CQR FINAL REPORT

Study Title

Comparison of Broiler Performance and Carcass Parameters When Fed Diets Containing MON 89034 × TC1507 × MON 88017 × DAS-59122-7, Control, or Reference Corn

(This report reflects data developed and reported in CQR Study No. MN-07-2, Monsanto Study No. 07-01-52-04)

Study Director

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Study Completed On: April 4, 2008

Report Completion Date: April 7, 2008

Performing Laboratories

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Report ID

MSL0021066

Monsanto Company and Dow AgroSciences, LLC

The text below applies only to the use of the data by the United States Environmental Protection Agency (U.S. EPA) in connection with the provisions of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA).

Statement of No Data Confidentiality Claim

The inclusion of this page in all studies is for quality assurance purposes and does not necessarily indicate that this study has been submitted to the U.S. EPA.

No claim of data confidentiality is made for any information contained in this study on the basis of its falling within the scope of FIFRA § 10(d)(1)(A), (B), or (C).

We submit this material to the U.S. EPA specifically under the requirements set forth in FIFRA as amended, and consent to the use and disclosure of this material by the EPA strictly in accordance with FIFRA. By submitting this material to the EPA in accordance with the method and format requirements contained in PR Notice 86-5, we reserve and do not waive any rights involving this material that are or can be claimed by the company notwithstanding this submission to the EPA.

Company: _____

Company Agent: _____

Title: _____

Signature: _____ Date: _____

Statement of Compliance

This report presents the performance and carcass evaluation of broilers fed diets containing MON 89034 × TC1507 × MON 88017 × DAS-59122-7, Control, or Reference Corn in CQR Study No. MN-07-2, Monsanto Study No. 07-01-52-04.

The compliance statement from CQR Study No. MN-07-2, Monsanto Study No. 07-01-52-04 is provided below:

The in-life portion of the study meets the Good Laboratory Practice (GLP) requirements for 21 CFR Part 58. Portions of the study conducted by Monsanto meet the GLP requirements for 40 CFR Part 160. Specific items that were not conducted under GLP include:

- Semi-annual water analysis (total coliforms) by Stewart Environmental Consultants
- Northern Colorado Water Association water testing
- Starter and grower/finisher diet formulations by Global Poultry Consulting, Inc.
- Feed and meat sample analysis at the University of Missouri Experiment Station Chemical Laboratories
- Yearly scale licensing by the State of Colorado
- Stability of the test, control, and reference substances and the stability, uniformity, and concentration of the test, control, and reference substances in the diets were not determined.

These exceptions had no effect on the integrity or quality of the study.

Submitter	Date
Sponsor Representative	4-2-2008 Date
Study Director	APR 07APR08 07APR08 Date

Copyright Information Page

Quality Assurance Statement

Following is a list of reviews conducted by the Monsanto Regulatory Quality Assurance Unit on study 07-01-52-04.

Reviews conducted by the Quality Assurance Unit confirm that the final report for study 07-01-52-04 accurately describes the methods and standard operating procedures followed and accurately reflects the raw data of the study.

Dates of Inspection/Audit	Phase	Date Reported to Study Director	Date Reported to Management
04/03/2007	Day 0 In-progress Inspection	05/10/2007	05/10/2007
09/10/2007	Raw Data Audit	09/19/2007	09/19/2007
11/05/2007	Raw Data Audit	11/19/2007	11/19/2007
11/13/2007	Statistical Draft Report and Data Audit	11/29/2007	11/29/2007
12/05/2007	Draft Report Review	12/05/2007	12/05/2007

Additionally, the Quality Assurance Unit reviewed this report, MSL 0021066, and confirmed that this report accurately reflects the portions of the final report for study 07-01-52-04 that are reported in MSL 0021064.

Dates of Inspection/Audit	Phase	Date Reported to Study Director	Date Reported to Management
11/13/2007	Statistical Draft Report Review- MSL 0021066	11/29/2007	11/29/2007
12/06/2007	Draft Report Review- MSL 0021066	12/06/2007	12/06/2007

Amy Berard 2/12/08

Quality Assurance Unit
Monsanto Regulatory, Monsanto Company

Date

Signatures of Approval

Report ID: MSL0021066
(This report reflects that portion of data from CQR Study No. MN-07-2, Monsanto Study No. 07-01-52-04 applicable to evaluation of MON 89034 × TC1507 × MON 88017 × DAS-59122-7)

Title: Comparison of Broiler Performance and Carcass Parameters When Fed Diets Containing MON 89034 × TC1507 × MON 88017 × DAS-59122-7, Control, or Reference Corn

Testing Facility: Colorado Quality Research, Inc.
400 East County Road 72
Wellington, CO 80549

Study Director: Stephen W. Davis, DVM, Dip. ACPV

In – Life Study Dates: Start Date: April 3, 2007
Completion Date: May 17, 2007

Date Protocol Signed: March 4, 2007
Date Final Report Signed: April 4, 2008

Records Retention: Originals of study specific raw data generated at Colorado Quality Research, Inc., and the Statistician's report are retained at Monsanto. Original records from the University of Missouri Experiment Station Chemical Laboratories are retained at the respective facilities.

Sample Storage: Retention samples of corn grain, treatment diets and retention meat samples are located at Monsanto Company, St. Louis, MO. Any unused corn grain was disposed of by landfill burial after grinding.

Signatures of Final Report Approval:

[redacted] APR 07APR08
Study Director — Date

[redacted] 4-2-2008
Sponsor Representative — Date

[redacted] 02APR2008
Product Safety Center Representative — Date

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Report ID: MSL0021066

I. TITLE

Comparison of Broiler Performance and Carcass Parameters When Fed Diets Containing MON 89034 × TC1507 × MON 88017 × DAS-59122-7, Control, or Reference Corn

SPONSOR:

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SPONSOR MANAGEMENT PERSONNEL:

J. Austin Burns, Ph.D.
Sponsor Representative

Gary F. Hartnell, Ph.D.
Product Safety Center Representative

TEST FACILITY MANAGEMENT:

STUDY DATES:

Study Initiation (Protocol signed):	March 4, 2007
Study Completion (Report signed):	April 4, 2008
In-life Start:	April 3, 2007
In-life Completion:	May 17, 2007

II. BACKGROUND INFORMATION AND OBJECTIVE

Monsanto Company and Agrigenetics (Dow AgroSciences) have used conventional breeding techniques to develop combined trait corn product MON 89034 × TC1507 × MON 88017 × DAS-59122-7 that confer insect resistance and herbicide tolerance. Each biotechnology-derived trait contributes specific benefits to the final combined product as follows:

MON 89034 produces two insecticidal proteins that protect against feeding damage caused by European corn borer (*Ostrinia nubilalis*) and other lepidopteran insect pests. MON 89034 produces two *Bacillus thuringiensis* proteins, Cry2Ab2 (subsp. *kurstaki*) protein and Cry1A.105, a modified Cry1A *Bt* protein. The combination of the two insecticidal proteins provides enhanced insect control and offers an additional insect-resistance management tool.

TC1507 produces the *Bacillus thuringiensis* var *aizawai* Cry1F protein to selectively control larvae of the European corn borer (*Ostrinia nubilalis*) and other lepidopteran insect pests. In addition, TC1507 produces the phosphinothricin acetyl transferase (PAT) protein from *Streptomyces viridochromogenes*, to confer tolerance to glufosinate-ammonium, the active ingredient in Liberty® herbicide.

MON 88017 produces a modified *Bacillus thuringiensis* (subsp. *kumamotoensis*) Cry3Bb1 protein to protect against corn rootworm (CRW) larval feeding. In addition, MON 88017 is a Roundup Ready® corn that produces 5-enolpyruvylshikimate-3-phosphate synthase protein from *Agrobacterium sp.* strain CP4 (CP4 EPSPS), which confers tolerance to glyphosate, the active ingredient in Roundup® agricultural herbicides.

DAS-59122-7[1] produces the *Bacillus thuringiensis* strain PS149B1 Cry34Ab1 and Cry35Ab1 proteins to protect against coleopteran pests such as corn rootworm. In addition, DAS-59122-7 produces the phosphinothricin acetyl transferase protein from *Streptomyces viridochromogenes* (PAT), and confers tolerance to glufosinate-ammonium, the active ingredient in Liberty herbicide.

The combined trait corn product MON 89034 × TC1507 × MON 88017 × DAS-59122-7 provides insect protection against lepidopteran and/or coleopteran insect pests and tolerance to the glyphosate and glufosinate herbicide families in a single product generated through conventional breeding techniques.

® Liberty is a registered trademark of Bayer CropScience.

® Roundup and Roundup Ready are registered trademarks of Monsanto Technology LLC.

[1] Equivalent to DAS-59122 in the protocol and study files

The objective of this report is to evaluate the nutritional value of diets containing MON 89034 × TC1507 × MON 88017 × DAS-59122-7 as compared to diets containing conventional control or reference corn.

