.080) (5.07 - 5.13)	5.05 (0.080) (4.88 - 5.22)	0.050 (0.089) (-0.14 - 0.23)	-0.20, 0.30	0.602	4.75, 6.04 (5.00 - 5.88)
Carbohydrates	36.35 (0.68) (35.65 - 36.91)	35.77 (0.68) (34.11 - 37.16)	0.58 (0.97) (-0.38 - 2.37)	-2.11, 3.26	0.583	31.73, 40.38 (33.82 - 39.26)
Moisture (% fw)	5.73 (0.20) (5.17 - 6.25)	6.44 (0.20) (6.20 - 6.63)	-0.71 (0.28) (-1.46 - -0.24)	-1.49, 0.062	0.062	4.10, 9.78 (5.50 - 9.23)
Protein	40.17 (0.40) (39.44 - 40.96)	41.72 (0.40) (40.81 - 42.67)	-1.55 (0.55) (-2.56 - -0.73)	-3.08, -0.024	0.047	35.15, 45.33 (37.06 - 43.42)
Total Fat	18.39 (0.45) (18.25 - 18.56)	17.49 (0.45) (16.81 - 18.39)	0.89 (0.63) (-0.047 - 1.74)	-0.87, 2.65	0.231	12.09, 24.56 (15.47 - 21.34)
Fiber (% dw)						
Acid Detergent Fiber	15.13 (0.45) (14.86 - 15.57)	14.04 (0.45) (13.47 - 14.57)	1.10 (0.61) (0.41 - 2.10)	-0.59, 2.78	0.144	9.73, 18.36 (12.07 - 17.46)

Table 8. Statistical Summary of Site ILCY Soybean Seed Nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Fiber (% dw)						
Crude Fiber	9.13 (0.29) (8.84 - 9.39)	8.38 (0.29) (8.20 - 8.64)	0.76 (0.41) (0.55 - 0.97)	-0.38, 1.90	0.139	5.71, 10.92 (6.35 - 11.31)
Neutral Detergent Fiber	16.62 (0.63) (16.34 - 16.77)	16.85 (0.63) (15.19 - 17.99)	-0.23 (0.73) (-1.23 - 1.56)	-2.27, 1.81	0.766	11.03, 19.66 (11.66 - 19.45)
Amino Acid (% dw)						
Alanine	1.80 (0.014) (1.77 - 1.82)	1.81 (0.014) (1.78 - 1.84)	-0.0030 (0.020) (-0.028 - 0.034)	-0.060, 0.054	0.891	1.55, 1.92 (1.59 - 1.86)
Arginine	3.22 (0.053) (3.14 - 3.28)	3.30 (0.053) (3.19 - 3.43)	-0.081 (0.049) (-0.20 - 0.0059)	-0.22, 0.056	0.174	2.50, 3.88 (2.88 - 3.74)
Aspartic Acid	4.67 (0.037) (4.59 - 4.75)	4.76 (0.037) (4.73 - 4.82)	-0.089 (0.034) (-0.15 - -0.043)	-0.18, 0.0051	0.058	4.00, 5.16 (4.22 - 4.94)
Cystine	0.60 (0.0078) (0.58 - 0.62)	0.59 (0.0078) (0.58 - 0.60)	0.010 (0.011) (-0.0071 - 0.034)	-0.021, 0.041	0.416	0.50, 0.67 (0.53 - 0.64)

Table 8. Statistical Summary of Site ILCY Soybean Seed Nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Amino Acid (% dw)						
Glutamic Acid	7.43 (0.073) (7.27 - 7.54)	7.61 (0.073) (7.52 - 7.76)	-0.18 (0.056) (-0.25 - -0.067)	-0.34, -0.024	0.032	6.20, 8.36 (6.69 - 7.92)
Glycine	1.79 (0.013) (1.75 - 1.81)	1.81 (0.013) (1.79 - 1.83)	-0.021 (0.014) (-0.049 - 0.0022)	-0.059, 0.018	0.213	1.51, 1.93 (1.58 - 1.84)
Histidine	1.06 (0.0071) (1.04 - 1.07)	1.08 (0.0071) (1.07 - 1.09)	-0.020 (0.0055) (-0.030 - -0.0050)	-0.035, -0.0046	0.022	0.92, 1.17 (0.95 - 1.13)
Isoleucine	1.89 (0.013) (1.87 - 1.93)	1.97 (0.013) (1.97 - 1.97)	-0.078 (0.017) (-0.10 - -0.037)	-0.13, -0.031	0.010	1.63, 2.08 (1.68 - 2.02)
Leucine	3.09 (0.022) (3.04 - 3.14)	3.17 (0.022) (3.14 - 3.19)	-0.077 (0.012) (-0.10 - -0.051)	-0.11, -0.044	0.002	2.69, 3.41 (2.80 - 3.27)
Lysine	2.66 (0.017) (2.62 - 2.69)	2.67 (0.017) (2.65 - 2.69)	-0.013 (0.013) (-0.041 - 0.0088)	-0.048, 0.022	0.366	2.31, 2.84 (2.38 - 2.74)

Table 8. Statistical Summary of Site ILCY Soybean Seed Nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Amino Acid (% dw)						
Methionine	0.55 (0.012) (0.53 - 0.59)	0.57 (0.012) (0.56 - 0.58)	-0.017 (0.017) (-0.039 - 0.024)	-0.064, 0.030	0.370	0.50, 0.63 (0.52 - 0.63)
Phenylalanine	2.11 (0.022) (2.08 - 2.14)	2.13 (0.022) (2.09 - 2.19)	-0.016 (0.018) (-0.048 - 0.011)	-0.067, 0.035	0.429	1.78, 2.31 (1.85 - 2.21)
Proline	2.02 (0.019) (1.98 - 2.04)	2.06 (0.019) (2.04 - 2.09)	-0.044 (0.019) (-0.063 - -0.016)	-0.096, 0.0082	0.079	1.62, 2.28 (1.74 - 2.16)
Serine	2.10 (0.027) (2.06 - 2.12)	2.08 (0.027) (2.01 - 2.15)	0.023 (0.025) (-0.027 - 0.054)	-0.046, 0.093	0.404	1.76, 2.27 (1.90 - 2.18)
Threonine	1.59 (0.015) (1.55 - 1.62)	1.59 (0.015) (1.58 - 1.59)	0.0058 (0.019) (-0.035 - 0.046)	-0.046, 0.058	0.772	1.39, 1.69 (1.47 - 1.64)
Tryptophan	0.51 (0.0090) (0.49 - 0.53)	0.48 (0.0090) (0.47 - 0.50)	0.030 (0.0084) (0.015 - 0.045)	0.0064, 0.053	0.024	0.37, 0.52 (0.39 - 0.50)

Table 8. Statistical Summary of Site ILCY Soybean Seed Nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Amino Acid (% dw)						
Tyrosine	1.44 (0.033) (1.43 - 1.46)	1.43 (0.033) (1.39 - 1.51)	0.014 (0.045) (-0.079 - 0.078)	-0.11, 0.14	0.773	1.23, 1.51 (1.26 - 1.49)
Valine	1.96 (0.015) (1.94 - 2.01)	2.05 (0.015) (2.05 - 2.06)	-0.090 (0.021) (-0.12 - -0.048)	-0.15, -0.031	0.013	1.70, 2.22 (1.73 - 2.13)
Fatty Acid (% Total FA)						
16:0 Palmitic	12.05 (0.073) (11.95 - 12.16)	11.95 (0.073) (11.73 - 12.08)	0.096 (0.089) (-0.082 - 0.29)	-0.15, 0.34	0.340	8.44, 12.65 (9.42 - 11.54)
18:0 Stearic	3.91 (0.044) (3.88 - 3.93)	3.93 (0.044) (3.86 - 4.02)	-0.025 (0.062) (-0.086 - 0.018)	-0.20, 0.15	0.705	2.81, 5.23 (3.24 - 4.67)
18:1 Oleic	19.74 (0.29) (19.44 - 19.94)	21.57 (0.29) (21.07 - 22.44)	-1.83 (0.41) (-2.51 - -1.21)	-2.96, -0.69	0.011	15.67, 27.49 (17.88 - 25.31)
18:2 Linoleic	54.54 (0.25) (54.45 - 54.70)	53.26 (0.25) (52.77 - 53.74)	1.28 (0.35) (0.73 - 1.68)	0.31, 2.26	0.021	48.22, 59.63 (50.95 - 56.68)