III. MATERIALS AND METHODS

A. Testing/Support Facilities

Facility / Contact	*Purpose*
Colorado Quality Research, Inc. 400 E. County Road 72 Wellington, CO 80549	Test, control and reference article storage, feed preparation, archives (copies) test animal housing, In-life phase study conduct, including bird processing
Monsanto Company 800 N. Lindbergh Blvd. St. Louis, MO 63167	Supplier of corn grain Characterization of test, control and reference articles and archives (originals)
Monsanto Statistics Technology Center Monsanto Company 800 N. Lindbergh Blvd. St. Louis, MO 63167	Statistical analyses
Monsanto Quality Assurance Monsanto Company 800 N. Lindbergh Blvd. St. Louis, MO 63167	Quality Assurance
[redacted]	Consulting nutritionist, diet formulations
[redacted]	Diet and meat analysis

B. Test, Control and Reference Corn Grain

Test Article	1. MON 89034 × TC1507 × MON 88017 × DAS-59122-7, Lot No. GLP-0604-17108-S, Sample ID 06015206-00087 Corn grain was produced in Jefferson County, IA under Monsanto Production Plan # 06-01-52-06.
Control Article	1. Conventional control, XE6001, Lot No. GLP-0604-17109-S, Sample ID 06015206-00089 Corn grain was produced in Jefferson County, IA under Monsanto Production Plan # 06-01-52-06.
Reference Articles	Reference corn hybrids

1. Golden Harvest H9166 (GLP 0604-16997-S, Sample ID 06015206-00063)
2. Dekalb DKC61-50 (GLP 0604-16999-S, Sample ID 06015206-00067)
3. Pioneer 33N29 (GLP 0604-17000-S, Sample ID 06015206-00069)
4. Willcross 3103 (GLP 0604-17067-S, Sample ID 06015206-00071)
5. Willcross 3123 (GLP 0604-17068-S, Sample ID 06015206-00073)
6. Golden Harvest H8920 (GLP 0604-17069-S, Sample ID 06015206-00075)

Reference corn grain was produced under Monsanto Production Plan # 06-01-52-06. Information on planting and harvest dates, herbicide application, and storage is available from Monsanto and archived at Monsanto Company, St. Louis, MO.

Classification:	Feed ingredient
Chain-of-Custody:	Monsanto provided the chain-of-custody records for each corn grain lot delivered.
Shipping:	Monsanto was responsible for shipping the test, control and reference articles and assuring that the products were shipped in compliance with existing regulations.
Storage Requirements:	Ambient temperature during shipment and upon storage at CQR, in a secure area
Method of Administration:	Orally via complete feed

Frequency of Administration:	*Ad libitum* for ~42 days starting at receipt of chicks (approximately 1 day of age)
Justification:	Feed was the route of administration
Preparation Before Use:	The corn grain was ground through a 3/16" screen (SOP FM-7). The total quantity of ground corn added to the feed was thoroughly mixed with the other ingredients to assure uniform dispersion.
Analyses:	Characterization of grain is reported under Monsanto COA-2006-125. Analyses included pesticide, mycotoxin and nutrient / anti-nutrient analyses. Verification of identity of the test, control and reference corn was conducted and archived at Monsanto.
Accounting:	All quantities of test, control and reference articles (corn grain) received, used and disposed of were documented. Excess was disposed of according to the Sponsor's directions.

C. Test System

1. Justification:

Commercial broiler chickens are one of the target animals and feed is the route of administration.

2. Specifications:

One-day-old male and female chicks were obtained from Welp's Hatchery for use in this test. All birds were received from the same hatchery at the same time. Birds were transported from the hatchery location to the test facility via commercial airlines and ground transportation. Upon receipt and randomization to the test pens, the chicks were visually observed by a poultry veterinarian and only healthy chicks were placed on the study. Prior to placing chicks, they were sexed according to SOP B-74. Any chicks for which the gender could not be determined were not placed on the study.

Species:	Chicken (*Gallus domesticus*)
Strain:	Commercial production broiler
Breed:	Ross × Ross 308
Sex:	Male and Female (sexed at hatchery and again upon receipt at CQR before placing into the pens)
Supplier:	Welp's Hatchery, Inc. Bancroft, IA
Age:	~1 day of age upon receipt (study Day 0) 42 days of age at final pen weights 43-44 days of age at processing
Identification:	Pen cards bearing treatment number and treatment color code. Birds were individually identified with numbered wing bands prior to obtaining individual weights for yield data.
Number of birds:	900[1] (start 1080)
Number of treatments:	9[1]
Total number of pens:	90[1]
Number of pens/treatment:	10
Number of birds/pen:	10 (12 started - reduced to 10/pen at 7 days of age)
Number of birds/treatment:	100

3. Day 7 recount and adjustment:

On Day 7, all birds within a pen were counted. If greater than 10 birds were present, extra birds were removed. If extra birds were present, unthrifty birds (cull birds that were much smaller than other birds, showing signs of leg problems, crooked beak, swollen eyes, or other abnormal conditions) were removed first. If additional birds still needed to be removed, they were selected arbitrarily (i.e., the first bird within reach). Removed birds were killed by cervical dislocation. Removed birds were weighed and recorded, and animal disposal was as described in Section IX.C.

IV. EXPERIMENTAL DESIGN

A. Treatment Description

Treatments were assigned to pens using a randomized complete block design. The test facility was divided into 5 blocks of 18 pens each. Birds were assigned to the pens randomly according to CQR SOP B-10. Specific treatments were designated as follows:

[1] Two test articles were evaluated in this study, however, only test article MON 89034 × TC1507 × MON 88017 × DAS-59122-7 is the subject of this report.

Treatment[1]	Corn ID	No. of Pens of Each Sex	No. of Males /Pen[2]	No. of Females /Pen[2]	Total No. of Birds/Sex	Total No. Birds/ Treatment
1	XE6001 (Control)	5	10	10	50	100
2	Dekalb DKC61-50	5	10	10	50	100
3	Golden Harvest H8920	5	10	10	50	100
4	Golden Harvest H9166	5	10	10	50	100
5	MON 89034 × TC1507 × MON 88017 × DAS-59122-7	5	10	10	50	100
7	Pioneer 33N29	5	10	10	50	100
8	Willcross 3103	5	10	10	50	100
9	Willcross 3123	5	10	10	50	100

[1] Treatment identity remained blinded until the in-life phase of the study was completed.
[2] Two extra birds were started in each pen to compensate for losses incurred due to mortality, starve-outs, and cull birds during the first 7 days. Any extra birds remaining were removed on Day 7 as described in Section III.C. This is a standard practice for research trials when feed conversion and body weights are the primary study data. Mortality due to starve-outs and cull chicks commonly occurs in broiler feeding trials.

B. Control of Bias

The test, control and reference corn were assigned to a specific treatment group by the Study Director. The assignment was placed in the study file and is part of this final report (Appendix II – Table 1). Personnel conducting day-to-day management of birds were blinded to the treatment identification. Test, control and reference corn were handled identically to minimize bias.

V. FEED AND WATER

A. Corn - Preparation and Samples

Characterization of the corn grain used in this study is reported under Monsanto certificate of analysis, COA-2006-125. Grain analyses included pesticide, mycotoxin, and nutrient / anti-nutrient analyses. Verification of identity, the presence and absence of test articles in test and control/reference grain, respectively, was confirmed by Monsanto using event-specific PCR. Results are archived at Monsanto.

Corn grain for this study was shipped by Monsanto from St. Louis, MO to Colorado Quality Research, Inc. (CQR) in containers suitable to maintain the identity of the different corn lots. Upon receipt, the grain was handled in a manner (SOP FM-2) to maintain the identity of the different corn lots and to assure that there was no mixing among the different corn lots. Each lot of corn grain was sampled prior to and after grinding according to CQR feed sampling procedures (i.e., for each lot, a representative composite sample was collected from the total amount of corn received and ground). Each composite sample was mixed, and an ~300 g sub-sample was collected and labeled with the study number and corn lot number. The sub-samples of whole and ground grain were retained at CQR, at ambient temperature and humidity, until the in-life phase of the study was completed, and were then sent, under ambient temperature and humidity, to the Sponsor for long term storage. Packaging and labeling of all grain samples were in compliance with USDA regulations (SOP FM-8).

The corn was ground at the CQR research facility using a hammer mill with a 3/16" diameter opening screen (SOP FM-7). The hammer mill was cleaned (flushed and/or blown out) between the processing of each grain lot (SOP FM-7). The control and reference grain lots were ground first and the test grain lots were ground last. The test, control and reference corn was labeled and packaged to preserve identity throughout the study. The label included the CQR Study Number and the corn identification (the same identification of the corn as provided by Monsanto).