Table 8. Statistical Summary of Site ILCY Soybean Seed Nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Fatty Acid (% Total FA)						
18:3 Linolenic	9.07 (0.074) (8.99 - 9.16)	8.58 (0.074) (8.42 - 8.71)	0.50 (0.099) (0.36 - 0.56)	0.22, 0.77	0.007	5.92, 12.52 (7.43 - 10.65)
20:0 Arachidic	0.26 (0.0035) (0.26 - 0.26)	0.26 (0.0035) (0.26 - 0.27)	-0.0048 (0.0050) (-0.012 - 0.00087)	-0.019, 0.0091	0.393	0.19, 0.34 (0.20 - 0.30)
20:1 Eicosenoic	0.16 (0.0016) (0.16 - 0.16)	0.16 (0.0016) (0.16 - 0.17)	-0.0064 (0.0023) (-0.010 - -0.0034)	-0.013, 0.00005	0.051	0.015, 0.24 (0.065 - 0.17)
22:0 Behenic	0.28 (0.0030) (0.27 - 0.28)	0.29 (0.0030) (0.28 - 0.30)	-0.011 (0.0042) (-0.019 - -0.0066)	-0.023, 0.00033	0.054	0.24, 0.40 (0.28 - 0.35)
Vitamin (mg/100g dw)						
Vitamin E	2.13 (0.077) (2.10 - 2.17)	1.86 (0.077) (1.71 - 2.11)	0.27 (0.089) (0.059 - 0.42)	0.022, 0.52	0.038	0, 3.61 (0.69 - 2.91)

¹dw = dry weight; fw = fresh weight; FA = fatty acid.²Test refers to MON 87708 (Dicamba-Treated).³Mean (S.E.) = least-square mean (standard error).⁴Control refers to the non-biotechnology derived, conventional control (A3525).⁵With 95% confidence, interval contains 99% of the values expressed in the population of commercial substances. Negative limits set to zero.

Table 9. Statistical Summary of Site ILCY Soybean Seed Anti-nutrients for MON 87708 (Dicamba-Treated) vs. A3525

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Anti-nutrient						
Lectin (H.U./mg dw)	6.89 (1.81) (4.28 - 10.27)	5.54 (1.81) (2.14 - 10.38)	1.34 (2.55) (-4.27 - 8.13)	-5.75, 8.43	0.626	0, 8.11 (0.68 - 8.34)
Phytic Acid (% dw)	1.12 (0.032) (1.08 - 1.20)	1.16 (0.032) (1.10 - 1.22)	-0.037 (0.045) (-0.14 - 0.10)	-0.16, 0.088	0.456	0.80, 1.93 (1.00 - 1.64)
Raffinose (% dw)	0.58 (0.013) (0.57 - 0.59)	0.57 (0.013) (0.54 - 0.60)	0.011 (0.018) (-0.027 - 0.046)	-0.039, 0.061	0.575	0.11, 0.73 (0.26 - 0.59)
Stachyose (% dw)	3.33 (0.10) (3.25 - 3.46)	3.64 (0.10) (3.43 - 3.83)	-0.31 (0.14) (-0.58 - 0.023)	-0.70, 0.085	0.095	2.23, 4.11 (2.50 - 3.94)
Trypsin Inhibitor (TIU/mg dw)	31.75 (1.10) (30.61 - 33.32)	32.78 (1.10) (31.06 - 34.22)	-1.02 (1.56) (-2.43 - 0.26)	-5.35, 3.30	0.546	22.50, 41.37 (23.37 - 44.56)
Isoflavone (µg/g dw)						
Daidzein	925.54 (72.66) (899.83 - 974.38)	922.21 (72.66) (762.49 - 1098.08)	3.32 (102.76) (-198.25 - 139.91)	-281.99, 288.63	0.975	0, 2357.53 (451.33 - 2033.05)

Table 9. Statistical Summary of Site ILCY Soybean Seed Anti-nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Isoflavone (µg/g dw)						
Genistein	655.78 (45.60) (594.13 - 712.01)	653.27 (45.60) (588.17 - 770.79)	2.51 (64.49) (-58.78 - 60.35)	-176.54, 181.56	0.970	25.23, 1945.44 (533.88 - 1726.03)
Glycitein	98.02 (8.11) (77.67 - 112.00)	113.29 (8.11) (96.25 - 122.09)	-15.27 (11.47) (-43.86 - 15.75)	-47.13, 16.59	0.254	24.51, 238.51 (73.61 - 231.75)

¹dw = dry weight; H.U. = Hemagglutinating Units; TIU = Trypsin Inhibitor Units.

²Test refers to MON 87708 (Dicamba-Treated).

³Mean (S.E.) = least-square mean (standard error).

⁴Control refers to the non-biotechnology derived, conventional control (A3525).

⁵With 95% confidence, interval contains 99% of the values expressed in the population of commercial substances. Negative limits set to zero.

Table 10. Statistical Summary of Site ILCY Soybean Forage Nutrients for MON 87708 (Dicamba-Treated) vs. A3525

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Proximate (% dw)						
Ash	6.45 (0.22) (6.12 - 6.70)	6.27 (0.22) (6.10 - 6.49)	0.18 (0.32) (-0.37 - 0.48)	-0.70, 1.05	0.601	3.24, 11.08 (5.20 - 9.81)
Carbohydrates	65.26 (0.61) (64.42 - 65.78)	66.38 (0.61) (65.53 - 67.94)	-1.12 (0.87) (-3.52 - 0.11)	-3.53, 1.29	0.265	60.23, 74.00 (62.73 - 71.72)
Moisture (% fw)	73.13 (0.25) (72.40 - 73.70)	73.53 (0.25) (73.20 - 73.80)	-0.40 (0.35) (-1.20 - 0.50)	-1.37, 0.57	0.316	62.12, 90.55 (71.00 - 84.10)
Protein	22.20 (0.51) (21.25 - 23.11)	21.64 (0.51) (20.88 - 23.03)	0.56 (0.68) (-0.78 - 2.23)	-1.33, 2.46	0.454	15.28, 27.10 (18.50 - 25.86)
Total Fat	6.11 (0.38) (5.62 - 6.88)	5.77 (0.38) (5.15 - 6.72)	0.34 (0.52) (0.17 - 0.47)	-1.09, 1.77	0.549	0, 10.16 (1.57 - 7.99)
Fiber (% dw)						
Acid Detergent Fiber	30.24 (1.09) (28.75 - 32.14)	28.46 (1.09) (27.05 - 30.90)	1.78 (1.54) (-2.15 - 5.09)	-2.49, 6.05	0.310	15.60, 42.84 (20.98 - 39.23)

Table 10. Statistical Summary of Site ILCY Soybean Forage Nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Fiber (% dw)						
Neutral Detergent Fiber	27.72 (1.65) (27.34 - 27.98)	28.06 (1.65) (23.66 - 32.73)	-0.35 (2.33) (-4.90 - 3.68)	-6.82, 6.13	0.889	20.40, 44.62 (24.81 - 42.80)

¹dw = dry weight; fw = fresh weight.

²Test refers to MON 87708 (Dicamba-Treated).

³Mean (S.E.) = least-square mean (standard error).

⁴Control refers to the non-biotechnology derived, conventional control (A3525).

⁵With 95% confidence, interval contains 99% of the values expressed in the population of commercial substances. Negative limits set to zero.

Table 11. Statistical Summary of Site ILWY Soybean Seed Nutrients for MON 87708 (Dicamba-Treated) vs. A3525

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Proximate (% dw)						
Ash	5.43 (0.084) (5.24 - 5.69)	5.23 (0.084) (5.13 - 5.29)	0.20 (0.084) (0.097 - 0.40)	-0.031, 0.44	0.073	4.75, 6.04 (5.00 - 5.88)
Carbohydrates	38.84 (0.44) (38.13 - 39.21)	38.29 (0.44) (38.19 - 38.42)	0.54 (0.45) (-0.064 - 0.96)	-0.71, 1.79	0.292	31.73, 40.38 (33.82 - 39.26)
Moisture (% fw)	6.96 (0.16) (6.80 - 7.17)	6.16 (0.16) (5.79 - 6.41)	0.80 (0.22) (0.63 - 1.01)	0.18, 1.42	0.022	4.10, 9.78 (5.50 - 9.23)
Protein	40.88 (0.28) (40.56 - 41.37)	41.99 (0.28) (41.72 - 42.25)	-1.11 (0.38) (-1.54 - -0.63)	-2.15, -0.062	0.042	35.15, 45.33 (37.06 - 43.42)
Total Fat	14.83 (0.38) (14.00 - 15.90)	14.49 (0.38) (14.40 - 14.54)	0.34 (0.44) (-0.53 - 1.49)	-0.89, 1.57	0.487	12.09, 24.56 (15.47 - 21.34)
Fiber (% dw)						
Acid Detergent Fiber	13.43 (0.43) (12.71 - 14.61)	12.96 (0.43) (12.48 - 13.69)	0.47 (0.61) (-0.71 - 2.13)	-1.21, 2.15	0.480	9.73, 18.36 (12.07 - 17.46)

Table 11. Statistical Summary of Site ILWY Soybean Seed Nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Fiber (% dw)						
Crude Fiber	8.22 (0.52) (7.39 - 9.07)	7.58 (0.52) (7.39 - 7.82)	0.64 (0.74) (-0.14 - 1.68)	-1.40, 2.69	0.430	5.71, 10.92 (6.35 - 11.31)
Neutral Detergent Fiber	15.62 (0.72) (13.84 - 17.83)	13.78 (0.72) (13.44 - 14.00)	1.84 (0.94) (-0.064 - 4.39)	-0.77, 4.45	0.122	11.03, 19.66 (11.66 - 19.45)
Amino Acid (% dw)						
Alanine	1.74 (0.0076) (1.73 - 1.76)	1.75 (0.0076) (1.75 - 1.76)	-0.014 (0.0093) (-0.024 - -0.0071)	-0.039, 0.012	0.219	1.55, 1.92 (1.59 - 1.86)
Arginine	3.30 (0.037) (3.24 - 3.33)	3.57 (0.037) (3.55 - 3.60)	-0.27 (0.040) (-0.32 - -0.23)	-0.38, -0.16	0.002	2.50, 3.88 (2.88 - 3.74)
Aspartic Acid	4.59 (0.017) (4.55 - 4.61)	4.67 (0.017) (4.67 - 4.68)	-0.089 (0.020) (-0.13 - -0.065)	-0.14, -0.034	0.011	4.00, 5.16 (4.22 - 4.94)
Cystine	0.62 (0.0090) (0.62 - 0.63)	0.61 (0.0090) (0.58 - 0.62)	0.014 (0.0092) (-0.0029 - 0.036)	-0.012, 0.039	0.205	0.50, 0.67 (0.53 - 0.64)

Table 11. Statistical Summary of Site ILWY Soybean Seed Nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Amino Acid (% dw)						
Glutamic Acid	7.29 (0.030) (7.20 - 7.35)	7.51 (0.030) (7.49 - 7.53)	-0.21 (0.031) (-0.29 - -0.16)	-0.30, -0.13	0.002	6.20, 8.36 (6.69 - 7.92)
Glycine	1.75 (0.0053) (1.74 - 1.76)	1.77 (0.0053) (1.76 - 1.77)	-0.021 (0.0075) (-0.034 - -0.0096)	-0.042, 0.00033	0.052	1.51, 1.93 (1.58 - 1.84)
Histidine	1.05 (0.0032) (1.05 - 1.05)	1.07 (0.0032) (1.06 - 1.07)	-0.017 (0.0046) (-0.027 - -0.0057)	-0.030, -0.0046	0.019	0.92, 1.17 (0.95 - 1.13)
Isoleucine	1.87 (0.012) (1.85 - 1.89)	1.90 (0.012) (1.88 - 1.91)	-0.023 (0.0040) (-0.033 - -0.017)	-0.034, -0.012	0.004	1.63, 2.08 (1.68 - 2.02)
Leucine	3.02 (0.011) (3.00 - 3.04)	3.10 (0.011) (3.09 - 3.13)	-0.077 (0.0062) (-0.086 - -0.061)	-0.094, -0.060	<0.001	2.69, 3.41 (2.80 - 3.27)
Lysine	2.63 (0.0062) (2.63 - 2.64)	2.63 (0.0062) (2.62 - 2.64)	0.0011 (0.0088) (-0.011 - 0.0071)	-0.023, 0.026	0.904	2.31, 2.84 (2.38 - 2.74)

Table 11. Statistical Summary of Site ILWY Soybean Seed Nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Amino Acid (% dw)						
Methionine	0.59 (0.0074) (0.57 - 0.60)	0.58 (0.0074) (0.56 - 0.59)	0.0079 (0.010) (-0.016 - 0.029)	-0.021, 0.037	0.492	0.50, 0.63 (0.52 - 0.63)
Phenylalanine	2.01 (0.019) (1.96 - 2.06)	2.07 (0.019) (2.05 - 2.10)	-0.061 (0.021) (-0.085 - -0.047)	-0.12, -0.0015	0.046	1.78, 2.31 (1.85 - 2.21)
Proline	1.94 (0.020) (1.93 - 1.96)	2.05 (0.020) (2.01 - 2.09)	-0.10 (0.028) (-0.16 - -0.048)	-0.18, -0.027	0.020	1.62, 2.28 (1.74 - 2.16)
Serine	1.98 (0.013) (1.97 - 2.00)	2.06 (0.013) (2.02 - 2.09)	-0.079 (0.013) (-0.095 - -0.048)	-0.11, -0.044	0.003	1.76, 2.27 (1.90 - 2.18)
Threonine	1.52 (0.0042) (1.51 - 1.53)	1.55 (0.0042) (1.54 - 1.55)	-0.026 (0.0049) (-0.030 - -0.022)	-0.040, -0.013	0.005	1.39, 1.69 (1.47 - 1.64)
Tryptophan	0.44 (0.0083) (0.44 - 0.45)	0.47 (0.0083) (0.45 - 0.48)	-0.025 (0.011) (-0.035 - -0.015)	-0.055, 0.0061	0.089	0.37, 0.52 (0.39 - 0.50)

Table 11. Statistical Summary of Site ILWY Soybean Seed Nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Amino Acid (% dw)						
Tyrosine	1.35 (0.024) (1.32 - 1.41)	1.36 (0.024) (1.34 - 1.40)	-0.013 (0.027) (-0.032 - 0.0095)	-0.090, 0.063	0.651	1.23, 1.51 (1.26 - 1.49)
Valine	1.99 (0.013) (1.95 - 2.01)	2.01 (0.013) (2.01 - 2.02)	-0.022 (0.012) (-0.053 - 0.0028)	-0.057, 0.012	0.149	1.70, 2.22 (1.73 - 2.13)
Fatty Acid (% Total FA)						
16:0 Palmitic	11.26 (0.041) (11.25 - 11.27)	11.04 (0.041) (10.97 - 11.12)	0.22 (0.057) (0.15 - 0.28)	0.063, 0.38	0.017	8.44, 12.65 (9.42 - 11.54)
18:0 Stearic	4.32 (0.063) (4.23 - 4.40)	4.25 (0.063) (4.16 - 4.31)	0.076 (0.089) (0.067 - 0.085)	-0.17, 0.32	0.439	2.81, 5.23 (3.24 - 4.67)
18:1 Oleic	19.52 (0.25) (19.34 - 19.64)	21.14 (0.25) (20.78 - 21.55)	-1.62 (0.36) (-1.97 - -1.43)	-2.62, -0.62	0.010	15.67, 27.49 (17.88 - 25.31)
18:2 Linoleic	53.74 (0.32) (53.55 - 54.06)	52.90 (0.32) (52.33 - 53.20)	0.85 (0.46) (0.47 - 1.22)	-0.43, 2.12	0.139	48.22, 59.63 (50.95 - 56.68)

Table 11. Statistical Summary of Site ILWY Soybean Seed Nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Fatty Acid (% Total FA)						
18:3 Linolenic	10.54 (0.10) (10.51 - 10.59)	10.05 (0.10) (9.89 - 10.14)	0.49 (0.14) (0.39 - 0.65)	0.095, 0.89	0.026	5.92, 12.52 (7.43 - 10.65)
20:0 Arachidic	0.27 (0.0041) (0.26 - 0.27)	0.27 (0.0041) (0.26 - 0.27)	-0.00093 (0.0058) (-0.0057 - 0.0027)	-0.017, 0.015	0.879	0.19, 0.34 (0.20 - 0.30)
20:1 Eicosenoic	0.075 (0.0020) (0.070 - 0.079)	0.076 (0.0020) (0.075 - 0.077)	-0.0014 (0.0023) (-0.0071 - 0.0019)	-0.0076, 0.0049	0.583	0.015, 0.24 (0.065 - 0.17)
22:0 Behenic	0.26 (0.0032) (0.26 - 0.27)	0.28 (0.0032) (0.28 - 0.29)	-0.019 (0.0040) (-0.021 - -0.017)	-0.030, -0.0079	0.008	0.24, 0.40 (0.28 - 0.35)
Vitamin (mg/100g dw)						
Vitamin E	1.18 (0.037) (1.08 - 1.26)	0.94 (0.037) (0.89 - 0.99)	0.23 (0.053) (0.19 - 0.31)	0.086, 0.38	0.011	0, 3.61 (0.69 - 2.91)

¹dw = dry weight; fw = fresh weight; FA = fatty acid.