B. Treatment Diets – Formulation, Preparation and Samples

Soybean meal and corn gluten meal used in formulating the diets were analyzed for protein, moisture and amino acids prior to diet formulation. Dr. Wayne McWard of Global Poultry Consulting, Inc. formulated the diets so the corn component of the diets fed to broilers was supplied entirely with corn grain from one of the nine corn grain lots included in the experiment. Each diet consisted predominantly of a mixture of either the test, control, or reference corn grain and soybean meal. For each diet type (starter or grower/finisher), the respective treatment diets were formulated to be isocaloric and contained approximately the same amount of corn. The maximum amount of corn possible was formulated into the diets.

The sources of dietary protein used in this study were primarily from corn and soybean meal. Diets conformed as close as possible to industry standards and/or the nutritional recommendations set forth in the publication "Nutrient Requirements of Poultry, 9th revised edition" by the National Research Council (NRC, 1994). All starter and grower/finisher diets contained salinomycin (50 g/ton) as a coccidiostat. The diets were not expected to contain any known contaminants that would interfere with the study objectives. Ingredient composition of the diets is presented in Appendix II – Tables 2 and 3.

Treatment diets were mixed at the CQR feed mill. Vertical mixers (500-lb or 4000-lb capacity depending upon required batch size) and a California Pellet Mill system were used to prepare the diets. Feed was pelleted through a 5-mm die with live steam addition. Starter diets were fed as crumbles and the grower/finisher diets were fed as pellets.

After the starter diets were pelleted and crumbled, and grower/finisher diets were pelleted, samples were collected as the feed flowed into the bulk feed storage boxes. For each of the starter and grower/finisher diets, the collected sample was thoroughly mixed by hand prior to collecting two samples of approximately 300 g each. A 300 g sample was sent to the University of Missouri for analyses listed in the table in Section V.C. The second set of 300 g samples was retained at CQR until the in-life phase of the study was completed and was then sent to Monsanto for long-term storage. Samples were shipped and stored under ambient temperature and humidity conditions.

C. Assays

Diets were assayed for analytes listed in the table below. Diets were not assayed for salinomycin (coccidiostat). There were no known contaminants in the feed that were expected to interfere with the conduct of this study.

Laboratory	Sample type	Analytes
Univ. of Missouri	Complete diets	Protein, amino acids, moisture, acid detergent fiber, neutral detergent fiber, crude fiber, crude fat, ash, calcium, phosphorus, magnesium, potassium, sodium, sulfur, chloride, iron, zinc, copper, manganese, and molybdenum

D. Water

A copy of Colorado Quality Research, Inc. facility semi-annual water analyses report for total coliforms, conducted by Stewart Environmental Associates, and a copy of the most recent water analysis report from the Northern Colorado Water Association are archived with the original CQR study records. The water results showed that the water was potable and suitable for human consumption.

VI. HOUSING AND MANAGEMENT

A. Housing

Assignment of treatments to pens was conducted using the computer program Excel to generate random numbers for treatment assignments as shown in the following table.

	Treatment Assignment to Pens in Block - **Females**					Treatment Assignment to Pens in Block - **Males**				
Trt	1	2	3	4	5	1	2	3	4	5
1	11	37	66	87	71	1	39	51	94	68
2	3	46	53	90	75	17	48	64	80	26
3	10	35	54	86	67	13	45	52	84	28
4	9	38	57	79	78	2	33	50	83	21
5	15	40	55	89	70	8	31	59	93	29
7	12	41	60	95	27	5	36	61	82	77
8	18	44	62	92	22	6	32	65	88	19
9	14	34	58	96	30	7	47	49	91	20

Birds were housed within an environmentally controlled facility in concrete floor pens (~4' × 4') providing ~1.45 ft^2 per bird (excluding feeder and waterer space). Birds were placed in clean pens containing an appropriate depth of wood shavings to provide a comfortable environment. Lighting was provided via incandescent lights according to the following commercial lighting program.

Approximate Bird Age (days)	Approximate Hours of Continuous Light Per 24 Hr Period	~Light Intensity (foot candles)
0 – 4	24	1.0 – 1.3
5 – 10	10	1.0 – 1.3
11 – 18	12	0.2 – 0.3
19 – study end	16	0.2 – 0.3

Environmental conditions of floor space, temperature, lighting, bird density, feeder and waterer space were similar for all treatment groups.

In order to prevent bird migration, each pen was checked to assure no openings greater than 1 inch existed for approximately 12 inches in height between pens. To achieve this, a solid (wood or plastic) divider was in place for approximately the first 12 inches from the floor between each pen.

B. Management

1. Vaccinations

Birds were vaccinated for Marek's at the hatchery. Birds were vaccinated at CQR for Newcastle and Infectious Bronchitis by spray application on study Day 0. The vaccine was obtained from Fort Dodge Animal Health and identified as Newcastle Bronchitis Vaccine B1 type B1 strain, Massachusetts type, live virus (lot number 1091151A, expiration date 12Dec07). A record of the vaccination is included with the data package for this report. No other vaccinations were administered during the study.

2. Water

Water was provided *ad libitum* throughout the study via automatic bell drinker (1/pen). Drinkers were checked twice daily and cleaned as needed to assure a clean and constant water supply to the birds.

3. Feed

Feed was provided *ad libitum* throughout the study (except for the pre-processing feed withdrawal period described in Section VII) via one hanging tube feeder per pen. A feeder tray was placed in each pen for the first 4 days of the study. Birds were placed on their respective treatment diets upon receipt and diets were fed continuously during the study period. Feed added and removed from pens was weighed and recorded. Diet changes were conducted at the same time for all pens. The starter diet was fed from Days 0 – 21 and the grower/finisher diet was fed for the remainder of the study.

4. Daily Observations

The test facility, pens, and birds were observed at least twice daily for general flock condition, lighting, water, feed, ventilation, and unanticipated events. The minimum-maximum temperature of the test facility was recorded once daily. No abnormal bird behavior was observed throughout the study period.

5. Mortality, Culls and Sex-slips

Starting on study Day 0, any bird that was removed and sacrificed due to moribund condition or error in initial gender determination, or found dead, was weighed and recorded on the pen mortality record. Birds that died after final pen weights on study Day 42 were not weighed, necropsied or listed on the pen mortality records. They were recorded as Dead on Arrival (DOA) at processing for clarity of bird accounting. All mortalities occurring prior to collection of study Day 42 final pen

weights were necropsied to the extent necessary to determine the probable cause of death, and results were recorded on the pen mortality record.

6. Body Weights and Feed Intake

Birds were weighed, by pen, on study Day 0 (receipt of chicks) and 42 (end of performance evaluation phase). Pens were weighed by block, and two blocks were weighed at the same time. Birds were wing banded and individually weighed immediately prior to slaughter for processing. The feed remaining in the feeder at Day 21 and Day 42 was weighed and the amount consumed per pen was calculated by subtracting the feed weighed out of the pen from the total amount of feed weighed into the pen.

7. Weight Gain and Feed:Gain

Performance data were calculated and summarized by average weight gain per bird on Day 42. The average feed:gain was calculated for the period from Day 0 - 42 by dividing the total feed consumption by the total weight gain of surviving birds for that pen. Adjusted feed:gain was calculated by dividing the total feed consumption by the weight gain of surviving birds plus weight gain of birds that died or were removed from that pen. For example: Adjusted feed:gain Day 0 - 42 = Feed intake during Days 0 – 42 ÷ [(Day 42 pen weight – Day 0 pen weight) + (mortality/removal weights Day 0 - 42 – average bird weight Day 0 {this is conducted on an individual bird basis and then totaled}]. If the dead or removed bird(s) lost weight, then no adjustment was made for that bird.

8. Scales

Scales used in preparation of feed and weighing of feed and birds were licensed by the State of Colorado. At each use, the scales were checked using standard weights according to CQR Standard Operating Procedures. A copy of the State scale inspection and license is archived with the original study records.

VII. PROCESSING – YIELD DATA AND SAMPLES FOR ANALYSIS

Processing was conducted according to CQR SOP B-71. After the final weight data were collected on Day 42, the respective feed was returned to the pens. Feed was removed from the pens approximately 12 hours prior to the scheduled processing time. The processing took place over a two-day period. The males were processed on Day 43 and the females were processed on Day 44.

All surviving birds in each pen were processed. Birds were processed by: killing the bird by severing the jugular, scalding, plucking, eviscerating and then placing the eviscerated bird in an aerated chill tank (ice and water). The fat pad was removed and weighed during the eviscerating process. After the birds were chilled to ~7° C

(~45 - 55 minutes in chill tank), the birds were removed from the chill tank and placed upright into a plastic barrel container. A bag of ice was placed on the top and bottom of the container. After the birds had drained for a minimum of ~15 minutes the individual bird chilled weight was obtained and then the bird was deboned and the individual parts were weighed and recorded, and samples collected.