²Test refers to MON 87708 (Dicamba-Treated).

³Mean (S.E.) = least-square mean (standard error).

⁴Control refers to the non-biotechnology derived, conventional control (A3525).

⁵With 95% confidence, interval contains 99% of the values expressed in the population of commercial substances. Negative limits set to zero.

Table 12. Statistical Summary of Site ILWY Soybean Seed Anti-nutrients for MON 87708 (Dicamba-Treated) vs. A3525

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Anti-nutrient						
Lectin (H.U./mg dw)	1.10 (0.44) (0.59 - 1.51)	2.33 (0.44) (1.34 - 3.68)	-1.23 (0.43) (-2.17 - -0.75)	-2.43, -0.035	0.045	0, 8.11 (0.68 - 8.34)
Phytic Acid (% dw)	1.40 (0.033) (1.33 - 1.46)	1.55 (0.033) (1.47 - 1.61)	-0.14 (0.044) (-0.22 - -0.054)	-0.27, -0.023	0.030	0.80, 1.93 (1.00 - 1.64)
Raffinose (% dw)	0.37 (0.026) (0.32 - 0.45)	0.41 (0.026) (0.41 - 0.41)	-0.037 (0.036) (-0.086 - 0.040)	-0.14, 0.065	0.371	0.11, 0.73 (0.26 - 0.59)
Stachyose (% dw)	3.44 (0.19) (3.07 - 4.02)	3.76 (0.19) (3.68 - 3.85)	-0.33 (0.27) (-0.78 - 0.34)	-1.08, 0.43	0.294	2.23, 4.11 (2.50 - 3.94)
Trypsin Inhibitor (TIU/mg dw)	34.32 (2.07) (29.54 - 39.27)	29.73 (2.07) (25.43 - 32.22)	4.59 (2.89) (-2.68 - 8.72)	-3.43, 12.62	0.187	22.50, 41.37 (23.37 - 44.56)
Isoflavone (µg/g dw)						
Daidzein	1458.08 (35.08) (1416.31 - 1535.98)	1271.60 (35.08) (1196.71 - 1354.96)	186.48 (31.48) (153.17 - 225.25)	99.09, 273.88	0.004	0, 2357.53 (451.33 - 2033.05)

Table 12. Statistical Summary of Site ILWY Soybean Seed Anti-nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Isoflavone (µg/g dw)						
Genistein	898.89 (28.15) (873.39 - 913.50)	860.58 (28.15) (784.27 - 913.26)	38.31 (39.82) (-10.80 - 129.23)	-72.23, 148.86	0.390	25.23, 1945.44 (533.88 - 1726.03)
Glycitein	111.77 (2.15) (109.88 - 113.86)	79.70 (2.15) (77.14 - 81.62)	32.07 (2.23) (31.24 - 32.73)	25.87, 38.27	<0.001	24.51, 238.51 (73.61 - 231.75)

¹dw = dry weight; H.U. = Hemagglutinating Units; TIU = Trypsin Inhibitor Units.

²Test refers to MON 87708 (Dicamba-Treated).

³Mean (S.E.) = least-square mean (standard error).

⁴Control refers to the non-biotechnology derived, conventional control (A3525).

⁵With 95% confidence, interval contains 99% of the values expressed in the population of commercial substances. Negative limits set to zero.

Table 13. Statistical Summary of Site ILWY Soybean Forage Nutrients for MON 87708 (Dicamba-Treated) vs. A3525

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Proximate (% dw)						
Ash	6.61 (0.23) (6.02 - 7.21)	6.88 (0.23) (6.82 - 6.99)	-0.27 (0.30) (-0.79 - 0.37)	-1.10, 0.56	0.416	3.24, 11.08 (5.20 - 9.81)
Carbohydrates	67.99 (0.77) (66.09 - 69.50)	66.26 (0.77) (65.71 - 66.67)	1.73 (1.08) (-0.30 - 3.78)	-1.28, 4.74	0.185	60.23, 74.00 (62.73 - 71.72)
Moisture (% fw)	75.17 (0.55) (74.10 - 76.70)	75.40 (0.55) (75.10 - 75.60)	-0.23 (0.65) (-1.40 - 1.10)	-2.04, 1.57	0.737	62.12, 90.55 (71.00 - 84.10)
Protein	20.93 (0.58) (19.27 - 22.70)	21.97 (0.58) (21.81 - 22.13)	-1.03 (0.82) (-2.69 - 0.57)	-3.32, 1.25	0.278	15.28, 27.10 (18.50 - 25.86)
Total Fat	4.44 (0.52) (3.92 - 5.10)	4.91 (0.52) (4.50 - 5.63)	-0.47 (0.35) (-0.67 - -0.19)	-1.44, 0.50	0.252	0, 10.16 (1.57 - 7.99)
Fiber (% dw)						
Acid Detergent Fiber	29.18 (1.73) (26.72 - 31.00)	27.77 (1.73) (25.12 - 31.00)	1.41 (2.44) (-4.28 - 4.71)	-5.36, 8.19	0.593	15.60, 42.84 (20.98 - 39.23)

Table 13. Statistical Summary of Site ILWY Soybean Forage Nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Fiber (% dw)						
Neutral Detergent Fiber	28.64 (1.83) (27.22 - 31.26)	33.25 (1.83) (31.89 - 34.06)	-4.61 (2.59) (-6.63 - -0.62)	-11.80, 2.58	0.149	20.40, 44.62 (24.81 - 42.80)

¹dw = dry weight; fw = fresh weight.

²Test refers to MON 87708 (Dicamba-Treated).

³Mean (S.E.) = least-square mean (standard error).

⁴Control refers to the non-biotechnology derived, conventional control (A3525).

⁵With 95% confidence, interval contains 99% of the values expressed in the population of commercial substances. Negative limits set to zero.

Table 14. Statistical Summary of Site INRC Soybean Seed Nutrients for MON 87708 (Dicamba-Treated) vs. A3525

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Proximate (% dw)						
Ash	5.03 (0.11) (4.94 - 5.18)	4.95 (0.11) (4.73 - 5.23)	0.075 (0.15) (-0.28 - 0.45)	-0.35, 0.50	0.644	4.75, 6.04 (5.00 - 5.88)
Carbohydrates	37.60 (0.78) (37.15 - 38.07)	35.95 (0.78) (35.27 - 37.04)	1.65 (1.10) (1.03 - 2.05)	-1.41, 4.71	0.208	31.73, 40.38 (33.82 - 39.26)
Moisture (% fw)	6.74 (0.20) (6.48 - 7.13)	6.53 (0.20) (6.32 - 6.84)	0.21 (0.29) (-0.23 - 0.69)	-0.59, 1.01	0.513	4.10, 9.78 (5.50 - 9.23)
Protein	42.11 (0.53) (41.33 - 42.53)	43.58 (0.53) (43.50 - 43.69)	-1.48 (0.76) (-2.36 - -0.97)	-3.57, 0.62	0.122	35.15, 45.33 (37.06 - 43.42)
Total Fat	15.30 (0.45) (14.54 - 15.95)	15.55 (0.45) (14.52 - 16.10)	-0.25 (0.56) (-0.63 - 0.025)	-1.82, 1.32	0.678	12.09, 24.56 (15.47 - 21.34)
Fiber (% dw)						
Acid Detergent Fiber	13.22 (0.35) (12.64 - 13.79)	12.77 (0.35) (12.28 - 13.25)	0.46 (0.46) (-0.14 - 1.52)	-0.81, 1.73	0.374	9.73, 18.36 (12.07 - 17.46)