A. Yield Data

(Included the following data for individual birds)

- Live weight
- Fat pad weight
- Chilled weight
- Breast meat weight –skinless, boneless
- Wings (bone in, skin on)
- Thighs (bone in, skin on)
- Drums (bone in, skin on)

Unit of measure for the individual weights were either grams or kilograms as indicated on the respective data collection form. Calculations were conducted to express parts on a percentage basis. This was done by dividing the weight of the part by the weight of the part of which it was to be expressed as a percentage. For example, percent breast yield = breast weight ÷ chilled weight × 100.

B. Samples

After the birds were processed and parts weighed, one bird from each pen was selected for collection of meat samples. The bird was selected arbitrarily, i.e., for each pen the birds were sent through the processing line in no particular order and the meat was collected from birds in whatever order was convenient for the procedure. One-half of the bird was used for retention samples and the remaining half was used for analysis samples.

1. Retention Samples

One-half breast (skinless, boneless) was placed in one bag and one thigh (with skin removed) was placed in another bag. The samples were labeled with the CQR study number, pen number, treatment number, bird number, sex, date of collection and either breast or thigh meat. The retention samples were kept frozen (~-20° C) at CQR until the samples for analysis were received at the University of Missouri analytical lab, at which time the retention samples were sent to the Sponsor (with wet ice) for long term storage.

2. Analysis Samples

The remaining one-half breast (skinless, boneless) and one thigh (with skin removed) were placed in separate bags. The samples were labeled with the CQR study number, pen number, treatment number, bird number, sex, date of collection and either breast or thigh meat. The samples were held refrigerated (~5° C) prior to shipping. The chilled samples were sent (non-frozen, with wet ice) to the University of Missouri for protein, fat and moisture analysis.

VIII. STATISTICAL ANALYSIS

Statistical analyses of the data were conducted by the Monsanto Statistics Technology Center and a sub-report was provided for inclusion in this final study report. Statistical analyses were conducted on performance, carcass yield, and meat quality parameters. SAS®, version 9.1.3, was used to perform the analyses.

Each measurement to be statistically analyzed was processed by two different procedures (Models 1 and 2). The basic method (Model 1) was a two-factor analysis of variance under a randomized complete block structure. The two factors were diet and sex of birds. Data from all nine test treatments in the study design, including that for Test article 1 that is not the subject of this report, were included in this analysis in order to maximize statistical power. The main effects of diet and sex along with the diet-by-sex interaction were tested and noted. If the interaction was not significant ($P \geq 0.15$) then the comparisons among diets were done using the main effect for diets, i.e., diet means were averaged over sex. If the interaction was significant ($P < 0.15$) then the diet comparisons were done separately for each sex. Mean separation procedures were performed using protected Least Significant Difference (LSD) at a 0.05 level of significance. In addition to tables, the results of these analyses were graphically summarized in two sets of plots (mean ± ½ the LSD and mean ± one standard error of the mean) for bird weight Day 42, feed intake, adjusted feed conversion, percent chilled weight, and breast weight. An example of the mean ± ½ the LSD plot is presented below (Figure 1). The second analysis conducted (Model 2) was a comparison of the test diet with the population of control and reference diets of which the seven diets (control and the six commercial reference diets) were a sample. This required a mixed linear model analysis with an additional variance component for random between-diet effects. Analyses were averaged over sex unless there was a significant diet-by-sex interaction at which time analyses were broken out by sex.

® SAS is a registered trademark of SAS Institute Inc., Cary, N.C.

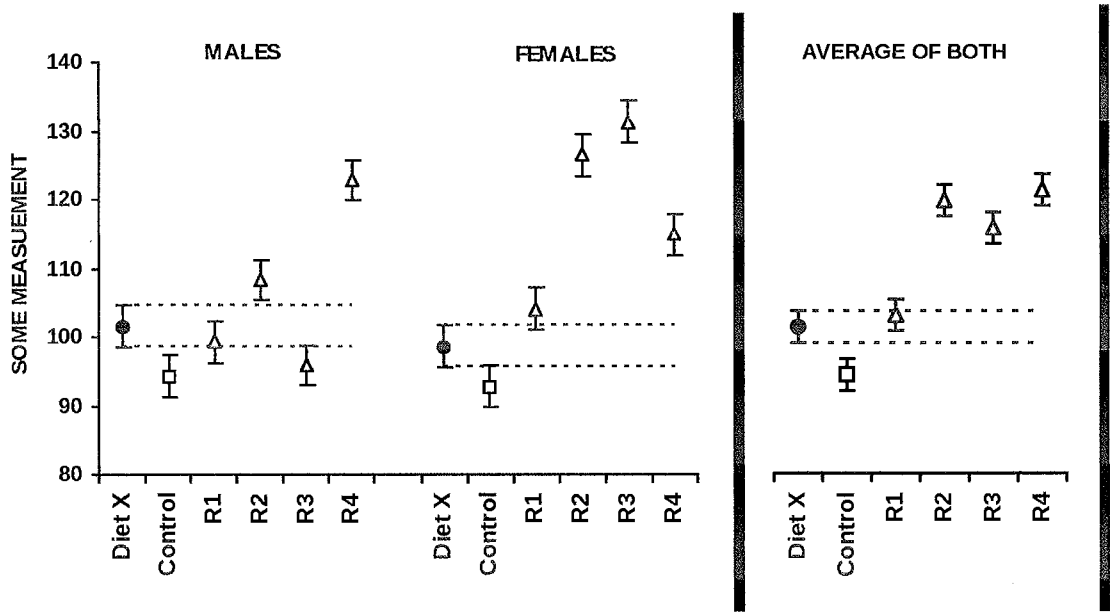

Figure 1. Simulated example of a statistical summary plot comparing diet X to its control and to each of four commercial reference diets, in the presence of a diet-by-sex interaction. Note that the 'error' bars on these plots are 5% statistical significance intervals. They are the mean ± ½ the Least Significant Difference (LSD). Therefore, if the overall F-test is significant at $P < 0.05$, any two diets having non-overlapping bars are significantly different at the 5% level.

IX. DISPOSITIONS

A. Excess Test, Control and Reference Articles, and Duplicate Meat Samples

An accounting of corn grain received and used was documented. Any corn not used to mix the complete feed was disposed of by burial at a local commercial landfill. Any unused regulated corn grain not returned to the Sponsor was devitalized by grinding prior to disposal. Retained corn samples were sent to the Sponsor for archiving at study end (sent under ambient temperature and humidity in compliance with SOP FM-8). The retained meat samples were sent (frozen, with wet ice) to the Sponsor at study end.

B. Feed

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

C. Test Animals

An accounting was maintained of birds received for the study. Birds were sacrificed on Day 43 or 44 for processing (the meat from these birds was not used for human consumption). Carcasses, meat, mortalities and removed birds were composted at CQR or transported to a commercial landfill for burial. Documentation of disposition is archived with this final study report.

D. Records and Report

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

The Study Director's final study report, original data and study records, statistician's report and Sponsor's data and reports (analysis of the grain) are stored in the Monsanto Company Regulatory archives, St. Louis, Missouri. An exact copy of the final report and all records on the study are being kept for five years at the CQR archive. The CQR archive is located at 400 East County Road 72, Wellington, Colorado.

All original data and records generated at the University of Missouri are retained at the University of Missouri facility for a minimum of three years.

X. CONDUCT OF STUDY AND TEST MONITORING

This study was conducted in accordance with the study protocol, CQR Standard Operating Procedures, and the principles and guidelines for the care and use of agricultural animals in research (FASS, 1999). This study was conducted in compliance with the Food and Drug Administration's Good Laboratory Practice for Nonclinical Laboratory Studies regulation (21CFR, Part 58). The Monsanto Quality Assurance Unit (QAU) conducted in-life phase inspections, and the study data and report were audited to ensure the integrity of the data generated by CQR. The portion of the study conducted by Monsanto was conducted in compliance with the United States Environmental Protection Agency Good Laboratory Practice Standards (40CFR, Part 160). Monsanto QAU provided oversight for data generated at CQR and Monsanto, and statistical analysis of data by the Monsanto Statistics Technology Center.

If this study is reviewed by any government agency, the Study Director will immediately notify the Study Monitor.

XI. PERSONNEL

Key personnel involved in this study were as follows:

Study Monitor
Sponsor Representative
Product Safety Center Representative
Sponsor Quality Assurance
Statistician
University of MO – Feed and
meat analysis
Testing Facility Management
Study Director
Operations Manager
Research Manager
Research Data Manager
Research Data Manager
Research Farm Supervisor
Farm Data Manager
Feed Mill Manager
Research Technician
Research Technician
Research Technician
Research Technician
Processing Supervisor
Consulting Nutritionist

XII. RESULTS AND CONCLUSIONS

A. Results

The results of compositional (including pesticides) and mycotoxin analyses of corn grain lots prior to use in this study are shown in Appendix I - Tables 1 and 2. No unusual values were reported. The detected levels of fumonisins reported for the corn in Appendix I - Table 2 were considered acceptable for the purposes of this study [U.S. Food and Drug Administration, Center for Food Safety and Nutrition, Guidance for Industry, Fumonisin Levels in Human Foods and Animal Feeds, http://www.cfsan.fda.gov/~dms/fumongu2.html (accessed March, 2007)]. Analytical results for soybean meal and corn gluten meal lots used in all study diets are presented in Appendix I - Table 3.

Dietary treatment assignments for the nine corn lots (including Treatment 6 utilizing Test article 1 that is not the subject of this report) are presented in Appendix II - Table 1. The starter and grower/finisher diet formulations and calculated nutrient compositions are shown in Appendix II - Tables 2 and 3. The nutrient assay results for the starter and grower/finisher diets (Appendix II – Tables 4 and 5, respectively) were acceptable based on a review conducted by the consulting nutritionist, Dr. W. McWard of Global Poultry Consulting, Inc.

Initial (Day 0) bird weights (12 birds placed per pen) are summarized by treatment and pen in Appendix III - Table 1. Chick mortality by dietary treatment ranged from 4.2 to 10.0% (average of 7% across all dietary treatments) during the first 7 days of the study (Appendix III - Table 2). This mortality, attributed predominantly to bacterial infection and dehydration, occurs commonly in chicks in commercial production conditions and was random without any relationship to treatment. Pen sizes were normalized to 10 birds/pen on Day 7. In an effort to increase the sensitivity of the growth-based experiment, the initial criterion for bird removal was slow growth, followed by random selection for the majority of birds removed. From Day 7 - 42 bird mortality averaged 1.9% and ranged from 0 to 4 % across all treatment groups (Appendix III - Table 2). Mortality from Day 7 - 42 was 1% for birds receiving diets containing MON 89034 × TC1507 × MON 88017 × DAS-59122-7. Apparent causes of death identified at necropsy for most birds that died after Day 7, sudden death syndrome and bacterial infection, occur commonly in chickens. The birds in all groups were in good health based on twice daily pen observations.

Pen data including live weight (kg/pen) determined on Day 0 and 42, and pen feed consumption (starter diet from Day 0 - 21 and grower/finisher diet from Day 21 - 42) were evaluated directly or used to calculate the set of performance parameters at the study days or for the intervals indicated in the following table. Also listed are bird processing data and meat analyses, as well as parameters calculated from those data.

Parameter	Times or Intervals
Performance	
Avg Bird Wt. (g/bird)	Day 0
Avg Bird Wt. (kg/bird)	Day 42
Feed Intake (kg/pen)	Day 0-42
Feed Intake (kg/bird)	Day 0-42
Pen Wt. Gain (kg)	Day 0-42
Avg Bird Gain (kg)	Day 0-42
Feed:Gain (kg/kg)	Day 0-42
Adjusted Feed:Gain (kg/kg)	Day 0-42
Processing[a]	
Processing Live Wt., kg/bird	Day 43 or 44
Chilled Carcass Wt. (kg and % live wt.)	At processing
Fat Pad Wt. (kg and % live wt)	At processing
Breast Wt. (kg and % chilled wt.)	At processing
Drum Wt. (kg and % chilled wt.)	At processing
Thigh Wt. (kg and % chilled wt.)	At processing
Wing Wt. (kg and % chilled wt.)	At processing
Meat Analyses	
Breast -- fat, moisture and protein (g/100g)	Processing samples
Thigh -- fat, moisture and protein (g/100g)	Processing samples
[a] Day 43 or 44	

Summary statistics for bird performance, processing (yield) and meat analysis parameters, and results of statistical analyses are presented in tabular and graphical form in Appendix III - Tables 3 and 4, and Figures 1 and 2. The statistical analysis sub-report, including graphs of selected parameter data, is appended (Appendix IV).

1. MON 89034 × TC1507 × MON 88017 × DAS-59122-7 Performance Parameters

Bird performance data for the 42-day test period for diets formulated with MON 89034 × TC1507 × MON 88017 × DAS-59122-7, control, and reference corn are presented in Appendix III – Tables 3 and 4, and Figures 1 and 2.

Performance of broilers fed diets containing the MON 89034 × TC1507 × MON 88017 × DAS-59122-7 corn was not different ($P \geq 0.05$) than that of broilers fed diets formulated with conventional control corn grain of similar genetic background (Appendix III - Table 3 and Figures 1 and 2). Performance was also not different ($P \geq 0.05$) for birds fed diets containing MON 89034 × TC1507 × MON 88017 × DAS-59122-7 compared to the population of birds fed diets containing control and reference corn (Appendix III - Table 4). Furthermore, performance parameters measured for birds fed diets containing either MON 89034 × TC1507 × MON 88017 × DAS-59122-7 or the conventional control grain were generally within the range of performance observed for birds fed diets formulated to the same nutrient

specifications using grain from six conventional reference corn hybrids (Appendix III – Table 3). No unexpected effects on broiler performance were observed when broilers were fed diets formulated with MON 89034 × TC1507 × MON 88017 × DAS-59122-7 compared to diets formulated with control or reference corn.

2. MON 89034 × TC1507 × MON 88017 × DAS-59122-7 Carcass Measurements

Bird processing data and results of meat analyses are summarized in Appendix III - Tables 3 and 4. Carcass yield measurements were not different ($P \geq 0.05$) for broilers fed diets containing MON 89034 × TC1507 × MON 88017 × DAS-59122-7 compared to those fed diets containing conventional control or reference corn, with exception of fat pad weight expressed as kg/bird or % of live bird weight ($P < 0.05$). Inspection of fat pad weights in Appendix III - Table 3 shows that the low fat pad weight for birds fed diets containing the conventional control corn is likely a prime reason for the detected difference in fat pad weight for birds fed diets containing MON 89034 × TC1507 × MON 88017 × DAS-59122-7 and conventional control corn. Fat pad weight for birds fed diets containing MON 89034 × TC1507 × MON 88017 × DAS-59122-7 was not different ($P \geq 0.05$) from that of birds fed diets containing any of the six reference corn lots. A diet × sex interaction ($P < 0.15$) was detected for four carcass variables (breast weight expressed as kg/bird, and breast, wing, and drum weight expressed as % of chilled carcass weight). Within sex analyses for these variables detected no difference ($P \geq 0.05$) between MON 89034 × TC1507 × MON 88017 × DAS-59122-7 and control (XE6001) for any of the four variables for either male or female birds. For all variables for which a within sex diet effect was detected ($P < 0.05$), the mean value for birds fed diets containing MON 89034 × TC1507 × MON 88017 × DAS-59122-7 was within the range of values for birds fed diets containing conventional reference corn lots (Appendix IV - Tables 11 - 23). Carcass yield was not different ($P \geq 0.05$) for birds fed diets containing MON 89034 × TC1507 × MON 88017 × DAS-59122-7 compared to the population of those fed diets containing conventional control and reference corn grain (Appendix III - Table 4). Average carcass measurements for birds fed diets containing MON 89034 × TC1507 × MON 88017 × DAS-59122-7 and the control grain were generally within the range observed for birds fed diets formulated to the same nutrient specifications using six conventional reference corn hybrids (Appendix III - Table 3).

Measurement of fat, moisture and protein content of skinless breast and thigh meat samples collected during bird processing showed no differences ($P \geq 0.05$) among dietary treatments (Appendix III – Table 3). Meat analysis results were not different ($P \geq 0.05$) for birds fed diets containing MON 89034 × TC1507 × MON 88017 × DAS-59122-7 versus those of birds fed diets containing conventional control or reference corn based on individual diet comparisons or comparison to the population of control and reference corn diets (Appendix III – Tables 3 and 4).

B. Conclusions

There were no biologically relevant differences in broiler performance, carcass yield or meat composition between broilers fed diets containing MON 89034 × TC1507 × MON 88017 × DAS-59122-7 and those fed diets containing the conventional control corn. The diets containing MON 89034 × TC1507 × MON 88017 × DAS-59122-7 were as wholesome as diets formulated with control corn and commercially available reference corn regarding their ability to support the rapid growth of broiler chickens. No unexpected effects on performance or carcass yield and composition were observed for birds fed diets containing MON 89034 × TC1507 × MON 88017 × DAS-59122-7. These data support the conclusion that MON 89034 × TC1507 × MON 88017 × DAS-59122-7 is as nutritious as conventional corn.

XIII. STUDY DIRECTOR'S COMMENTS/CERTIFICATION STATEMENT

This report is an accurate and complete reflection of the evaluation of MON 89034 × TC1507 × MON 88017 × DAS-59122-7, control and conventional reference corn grain in broiler feeding study MN-07-2 (Monsanto Study No. 07-01-52-04).