Table 14. Statistical Summary of Site INRC Soybean Seed Nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Fiber (% dw)						
Crude Fiber	8.06 (0.18) (7.76 - 8.47)	6.89 (0.18) (6.59 - 7.12)	1.17 (0.25) (0.64 - 1.51)	0.47, 1.88	0.009	5.71, 10.92 (6.35 - 11.31)
Neutral Detergent Fiber	15.98 (0.67) (14.97 - 16.49)	14.66 (0.67) (13.24 - 15.56)	1.32 (0.95) (0.93 - 1.73)	-1.32, 3.96	0.237	11.03, 19.66 (11.66 - 19.45)
Amino Acid (% dw)						
Alanine	1.81 (0.021) (1.80 - 1.83)	1.84 (0.021) (1.80 - 1.87)	-0.032 (0.022) (-0.072 - 0.013)	-0.093, 0.029	0.223	1.55, 1.92 (1.59 - 1.86)
Arginine	3.44 (0.044) (3.39 - 3.50)	3.72 (0.044) (3.64 - 3.81)	-0.27 (0.062) (-0.38 - -0.15)	-0.45, -0.10	0.011	2.50, 3.88 (2.88 - 3.74)
Aspartic Acid	4.76 (0.062) (4.70 - 4.80)	4.89 (0.062) (4.80 - 4.95)	-0.13 (0.078) (-0.23 - 0.0034)	-0.34, 0.087	0.173	4.00, 5.16 (4.22 - 4.94)
Cystine	0.61 (0.0067) (0.61 - 0.61)	0.59 (0.0067) (0.59 - 0.60)	0.020 (0.0094) (0.0087 - 0.029)	-0.0067, 0.046	0.107	0.50, 0.67 (0.53 - 0.64)

Table 14. Statistical Summary of Site INRC Soybean Seed Nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Amino Acid (% dw)						
Glutamic Acid	7.66 (0.11) (7.57 - 7.73)	7.93 (0.11) (7.75 - 8.02)	-0.26 (0.14) (-0.45 - -0.018)	-0.66, 0.13	0.138	6.20, 8.36 (6.69 - 7.92)
Glycine	1.82 (0.020) (1.80 - 1.83)	1.85 (0.020) (1.82 - 1.87)	-0.035 (0.027) (-0.072 - 0.013)	-0.11, 0.039	0.257	1.51, 1.93 (1.58 - 1.84)
Histidine	1.09 (0.012) (1.07 - 1.10)	1.11 (0.012) (1.10 - 1.12)	-0.028 (0.016) (-0.056 - -0.0026)	-0.073, 0.018	0.166	0.92, 1.17 (0.95 - 1.13)
Isoleucine	1.94 (0.042) (1.90 - 1.97)	2.00 (0.042) (1.95 - 2.03)	-0.060 (0.057) (-0.11 - 0.025)	-0.22, 0.099	0.354	1.63, 2.08 (1.68 - 2.02)
Leucine	3.16 (0.041) (3.11 - 3.19)	3.24 (0.041) (3.20 - 3.26)	-0.082 (0.052) (-0.14 - -0.0086)	-0.23, 0.061	0.186	2.69, 3.41 (2.80 - 3.27)
Lysine	2.70 (0.030) (2.66 - 2.71)	2.72 (0.030) (2.68 - 2.76)	-0.030 (0.035) (-0.070 - 0.031)	-0.13, 0.068	0.446	2.31, 2.84 (2.38 - 2.74)

Table 14. Statistical Summary of Site INRC Soybean Seed Nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Amino Acid (% dw)						
Methionine	0.58 (0.0086) (0.58 - 0.59)	0.59 (0.0086) (0.58 - 0.60)	-0.0055 (0.012) (-0.017 - 0.00070)	-0.039, 0.028	0.674	0.50, 0.63 (0.52 - 0.63)
Phenylalanine	2.15 (0.030) (2.12 - 2.18)	2.20 (0.030) (2.13 - 2.23)	-0.049 (0.040) (-0.11 - 0.048)	-0.16, 0.062	0.289	1.78, 2.31 (1.85 - 2.21)
Proline	2.07 (0.010) (2.06 - 2.09)	2.06 (0.010) (2.05 - 2.07)	0.0045 (0.015) (-0.0071 - 0.016)	-0.036, 0.045	0.771	1.62, 2.28 (1.74 - 2.16)
Serine	2.09 (0.028) (2.06 - 2.12)	2.13 (0.028) (2.13 - 2.14)	-0.038 (0.029) (-0.070 - -0.016)	-0.12, 0.043	0.260	1.76, 2.27 (1.90 - 2.18)
Threonine	1.60 (0.019) (1.57 - 1.62)	1.61 (0.019) (1.60 - 1.62)	-0.014 (0.027) (-0.040 - 0.012)	-0.089, 0.060	0.622	1.39, 1.69 (1.47 - 1.64)
Tryptophan	0.47 (0.013) (0.44 - 0.50)	0.45 (0.013) (0.43 - 0.46)	0.019 (0.018) (-0.015 - 0.064)	-0.032, 0.069	0.365	0.37, 0.52 (0.39 - 0.50)

Table 14. Statistical Summary of Site INRC Soybean Seed Nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Amino Acid (% dw)						
Tyrosine	1.38 (0.024) (1.35 - 1.43)	1.44 (0.024) (1.38 - 1.47)	-0.065 (0.022) (-0.12 - -0.036)	-0.13, -0.0024	0.044	1.23, 1.51 (1.26 - 1.49)
Valine	2.05 (0.045) (2.01 - 2.09)	2.12 (0.045) (2.06 - 2.16)	-0.074 (0.063) (-0.14 - 0.026)	-0.25, 0.10	0.305	1.70, 2.22 (1.73 - 2.13)
Fatty Acid (% Total FA)						
16:0 Palmitic	11.42 (0.068) (11.39 - 11.46)	11.19 (0.068) (11.14 - 11.21)	0.23 (0.097) (0.19 - 0.26)	-0.036, 0.50	0.074	8.44, 12.65 (9.42 - 11.54)
18:0 Stearic	4.18 (0.047) (4.11 - 4.27)	4.25 (0.047) (4.16 - 4.31)	-0.064 (0.066) (-0.19 - 0.11)	-0.25, 0.12	0.387	2.81, 5.23 (3.24 - 4.67)
18:1 Oleic	18.78 (0.085) (18.58 - 18.95)	20.19 (0.085) (20.12 - 20.23)	-1.41 (0.093) (-1.64 - -1.27)	-1.66, -1.15	<0.001	15.67, 27.49 (17.88 - 25.31)
18:2 Linoleic	54.98 (0.10) (54.80 - 55.14)	54.43 (0.10) (54.32 - 54.64)	0.54 (0.14) (0.16 - 0.82)	0.15, 0.94	0.019	48.22, 59.63 (50.95 - 56.68)

Table 14. Statistical Summary of Site INRC Soybean Seed Nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Fatty Acid (% Total FA)						
18:3 Linolenic	10.03 (0.050) (9.89 - 10.10)	9.31 (0.050) (9.26 - 9.40)	0.71 (0.070) (0.60 - 0.84)	0.52, 0.91	<0.001	5.92, 12.52 (7.43 - 10.65)
20:0 Arachidic	0.26 (0.0029) (0.26 - 0.27)	0.27 (0.0029) (0.26 - 0.27)	-0.0053 (0.0041) (-0.013 - 0.0051)	-0.017, 0.0062	0.270	0.19, 0.34 (0.20 - 0.30)
20:1 Eicosenoic	0.072 (0.0020) (0.069 - 0.076)	0.071 (0.0020) (0.069 - 0.076)	0.0010 (0.0025) (-0.00013 - 0.0025)	-0.0059, 0.0079	0.701	0.015, 0.24 (0.065 - 0.17)
22:0 Behenic	0.28 (0.0033) (0.27 - 0.29)	0.29 (0.0033) (0.29 - 0.30)	-0.014 (0.0047) (-0.023 - 0.00015)	-0.027, -0.0012	0.038	0.24, 0.40 (0.28 - 0.35)
Vitamin (mg/100g dw)						
Vitamin E	1.28 (0.054) (1.25 - 1.30)	1.16 (0.054) (1.10 - 1.23)	0.12 (0.067) (0.018 - 0.18)	-0.065, 0.31	0.146	0, 3.61 (0.69 - 2.91)

¹dw = dry weight; fw = fresh weight; FA = fatty acid.

²Test refers to MON 87708 (Dicamba-Treated).

³Mean (S.E.) = least-square mean (standard error).

⁴Control refers to the non-biotechnology derived, conventional control (A3525).

⁵With 95% confidence, interval contains 99% of the values expressed in the population of commercial substances. Negative limits set to zero.