The Study Director's Comments/Certification Statement from Study MN-07-2 (Monsanto Study No. 07-01-52-04) are provided below.

No adverse effects were observed. There were no known circumstances that may have affected the data quality or integrity.

I, Dr. Stephen W. Davis, Study Director, attest that Study No. MN-07-2 (Monsanto No. 07-01-52-04) was conducted according to the Protocol, Protocol Amendment #1, and Protocol Deviation #1 and that the data were collected and recorded in accordance with the applicable Food and Drug Administration, Center for Veterinary Medicine (CVM) Guidelines.

Stephen [redacted] DVM, Dip. ACPV
Study Director

APR (RS) 07APR08
07AUG08
Date

XIV. LISTING OF APPENDICES

XV. LISTING OF APPLICABLE SOPS

SOP No.	Title	Revision Number	Effective Date
B-1	House Preparation	6	2-16-05
B-2	Care and Management of Poultry	10	2-16-05
B-6	Vaccination of Poultry	7	2-16-05
B-7	Feeding Poultry	7	2-16-05
B-9	Scale & Thermometer Accuracy Checks and Certification of Standard Weights	11	2-16-05
B-10	Randomization of Treatments to Pens and Test Animals to Pens	7	2-16-05
B-12	Emergency Power During Electrical Failure	15	3-16-07
B-13	Sanitation and Restricted Access	5	2-04-04
B-16	Necropsy of Mortality	5	2-16-05
B-21	Weighing Poultry	6	2-16-05
B-22	Euthanasia and Disposal of Avian Species	5	3-16-07
B-29	Probable Mortality Causes	5	3-16-07
B-34	Culling and Sacrifice of Moribund Test Animals	3	3-16-05
B-64	Facility Logs and Daily Observations	3	10-01-02
B-66	Lighting Program	3	5-02-01
B-71	Processing Poultry	2	2-04-04
B-72	Bird Recount and Adjustment	1	7-02-02
B-73	Test Animal Receipt, Accounting & Disposition		7-02-02
B-74	Sexing Poultry		2-20-03
M-5	Quality Control of Data and Final Report	2	7-02-02
M-7	Final Report and Amendment	1	7-02-02
M-10	Preparation of Written Standard Operating Procedures	2	3-16-07
M-11	Data Recording & Correction of Errors	5	3-16-07
M-12	Study Protocol Development and Implementation		3-16-07
M-14	Definition of "Management"		3-16-07
M-16	Deviations from Protocol and/or Written Procedures and/or GLP Regulations		3-16-07
FM-2	Test Article Receipt, Handling During Use, Accounting and Final Disposition	5	2-25-05
FM-3	Feed Receipt, Mixing, Storage and Accounting	8	2-25-05
FM-4	Feed Sampling Procedures	3	2-04-04
FM-5	Test Article Weights and Premix Preparation	5	2-25-05
FM-6	Flushing Feed Mill	3	2-25-05
FM-7	Grinding Corn and Other Ingredients	3	2-25-05
FM-8	Handling of Regulated Materials	2	7-22-05

XVI. REFERENCES

FASS. 1999. Guidelines for the Care and Use of Agricultural Animals in Research and Teaching, 1st rev. Federation of Animal Science Societies, Savoy, IL.

NRC. 1994. Nutritional Requirements of Poultry, 9th revised edition. National Research Council, Washington, D.C.

CQR Final Report Project No. MN-07-2
(Monsanto Study No. 07-01-52-04)

APPENDIX I

Pre-study Data from Monsanto Study No. 07-01-52-04

Pages 32 - 37

Appendix I - Table 1. Corn grain compositional analyses (including pesticides) -- as is basis

Corn Lot Number	GLP-0604-16997-S	GLP-0604-16999-S	GLP-0604-17000-S	GLP-0604-17067-S	GLP-0604-17068-S	GLP-0604-17069-S	GLP-0604-17108-S	GLP-0604-17109-S
Corn ID / Product	Golden Harvest H9166	Dekalb DKC61-50	Pioneer 33N29	Willcross 3103	Willcross 3123	Golden Harvest H8920	MON 89034 × TC1507 × MON 88017 × DAS-59122-7	XE6001 (Conventional Control)
Proximate (%)								
Moisture	12.4	12.5	12.2	11.4	12.2	12.3	11.0	11.2
Protein	6.65	6.74	7.18	7.32	6.23	6.57	8.17	7.96
Total Fat	3.24	3.33	3.23	4.02	3.09	3.34	3.51	2.67
Ash	1.01	1.04	1.16	1.23	1.12	0.904	1.29	1.24
Carbohydrates	76.7	76.4	76.2	76.0	77.4	76.9	76.0	76.9
Acid Detergent Fiber (%)	3.42	2.80	2.97	3.30	3.52	3.06	2.82	2.65
Crude Fiber (%)	2.19	2.33	2.61	2.56	2.72	2.50	2.25	1.91
Neutral Detergent Fiber (%)	9.09	9.96	9.22	8.63	8.69	9.12	7.90	8.16
Minerals (ppm)								
Calcium	36.9	31.3	25.3	38.0	31.5	44.7	35.5	40.4
Copper	1.93	1.24	2.44	1.54	1.36	1.47	1.47	1.82
Iron	13.3	14.8	16.8	15.8	15.2	14.1	19.6	22.0
Magnesium	820	795	915	1070	748	924	1020	944
Manganese	4.26	3.69	5.09	5.22	3.56	4.72	4.66	5.54
Molybdenum	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00
Phosphorus	2230	2520	2710	2910	2390	2430	2680	2410
Potassium	2930	3230	3420	3370	3260	3190	3320	3280
Sodium	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100
Zinc	19.4	16.0	22.3	21.5	18.9	19.5	18.7	20.7
Chloride (%)	0.044	0.038	0.054	0.044	0.048	0.051	0.042	0.045
Selenium (ppb)	84.4	203	65.3	87.9	234	79.1	117	67.2
Sulfur (ppm)	835	807	805	900	862	895	899	946

Appendix I - Table 1 (Cont'd). Corn grain compositional analyses (including pesticides) -- as is basis

Corn Lot Number	GLP-0604-16997-S	GLP-0604-16999-S	GLP-0604-17000-S	GLP-0604-17067-S	GLP-0604-17068-S	GLP-0604-17069-S	GLP-0604-17108-S	GLP-0604-17109-S
Corn ID / Product	Golden Harvest H9166	Dekalb DKC61-50	Pioneer 33N29	Willcross 3103	Willcross 3123	Golden Harvest H8920	MON 89034 × TC1507 × MON 88017 × DAS-59122-7	XE6001 (Conventional Control)
Pesticides (ppm)								
Organophosphates	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Organonitrogens	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500
Organochlorinated	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200
N-Methylcarbamates	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100
Amino Acids (g/100g)								
Aspartic Acid	0.453	0.478	0.537	0.519	0.455	0.476	0.591	0.545
Threonine	0.226	0.245	0.265	0.263	0.234	0.245	0.290	0.278
Serine	0.328	0.353	0.371	0.381	0.315	0.338	0.430	0.408
Glutamic Acid	1.13	1.22	1.30	1.36	1.08	1.21	1.56	1.47
Proline	0.546	0.615	0.636	0.634	0.565	0.578	0.751	0.689
Glycine	0.276	0.301	0.327	0.322	0.294	0.302	0.322	0.316
Alanine	0.459	0.503	0.513	0.544	0.433	0.488	0.605	0.573
Cystine	0.136	0.154	0.167	0.174	0.164	0.161	0.182	0.194
Valine	0.307	0.337	0.356	0.358	0.320	0.334	0.385	0.373
Methionine	0.127	0.132	0.135	0.144	0.140	0.129	0.167	0.178
Isoleucine	0.211	0.231	0.237	0.247	0.207	0.223	0.272	0.262
Leucine	0.717	0.771	0.789	0.847	0.657	0.747	0.981	0.933
Tyrosine	0.212	0.179	0.170	0.256	0.209	0.129	0.286	0.282
Phenylalanine	0.319	0.339	0.360	0.363	0.304	0.328	0.413	0.393
Lysine	0.239	0.255	0.283	0.265	0.246	0.248	0.269	0.263
Histidine	0.181	0.200	0.219	0.217	0.205	0.200	0.231	0.228
Arginine	0.331	0.359	0.389	0.400	0.356	0.327	0.395	0.383
Tryptophan	0.0393	0.0428	0.0429	0.0457	0.0416	0.0449	0.0480	0.0478

Appendix I - Table 1 (Cont'd). Corn grain compositional analyses (including pesticides) -- as is basis

Corn Lot Number	GLP-0604-16997-S	GLP-0604-16999-S	GLP-0604-17000-S	GLP-0604-17067-S	GLP-0604-17068-S	GLP-0604-17069-S	GLP-0604-17108-S	GLP-0604-17109-S
Corn ID / Product	Golden Harvest H9166	Dekalb DKC61-50	Pioneer 33N29	Willcross 3103	Willcross 3123	Golden Harvest H8920	MON 89034 × TC1507 × MON 88017 × DAS-59122-7	XE6001 (Conventional Control)
Fatty Acids (g/100g)								
8:0 Caprylic	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400
10:0 Capric	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400
12:0 Lauric	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400
14:0 Myristic	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400
14:1 Myristoleic	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400
15:0 Pentadecanoic	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400
15:1 Pentadecenoic	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400
16:0 Palmitic	0.287	0.328	0.340	0.352	0.299	0.303	0.365	0.269
16:1 Palmitoleic	0.00428	0.00408	0.00437	0.00636	< 0.00400	0.00464	< 0.00400	< 0.00400
17:0 Heptadecanoic	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400
17:1 Heptadecenoic	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400
18:0 Stearic	0.0561	0.0513	0.0512	0.0737	0.0603	0.0775	0.0651	0.0505
18:1 Oleic	0.737	0.837	0.859	1.28	0.741	1.04	1.04	0.773
18:2 Linoleic	2.01	1.90	1.82	2.12	1.70	1.66	1.87	1.42
18:3 Gamma Linolenic	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400
18:3 Linolenic	0.0357	0.0374	0.0297	0.0356	0.0357	0.0322	0.0357	0.0267
20:0 Arachidic	0.0120	0.0120	0.0112	0.0152	0.0122	0.0129	0.0136	0.0119
20:1 Eicosenoic	0.00677	0.00695	0.00718	0.00869	0.00633	0.00688	0.00871	0.00736
20:2 Eicosadienoic	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400
20:4 Arachidonic	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400
20:3 Eicosatrienoic	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400	< 0.00400
22:0 Behenic	0.00457	0.00459	0.00440	0.00443	0.00454	< 0.00400	0.00445	0.00415

Appendix I – Table 2. Corn grain mycotoxin analyses[1](as-is basis)

Test	Detection Limit	Golden Harvest H9166	Dekalb DKC61-50	Pioneer 33N29	Willcross 3103	Willcross 3123	Golden Harvest H8920	MON 89034 × TC1507 × MON 88017 × DAS-59122-7	XE6001 (Conventional Conrol)
Aflatoxin B1	1.0 ppb	ND	ND	ND	ND	ND	ND	ND	ND
Aflatoxin B2	1.0 ppb	ND	ND	ND	ND	ND	ND	ND	ND
Aflatoxin G1	1.0 ppb	ND	ND	ND	ND	ND	ND	ND	ND
Aflatoxin G2	1.0 ppb	ND	ND	ND	ND	ND	ND	ND	ND
Ochratoxin A	2 ppb	ND	ND	ND	ND	ND	ND	ND	ND
T-2 Toxin	0.1 ppm	ND	ND	ND	ND	ND	ND	ND	ND
HT-2 Toxin	0.1 ppm	ND	ND	ND	ND	ND	ND	ND	ND
Diacetoxyscirpenol	0.3 ppm	ND	ND	ND	ND	ND	ND	ND	ND
Neosolaniol	0.1 ppm	ND	ND	ND	ND	ND	ND	ND	ND
Fusarenon X	0.5 ppm	ND	ND	ND	ND	ND	ND	ND	ND
Deoxynivalenol	0.1 ppm	ND	ND	ND	ND	0.5 ppm	ND	1.0 ppm	0.1 ppm
15 Acetyl-DON	0.1 ppm	ND	ND	ND	ND	ND	ND	0.2 ppm	ND
3 Acetyl-DON	0.1 ppm	ND	ND	ND	ND	ND	ND	ND	ND
Nivalenol	0.5 ppm	ND	ND	ND	ND	ND	ND	ND	ND
Zearalenone	100 ppb	ND	ND	ND	ND	ND	ND	193.6 ppb[2]	124.9 ppb[3]
Fumonisin B1	0.1 ppm	4.2 ppm	0.8 ppm	0.8 ppm	2.8 ppm	4.8 ppm	4.9 ppm	5.0 ppm	8.5 ppm
Fumonisin B2	0.1 ppm	1.1 ppm	0.1 ppm	0.1 ppm	0.3 ppm	1.9 ppm	1.6 ppm	1.3 ppm	1.9 ppm
Fumonisin B3	0.1 ppm	ND	ND	ND	ND	ND	ND	ND	ND
Citrinin	267 ppb	ND	ND	ND	ND	ND	ND	ND	ND

[1] Mycotoxin analyses are reported on Monsanto COA-2006-125. Reports of these data from Romer Labs are archived under the respective COA number.

[2] Re-run results = 145.6 ppb

[3] Re-run results = 116.3 ppb

ND = none detected = < Limit of Detection

Appendix 1 - Table 3. Soybean meal and corn gluten meal analyses (as-is basis)

	Corn Gluten Meal	Soybean Meal
Moisture (%)	9.39	12.10
Crude Protein (%, as-is)	65.51	48.21
Amino Acids (w/w of sample %, as is basis)		
Taurine	0.01	0.00
Hydroxyproline	0.00	0.00
Aspartic Acid	3.92	5.74
Threonine	2.07	1.89
Serine	2.64	2.04
Glutamic Acid	13.34	8.95
Proline	5.94	2.46
Lanthionine	0.00	0.00
Glycine	1.76	2.12
Alanine	5.63	2.16
Cysteine	1.19	0.82
Valine	3.10	2.58
Methionine	1.63	0.75
Isoleucine	2.76	2.44
Leucine	10.88	3.94
Tyrosine	3.40	1.78
Phenylalanine	4.15	2.52
Hydroxylysine	0.11	0.01
Ornithine	0.09	0.05
Lysine	1.06	3.25
Histidine	1.30	1.33
Arginine	2.05	3.69
Tryptophan	0.32	0.62

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APPENDIX II

Diet Composition and Analyses

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Appendix II – Table 1. Treatment assignment of corn grain lots

Treatment ID	Treatment Type[1]	Formulation Number	Corn ID / Product	Lot Number
Starter				
1	C	149	Conventional control, XE6001	GLP-0604-17109-S
2	R	153	Dekalb DKC61-50	GLP-0604-16999-S
3	R	145	Golden Harvest H8920	GLP-0604-17069-S
4	R	151	Golden Harvest H9166	GLP-0604-16997-S
5	T	147	MON 89034 × TC1507 × MON 88017 × DAS-59122-7	GLP-0604-17108-S
7	R	155	Pioneer 33N29	GLP-0604-17000-S
8	R	157	Willcross 3103	GLP-0604-17067-S
9	R	143	Willcross 3123	GLP-0604-17068-S
Grower/Finisher				
1	C	150	Conventional control, XE6001	GLP-0604-17109-S
2	R	154	Dekalb DKC61-50	GLP-0604-16999-S
3	R	146	Golden Harvest H8920	GLP-0604-17069-S
4	R	152	Golden Harvest H9166	GLP-0604-16997-S
5	T	148	MON 89034 × TC1507 × MON 88017 × DAS-59122-7	GLP-0604-17108-S
7	R	156	Pioneer 33N29	GLP-0604-17000-S
8	R	158	Willcross 3103	GLP-0604-17067-S
9	R	144	Willcross 3123	GLP-0604-17068-S

[1] T = test, C = control, and R = reference

Appendix II - Table 2. Starter diet formulation and calculated nutrient composition (as-is basis)

CQR Treatment ID	1	2	3	4	5	7	8	9
Corn ID / Product	XE6001 (Conventional Control)	Dekalb DKC61-50	Golden Harvest H8920	Golden Harvest H9166	MON 89034 × TC1507 × MON 88017 × DAS-59122-7	Pioneer 33N29	Willcross 3103	Willcross 3123
Ingredient	**Percent of Each Ingredient**							
Corn	61.505	61.454	61.256	61.289	61.863	61.912	61.500	61.022
Soybean Meal	26.850	26.250	26.250	26.250	26.800	26.050	26.100	26.000
Corn Gluten	6.050	7.500	7.700	7.600	5.850	7.200	7.150	8.250
Soybean Oil	1.500	1.050	1.050	1.050	1.450	1.050	1.250	1.000
Defluorinated Phosphate	2.000	1.950	1.950	2.000	1.950	1.950	1.900	1.950
Limestone	0.900	0.650	0.650	0.650	0.950	0.700	0.950	0.650
Salt	0.353	0.279	0.277	0.275	0.280	0.281	0.284	0.277
Choline Chloride-60	0.150	0.150	0.150	0.150	0.150	0.150	0.150	0.150
Broiler Vitamin[1]	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100
Broiler Mineral[2]	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100
DL Methionine	0.165	0.180	0.175	0.190	0.180	0.180	0.175	0.155
L-Lysine-HCL	0.085	0.095	0.100	0.105	0.085	0.085	0.100	0.105
L-Threonine	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100
L-Tryptophan	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100
Biocox 60g/lb	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041

[1] Vitamin premix (Roche Vitamins, Inc., Parsippany, NJ) provided the following per kilogram of diet: vitamin A, 9350 IU from all trans-retinyl acetate; cholecalciferol D3, 3025 IU; vitamin E, 27.5 IU from dl-α-tocopherol; vitamin B12, 13.75 µg; riboflavin, 7.7 mg; niacin, 49.5 mg; pantothenic acid, 12.1 mg; menadione, 1.925 mg; folic acid, 0.99 mg; ethoxyquin, 77 mg; biotin, 0.088 mg; thiamine, 1.925 mg, and pyridoxine, 3.08 mg.