Table 15. Statistical Summary of Site INRC Soybean Seed Anti-nutrients for MON 87708 (Dicamba-Treated) vs. A3525

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Anti-nutrient						
Lectin (H.U./mg dw)	3.03 (0.32) (2.75 - 3.45)	2.56 (0.32) (2.33 - 3.02)	0.47 (0.45) (-0.26 - 1.13)	-0.79, 1.74	0.357	0, 8.11 (0.68 - 8.34)
Phytic Acid (% dw)	1.27 (0.071) (1.22 - 1.34)	1.19 (0.071) (1.09 - 1.36)	0.078 (0.087) (-0.022 - 0.15)	-0.16, 0.32	0.421	0.80, 1.93 (1.00 - 1.64)
Raffinose (% dw)	0.37 (0.023) (0.33 - 0.43)	0.40 (0.023) (0.36 - 0.43)	-0.032 (0.033) (-0.098 - 0.069)	-0.12, 0.060	0.384	0.11, 0.73 (0.26 - 0.59)
Stachyose (% dw)	3.14 (0.077) (3.12 - 3.17)	3.46 (0.077) (3.33 - 3.67)	-0.32 (0.11) (-0.51 - -0.21)	-0.62, -0.015	0.043	2.23, 4.11 (2.50 - 3.94)
Trypsin Inhibitor (TIU/mg dw)	29.17 (1.79) (26.09 - 33.09)	29.28 (1.79) (25.22 - 31.77)	-0.12 (1.83) (-4.76 - 3.09)	-5.21, 4.97	0.952	22.50, 41.37 (23.37 - 44.56)
Isoflavone (µg/g dw)						
Daidzein	1683.50 (67.03) (1593.24 - 1777.49)	1419.40 (67.03) (1416.92 - 1421.55)	264.10 (94.79) (173.52 - 360.58)	0.92, 527.28	0.049	0, 2357.53 (451.33 - 2033.05)

Table 15. Statistical Summary of Site INRC Soybean Seed Anti-nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Isoflavone (µg/g dw)						
Genistein	1033.37 (50.59) (963.43 - 1092.19)	862.03 (50.59) (840.10 - 890.94)	171.34 (71.54) (108.39 - 204.37)	-27.29, 369.97	0.074	25.23, 1945.44 (533.88 - 1726.03)
Glycitein	111.51 (3.23) (110.91 - 112.28)	98.42 (3.23) (89.42 - 103.14)	13.10 (3.31) (7.77 - 21.94)	3.91, 22.29	0.016	24.51, 238.51 (73.61 - 231.75)

¹dw = dry weight; H.U. = Hemagglutinating Units; TIU = Trypsin Inhibitor Units.

²Test refers to MON 87708 (Dicamba-Treated).

³Mean (S.E.) = least-square mean (standard error).

⁴Control refers to the non-biotechnology derived, conventional control (A3525).

⁵With 95% confidence, interval contains 99% of the values expressed in the population of commercial substances. Negative limits set to zero.

Table 16. Statistical Summary of Site INRC Soybean Forage Nutrients for MON 87708 (Dicamba-Treated) vs. A3525

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Proximate (% dw)						
Ash	6.45 (0.24) (5.94 - 7.05)	6.95 (0.24) (6.84 - 7.07)	-0.50 (0.26) (-0.89 - 0.11)	-1.23, 0.23	0.128	3.24, 11.08 (5.20 - 9.81)
Carbohydrates	65.19 (0.69) (63.10 - 66.54)	63.82 (0.69) (62.91 - 64.44)	1.38 (0.98) (-1.34 - 3.03)	-1.34, 4.10	0.232	60.23, 74.00 (62.73 - 71.72)
Moisture (% fw)	73.00 (0.32) (72.40 - 73.70)	72.27 (0.32) (71.60 - 72.70)	0.73 (0.39) (-0.10 - 1.30)	-0.34, 1.80	0.129	62.12, 90.55 (71.00 - 84.10)
Protein	21.78 (0.41) (20.99 - 22.51)	23.33 (0.41) (22.64 - 24.11)	-1.55 (0.41) (-2.26 - -0.73)	-2.69, -0.41	0.019	15.28, 27.10 (18.50 - 25.86)
Total Fat	6.54 (0.27) (6.12 - 7.34)	5.88 (0.27) (5.39 - 6.19)	0.66 (0.39) (-0.069 - 1.96)	-0.42, 1.73	0.164	0, 10.16 (1.57 - 7.99)
Fiber (% dw)						
Acid Detergent Fiber	26.46 (1.50) (23.30 - 31.06)	23.83 (1.50) (22.93 - 25.53)	2.63 (2.13) (-0.51 - 8.13)	-3.27, 8.54	0.283	15.60, 42.84 (20.98 - 39.23)

Table 16. Statistical Summary of Site INRC Soybean Forage Nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Fiber (% dw)						
Neutral Detergent Fiber	27.20 (1.62) (24.21 - 31.27)	26.11 (1.62) (23.91 - 29.42)	1.08 (2.04) (0.30 - 1.85)	-4.59, 6.76	0.623	20.40, 44.62 (24.81 - 42.80)

¹dw = dry weight; fw = fresh weight.

²Test refers to MON 87708 (Dicamba-Treated).

³Mean (S.E.) = least-square mean (standard error).

⁴Control refers to the non-biotechnology derived, conventional control (A3525).

⁵With 95% confidence, interval contains 99% of the values expressed in the population of commercial substances. Negative limits set to zero.

Table 17. Statistical Summary of Site PAHM Soybean Seed Nutrients for MON 87708 (Dicamba-Treated) vs. A3525

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Proximate (% dw)						
Ash	5.33 (0.11) (5.27 - 5.39)	5.05 (0.11) (4.96 - 5.17)	0.28 (0.16) (0.15 - 0.44)	-0.16, 0.72	0.148	4.75, 6.04 (5.00 - 5.88)
Carbohydrates	38.30 (0.51) (37.69 - 38.65)	35.23 (0.51) (34.49 - 35.75)	3.07 (0.64) (2.23 - 4.07)	1.29, 4.84	0.008	31.73, 40.38 (33.82 - 39.26)
Moisture (% fw)	7.84 (0.22) (7.38 - 8.47)	10.50 (0.22) (10.40 - 10.60)	-2.66 (0.22) (-3.12 - -2.13)	-3.27, -2.04	<0.001	4.10, 9.78 (5.50 - 9.23)
Protein	40.25 (0.41) (39.00 - 41.05)	43.69 (0.41) (43.46 - 43.85)	-3.43 (0.51) (-4.84 - -2.70)	-4.86, -2.01	0.002	35.15, 45.33 (37.06 - 43.42)
Total Fat	16.10 (0.63) (14.95 - 18.03)	16.05 (0.63) (15.64 - 16.85)	0.050 (0.89) (-1.90 - 2.37)	-2.41, 2.51	0.957	12.09, 24.56 (15.47 - 21.34)
Fiber (% dw)						
Acid Detergent Fiber	12.91 (0.35) (12.45 - 13.21)	11.96 (0.35) (11.62 - 12.17)	0.96 (0.43) (0.37 - 1.44)	-0.24, 2.15	0.089	9.73, 18.36 (12.07 - 17.46)

Table 17. Statistical Summary of Site PAHM Soybean Seed Nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Fiber (% dw)						
Crude Fiber	8.30 (0.63) (6.23 - 9.65)	6.61 (0.63) (6.05 - 6.98)	1.68 (0.71) (0.18 - 2.67)	-0.30, 3.66	0.077	5.71, 10.92 (6.35 - 11.31)
Neutral Detergent Fiber	13.97 (0.36) (13.43 - 14.97)	13.11 (0.36) (12.63 - 13.62)	0.86 (0.50) (-0.18 - 1.88)	-0.54, 2.25	0.164	11.03, 19.66 (11.66 - 19.45)
Amino Acid (% dw)						
Alanine	1.75 (0.017) (1.74 - 1.77)	1.86 (0.017) (1.82 - 1.90)	-0.11 (0.024) (-0.16 - -0.054)	-0.17, -0.042	0.010	1.55, 1.92 (1.59 - 1.86)
Arginine	3.25 (0.053) (3.09 - 3.36)	3.88 (0.053) (3.83 - 3.93)	-0.63 (0.074) (-0.83 - -0.47)	-0.83, -0.42	0.001	2.50, 3.88 (2.88 - 3.74)
Aspartic Acid	4.56 (0.041) (4.45 - 4.63)	4.94 (0.041) (4.90 - 5.01)	-0.38 (0.057) (-0.56 - -0.27)	-0.54, -0.22	0.002	4.00, 5.16 (4.22 - 4.94)
Cystine	0.62 (0.0062) (0.60 - 0.63)	0.59 (0.0062) (0.59 - 0.60)	0.028 (0.0081) (0.0092 - 0.039)	0.0061, 0.051	0.024	0.50, 0.67 (0.53 - 0.64)

Table 17. Statistical Summary of Site PAHM Soybean Seed Nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Amino Acid (% dw)						
Glutamic Acid	7.28 (0.081) (7.06 - 7.40)	8.00 (0.081) (7.91 - 8.14)	-0.73 (0.11) (-1.09 - -0.54)	-1.05, -0.41	0.003	6.20, 8.36 (6.69 - 7.92)
Glycine	1.73 (0.015) (1.69 - 1.75)	1.86 (0.015) (1.83 - 1.89)	-0.13 (0.022) (-0.20 - -0.076)	-0.19, -0.066	0.004	1.51, 1.93 (1.58 - 1.84)
Histidine	1.05 (0.0089) (1.02 - 1.06)	1.13 (0.0089) (1.11 - 1.14)	-0.085 (0.013) (-0.12 - -0.053)	-0.12, -0.050	0.002	0.92, 1.17 (0.95 - 1.13)
Isoleucine	1.85 (0.026) (1.79 - 1.90)	2.00 (0.026) (1.94 - 2.04)	-0.15 (0.036) (-0.24 - -0.046)	-0.25, -0.051	0.014	1.63, 2.08 (1.68 - 2.02)
Leucine	3.03 (0.027) (2.96 - 3.09)	3.28 (0.027) (3.24 - 3.32)	-0.24 (0.038) (-0.36 - -0.15)	-0.35, -0.14	0.002	2.69, 3.41 (2.80 - 3.27)
Lysine	2.60 (0.023) (2.53 - 2.65)	2.75 (0.023) (2.71 - 2.77)	-0.15 (0.032) (-0.23 - -0.091)	-0.24, -0.060	0.009	2.31, 2.84 (2.38 - 2.74)

Table 17. Statistical Summary of Site PAHM Soybean Seed Nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Amino Acid (% dw)						
Methionine	0.58 (0.0090) (0.57 - 0.60)	0.58 (0.0090) (0.57 - 0.60)	-0.00056 (0.0072) (-0.0027 - 0.00085)	-0.021, 0.020	0.942	0.50, 0.63 (0.52 - 0.63)
Phenylalanine	2.04 (0.027) (2.00 - 2.07)	2.21 (0.027) (2.16 - 2.27)	-0.18 (0.038) (-0.27 - -0.083)	-0.28, -0.069	0.010	1.78, 2.31 (1.85 - 2.21)
Proline	1.98 (0.024) (1.94 - 2.00)	2.10 (0.024) (2.08 - 2.13)	-0.13 (0.032) (-0.14 - -0.11)	-0.21, -0.038	0.016	1.62, 2.28 (1.74 - 2.16)
Serine	2.04 (0.035) (2.01 - 2.06)	2.16 (0.035) (2.06 - 2.21)	-0.12 (0.050) (-0.19 - 0.0063)	-0.26, 0.018	0.073	1.76, 2.27 (1.90 - 2.18)
Threonine	1.55 (0.015) (1.52 - 1.57)	1.62 (0.015) (1.60 - 1.64)	-0.069 (0.021) (-0.10 - -0.032)	-0.13, -0.011	0.029	1.39, 1.69 (1.47 - 1.64)
Tryptophan	0.47 (0.012) (0.44 - 0.48)	0.46 (0.012) (0.45 - 0.46)	0.010 (0.017) (-0.0098 - 0.023)	-0.036, 0.057	0.567	0.37, 0.52 (0.39 - 0.50)

Table 17. Statistical Summary of Site PAHM Soybean Seed Nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Amino Acid (% dw)						
Tyrosine	1.35 (0.027) (1.28 - 1.43)	1.49 (0.027) (1.48 - 1.52)	-0.14 (0.032) (-0.20 - -0.088)	-0.23, -0.052	0.011	1.23, 1.51 (1.26 - 1.49)
Valine	1.95 (0.029) (1.89 - 2.00)	2.13 (0.029) (2.05 - 2.17)	-0.17 (0.041) (-0.27 - -0.050)	-0.29, -0.061	0.012	1.70, 2.22 (1.73 - 2.13)
Fatty Acid (% Total FA)						
16:0 Palmitic	11.74 (0.12) (11.39 - 12.07)	11.49 (0.12) (11.38 - 11.55)	0.25 (0.15) (-0.15 - 0.52)	-0.17, 0.67	0.169	8.44, 12.65 (9.42 - 11.54)
18:0 Stearic	3.85 (0.12) (3.60 - 4.12)	3.76 (0.12) (3.67 - 3.91)	0.093 (0.14) (-0.078 - 0.42)	-0.30, 0.48	0.544	2.81, 5.23 (3.24 - 4.67)
18:1 Oleic	18.58 (0.31) (17.85 - 19.42)	20.01 (0.31) (19.60 - 20.32)	-1.43 (0.35) (-1.74 - -0.90)	-2.40, -0.45	0.015	15.67, 27.49 (17.88 - 25.31)
18:2 Linoleic	54.89 (0.41) (53.59 - 55.67)	54.68 (0.41) (54.18 - 54.99)	0.21 (0.53) (-0.59 - 0.68)	-1.25, 1.67	0.708	48.22, 59.63 (50.95 - 56.68)

Table 17. Statistical Summary of Site PAHM Soybean Seed Nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Fatty Acid (% Total FA)						
18:3 Linolenic	10.33 (0.21) (9.91 - 10.88)	9.47 (0.21) (9.13 - 9.68)	0.85 (0.16) (0.59 - 1.20)	0.40, 1.31	0.006	5.92, 12.52 (7.43 - 10.65)
20:0 Arachidic	0.25 (0.0063) (0.23 - 0.26)	0.24 (0.0063) (0.24 - 0.25)	0.0034 (0.0071) (-0.0079 - 0.020)	-0.016, 0.023	0.652	0.19, 0.34 (0.20 - 0.30)
20:1 Eicosenoic	0.091 (0.015) (0.073 - 0.12)	0.072 (0.015) (0.068 - 0.075)	0.018 (0.022) (-0.0014 - 0.050)	-0.042, 0.078	0.445	0.015, 0.24 (0.065 - 0.17)
22:0 Behenic	0.27 (0.0046) (0.26 - 0.28)	0.27 (0.0046) (0.27 - 0.28)	-0.0067 (0.0034) (-0.012 - 0.0024)	-0.016, 0.0028	0.121	0.24, 0.40 (0.28 - 0.35)
Vitamin (mg/100g dw)						
Vitamin E	1.32 (0.10) (1.21 - 1.54)	1.23 (0.10) (1.11 - 1.40)	0.097 (0.022) (0.049 - 0.14)	0.037, 0.16	0.010	0, 3.61 (0.69 - 2.91)

¹dw = dry weight; fw = fresh weight; FA = fatty acid.

²Test refers to MON 87708 (Dicamba-Treated).

³Mean (S.E.) = least-square mean (standard error).

⁴Control refers to the non-biotechnology derived, conventional control (A3525).

⁵With 95% confidence, interval contains 99% of the values expressed in the population of commercial substances. Negative limits set to zero.

Table 18. Statistical Summary of Site PAHM Soybean Seed Anti-nutrients for MON 87708 (Dicamba-Treated) vs. A3525

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Anti-nutrient						
Lectin (H.U./mg dw)	2.81 (0.80) (2.08 - 3.34)	3.85 (0.80) (3.28 - 4.45)	-1.03 (1.03) (-1.73 - 0.051)	-3.88, 1.81	0.370	0, 8.11 (0.68 - 8.34)
Phytic Acid (% dw)	1.35 (0.077) (1.13 - 1.51)	1.50 (0.077) (1.41 - 1.62)	-0.15 (0.092) (-0.28 - -0.054)	-0.40, 0.11	0.179	0.80, 1.93 (1.00 - 1.64)
Raffinose (% dw)	0.47 (0.047) (0.32 - 0.55)	0.54 (0.047) (0.49 - 0.57)	-0.072 (0.066) (-0.24 - 0.058)	-0.26, 0.11	0.339	0.11, 0.73 (0.26 - 0.59)
Stachyose (% dw)	3.29 (0.18) (3.19 - 3.47)	3.36 (0.18) (3.07 - 3.90)	-0.075 (0.25) (-0.69 - 0.40)	-0.77, 0.62	0.777	2.23, 4.11 (2.50 - 3.94)
Trypsin Inhibitor (TIU/mg dw)	32.53 (4.33) (27.64 - 36.16)	30.39 (4.33) (26.59 - 33.33)	2.14 (5.59) (1.05 - 2.83)	-13.38, 17.66	0.721	22.50, 41.37 (23.37 - 44.56)
Isoflavone (µg/g dw)						
Daidzein	1918.51 (144.27) (1565.54 - 2305.26)	1642.38 (144.27) (1510.07 - 1729.91)	276.14 (204.03) (-121.61 - 795.19)	-290.35, 842.62	0.247	0, 2357.53 (451.33 - 2033.05)

Table 18. Statistical Summary of Site PAHM Soybean Seed Anti-nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Isoflavone (µg/g dw)						
Genistein	1196.16 (107.80) (976.03 - 1496.78)	1101.98 (107.80) (983.22 - 1162.01)	94.18 (152.45) (-185.98 - 513.56)	-329.09, 517.45	0.570	25.23, 1945.44 (533.88 - 1726.03)
Glycitein	110.37 (7.95) (93.26 - 119.09)	81.44 (7.95) (68.68 - 90.51)	28.93 (11.25) (2.75 - 50.41)	-2.30, 60.16	0.061	24.51, 238.51 (73.61 - 231.75)

¹dw = dry weight; H.U. = Hemagglutinating Units; TIU = Trypsin Inhibitor Units.

²Test refers to MON 87708 (Dicamba-Treated).

³Mean (S.E.) = least-square mean (standard error).

⁴Control refers to the non-biotechnology derived, conventional control (A3525).

⁵With 95% confidence, interval contains 99% of the values expressed in the population of commercial substances. Negative limits set to zero.

Table 19. Statistical Summary of Site PAHM Soybean Forage Nutrients for MON 87708 (Dicamba-Treated) vs. A3525

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Proximate (% dw)						
Ash	7.51 (0.26) (7.18 - 8.13)	7.88 (0.32) (7.67 - 8.09)	-0.37 (0.41) (-0.86 - -0.49)	-1.67, 0.94	0.438	3.24, 11.08 (5.20 - 9.81)
Carbohydrates	70.95 (1.04) (69.23 - 73.31)	65.81 (1.16) (65.74 - 66.41)	5.14 (1.03) (3.49 - 6.90)	1.85, 8.43	0.015	60.23, 74.00 (62.73 - 71.72)
Moisture (% fw)	74.27 (0.63) (73.40 - 75.40)	74.91 (0.63) (73.80 - 74.90)	-0.64 (0.15) (-0.90 - -0.40)	-1.11, -0.18	0.021	62.12, 90.55 (71.00 - 84.10)
Protein	17.47 (1.26) (15.23 - 19.58)	21.96 (1.45) (21.49 - 21.91)	-4.49 (1.45) (-6.26 - -2.34)	-9.10, 0.12	0.053	15.28, 27.10 (18.50 - 25.86)
Total Fat	3.97 (0.26) (3.82 - 4.21)	4.18 (0.31) (4.30 - 4.35)	-0.20 (0.31) (-0.42 - -0.14)	-1.19, 0.78	0.553	0, 10.16 (1.57 - 7.99)
Fiber (% dw)						
Acid Detergent Fiber	26.97 (1.95) (25.46 - 29.89)	26.02 (2.39) (21.79 - 30.24)	0.96 (3.08) (-4.78 - 8.09)	-8.86, 10.77	0.776	15.60, 42.84 (20.98 - 39.23)

Table 19. Statistical Summary of Site PAHM Soybean Forage Nutrients for MON 87708 (Dicamba-Treated) vs. A3525 (cont.)

Analytical Component (Units) ¹	Test ² Mean (S.E.) ³ (Range)	Control ⁴ Mean (S.E.) (Range)	Difference (Test minus Control)			Commercial Tolerance Interval ⁵ (Range)
			Mean (S.E.) (Range)	95% Confidence Interval	Significance (p-Value)	
Fiber (% dw)						
Neutral Detergent Fiber	29.45 (1.01) (27.00 - 32.07)	30.20 (1.24) (30.00 - 30.40)	-0.75 (1.60) (-3.40 - -0.71)	-5.83, 4.34	0.672	20.40, 44.62 (24.81 - 42.80)

¹dw = dry weight; fw = fresh weight.

²Test refers to MON 87708 (Dicamba-Treated).

³Mean (S.E.) = least-square mean (standard error).

⁴Control refers to the non-biotechnology derived, conventional control (A3525).

⁵With 95% confidence, interval contains 99% of the values expressed in the population of commercial substances. Negative limits set to zero.

**Listing 1. Components Excluded from Summary and Analysis Due to Excessive Observations
Below the Assay's Limit of Quantitation**

Tissue	Category	Component	(N) Below LOQ	(N) Total	(%)
Seed	Fatty Acid	10:0 Capric	105	105	100.0
		12:0 Lauric	105	105	100.0
		14:0 Myristic	105	105	100.0
		14:1 Myristoleic	105	105	100.0
		15:0 Pentadecanoic	105	105	100.0
		15:1 Pentadecenoic	105	105	100.0
		16:1 Palmitoleic	97	105	92.4
		17:0 Heptadecanoic	99	105	94.3
		17:1 Heptadecenoic	105	105	100.0
		18:3 Gamma Linolenic	105	105	100.0
		20:2 Eicosadienoic	105	105	100.0
		20:3 Eicosatrienoic	105	105	100.0

**Listing 1. Components Excluded from Summary and Analysis Due to Excessive Observations
Below the Assay's Limit of Quantitation (cont.)**

Tissue	Category	Component	(N) Below LOQ	(N) Total	(%)
Seed	Fatty Acid	20:4 Arachidonic	105	105	100.0
		8:0 Caprylic	105	105	100.0

Listing 2. Components with Observations Below the Assay's Limit of Quantitation Not Excluded from Summaries and Analysis

Tissue	Category	Component	Material	Site	Rep	Original Value	Value Assigned
Seed	Fatty Acid	20:1 Eicosenoic	A3525	IARL	1	< 0.0200	0.010
					2	< 0.0200	0.010
					3	< 0.0200	0.010
				ILWY	1	< 0.0200	0.010
					2	< 0.0200	0.010
					3	< 0.0200	0.010
				INRC	1	< 0.0200	0.010
					2	< 0.0200	0.010
					3	< 0.0200	0.010
				PAHM	1	< 0.0200	0.010
					2	< 0.0200	0.010
					3	< 0.0200	0.010
			Croplan HT3596STS	ILWY	3	< 0.0200	0.010
			Dekalb DKB34-51	INRC	1	< 0.0200	0.010
			FS3591	ILWY	1	< 0.0200	0.010
					2	< 0.0200	0.010

Listing 2. Components with Observations Below the Assay's Limit of Quantitation Not Excluded from Summaries and Analysis (cont.)

Tissue	Category	Component	Material	Site	Rep	Original Value	Value Assigned
Seed	Fatty Acid	20:1 Eicosenoic	FS3591	ILWY	3	< 0.0200	0.010
			Garst 3585N	ILWY	1	< 0.0200	0.010
					2	< 0.0200	0.010
					3	< 0.0200	0.010
			MON 87708 (Dicamba-Treated)	IARL	1	< 0.0200	0.010
					2	< 0.0200	0.010
					3	< 0.0200	0.010
				ILWY	1	< 0.0200	0.010
					2	< 0.0200	0.010
					3	< 0.0200	0.010
				INRC	1	< 0.0200	0.010
					2	< 0.0200	0.010
					3	< 0.0200	0.010
				PAHM	2	< 0.0200	0.010
					3	< 0.0200	0.010
			Test 2	IARL	1	< 0.0200	0.010

Listing 2. Components with Observations Below the Assay's Limit of Quantitation Not Excluded from Summaries and Analysis (cont.)

Tissue	Category	Component	Material	Site	Rep	Original Value	Value Assigned
Seed	Fatty Acid	20:1 Eicosenoic Test 2		IARL	2	< 0.0200	0.010
					3	< 0.0200	0.010
				ILWY	1	< 0.0200	0.010
					2	< 0.0200	0.010
					3	< 0.0200	0.010
				INRC	1	< 0.0200	0.010
					2	< 0.0200	0.010
					3	< 0.0200	0.010
				PAHM	1	< 0.0200	0.010
					2	< 0.0200	0.010
				Pioneer 93M52			
					1	< 0.0200	0.010
					2	< 0.0200	0.010
					3	< 0.0200	0.010