[2] Trace mineral premix (SEM Minerals, Quincy, IL) contained 5-6% calcium and provided the following in milligrams per kilogram of diet: Mn, 120; Zn, 100; Fe, 40; Cu, 10; I, 1.4; Se, 0.3, and Mg, 26.

Appendix II - Table 2 (Cont'd). Starter diet formulation and calculated nutrient composition (as-is basis)

CQR Treatment ID	1	2	3	4	5	7	8	9
Corn ID / Product	XE6001 (Conventional Control)	Dekalb DKC61-50	Golden Harvest H8920	Golden Harvest H9166	MON 89034 × TC1507 × MON 88017 × DAS-59122-7	Pioneer 33N29	Willcross 3103	Willcross 3123
Calculated Nutrient Composition								
Calculated ME, (Kcal/kg)[1]	3078	3080	3080	3078	3080	3080	3082	3082
Digest Arginine, %	1.2783	1.2732	1.2572	1.2577	1.2805	1.2791	1.2831	1.2747
Digest Lysine, %	1.1036	1.1038	1.1052	1.1032	1.1038	1.1040	1.1038	1.1044
Digest Methionine, %	0.5481	0.5545	0.5504	0.5628	0.5540	0.5510	0.5497	0.5429
Digest Met + Cystine, %	0.8607	0.8622	0.8633	0.8621	0.8594	0.8609	0.8614	0.8601
Digest Tryptophan, %	0.2024	0.2007	0.2023	0.1989	0.2017	0.1987	0.2001	0.2005
Digest Threonine, %	0.7567	0.7563	0.7596	0.7469	0.7593	0.7595	0.7556	0.7582
Crude Protein, %	21.9919	21.9784	21.9812	21.9865	21.9916	21.9674	21.9831	21.9849
Moisture, %	10.5975	10.6510	10.6479	10.6421	10.6115	10.6490	10.6070	10.6430
Arginine, %	1.3510	1.3467	1.3298	1.3304	1.3532	1.3528	1.3569	1.3488
Lysine, %	1.1661	1.1667	1.1679	1.1654	1.1664	1.1676	1.1664	1.1671
Methionine, %	0.5736	0.5806	0.5768	0.5889	0.5788	0.5767	0.5756	0.5704
Meth & Cystine, %	0.9851	0.9816	0.9835	0.9791	0.9807	0.9806	0.9823	0.9830
Tryptophan, %	0.3138	0.3120	0.3138	0.3100	0.3131	0.3100	0.3114	0.3119
Glycine, %	0.8707	0.8766	0.8795	0.8619	0.8703	0.8839	0.8778	0.8782
Threonine, %	0.9013	0.9014	0.9050	0.8914	0.9040	0.9049	0.9007	0.9038
Valine, %	1.1103	1.1205	1.1236	1.1041	1.1110	1.1188	1.1164	1.1243
Proline, %	1.4449	1.4760	1.4627	1.4373	1.4714	1.4678	1.4585	1.4793
Crude Fat, %	3.3703	3.3906	3.3873	3.3254	3.8411	3.3253	3.9788	3.1803
Crude Fiber, %	2.2221	2.5121	2.6155	2.4244	2.4335	2.6834	2.6240	2.7462
Ash, %	3.9035	3.4645	3.3792	3.4424	3.9076	3.5765	3.8570	3.5060
Calcium, %	1.0565	0.9407	0.9492	0.9593	1.0572	0.9551	1.0429	0.9407
Phosphorus (total), %	0.7075	0.7093	0.7037	0.7001	0.7147	0.7194	0.7203	0.7011
Phosphorus (avail.), %	0.4644	0.4586	0.4570	0.4622	0.4603	0.4617	0.4557	0.4562
Salt, %	0.3901	0.3170	0.3158	0.3132	0.3168	0.3189	0.3211	0.3159
Sodium, %	0.2512	0.2196	0.2191	0.2206	0.2200	0.2204	0.2188	0.2189
Potassium, %	0.7886	0.7806	0.7777	0.7616	0.7901	0.7882	0.7827	0.7778
Manganese, PPM	133.1941	131.9458	132.5854	132.3000	132.6357	132.7503	132.7934	131.7934
Zinc, PPM	128.0241	125.5836	127.7914	127.7069	126.7227	129.3566	128.6512	127.4725
Copper, PPM	16.4242	16.3093	16.4917	16.7583	16.1628	16.9686	16.3890	16.5051
Selenium, PPM	0.4882	0.5934	0.4745	0.5205	0.5162	0.5027	0.5154	0.4913

[1] [Kcal/lb × 2.2 = Kcal/kg]

Appendix II - Table 3. Grower/Finisher diet formulation and calculated nutrient composition (as-is basis)

CQR Treatment ID	1	2	3	4	5	7	8	9
Corn ID / Product	XE6001 (Conventional Control)	Dekalb DKC61-50	Golden Harvest H8920	Golden Harvest H9166	MON 89034 × TC1507 × MON 88017 × DAS-59122-7	Pioneer 33N29	Willcross 3103	Willcross 3123
Ingredient	**Percent of Each Ingredient**							
Corn	64.199	63.963	63.825	63.897	64.380	64.018	64.029	63.441
Soybean Meal	26.850	26.000	26.000	26.000	26.800	26.050	26.450	26.000
Corn Gluten	2.700	4.400	4.600	4.500	2.600	4.000	3.600	5.000
Soybean Oil	2.600	2.150	2.100	2.150	2.550	2.300	2.350	2.100
Defluorinated Phosphate	1.800	1.800	1.800	1.800	1.750	1.750	1.750	1.800
Limestone	0.700	0.600	0.600	0.550	0.750	0.750	0.750	0.600
Salt	0.405	0.305	0.303	0.301	0.409	0.370	0.310	0.302
Choline Chloride-60	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100
Broiler Vitamin[1]	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100
Broiler Mineral[2]	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100
DL Methionine	0.205	0.220	0.210	0.230	0.220	0.220	0.215	0.195
L-Lysine-HCL	--	0.020	0.020	0.030	--	--	0.005	0.020
L-Threonine	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100
L-Tryptophan	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100
Biocox 60g/lb	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041

[1] Vitamin premix (Roche Vitamins, Inc., Parsippany, NJ) provided the following per kilogram of diet: vitamin A, 9350 IU from all trans-retinyl acetate; cholecalciferol D3, 3025 IU; vitamin E, 27.5 IU from dl-α-tocopherol; vitamin B12, 13.75 µg; riboflavin, 7.7 mg; niacin, 49.5 mg; pantothenic acid, 12.1 mg; menadione, 1.925 mg; folic acid, 0.99 mg; ethoxyquin, 77 mg; biotin, 0.088 mg; thiamine, 1.925 mg, and pyridoxine, 3.08 mg.

[2] Trace mineral premix (SEM Minerals, Quincy, IL) contained 5-6% calcium and provided the following in milligrams per kilogram of diet: Mn, 120; Zn, 100; Fe, 40; Cu, 10; I, 1.4; Se, 0.3, and Mg, 26.

Appendix II - Table 3 (Cont'd). Grower/Finisher diet formulation and calculated nutrient composition (as-is basis)

CQR Treatment ID	1	2	3	4	5	7	8	9
Corn ID / Product	XE6001 (Conventional Control)	Dekalb DKC61-50	Golden Harvest H8920	Golden Harvest H9166	MON 89034 × TC1507 × MON 88017 × DAS-59122-7	Pioneer 33N29	Willcross 3103	Willcross 3123
Calculated Nutrient Composition								
Calculated ME, (Kcal/kg)[1]	3137	3135	3133	3137	3135	3135	3135	3135
Digest Arginine, %	1.2252	1.2150	1.1983	1.1990	1.2290	1.2269	1.2384	1.2220
Digest Lysine, %	1.0112	1.0134	1.0109	1.0126	1.0121	1.0120	1.0121	1.0120
Digest Methionine, %	0.5434	0.5503	0.5413	0.5586	0.5502	0.5467	0.5435	0.5383
Digest Met + Cystine, %	0.8260	0.8281	0.8244	0.8277	0.8261	0.8269	0.8249	0.8257
Digest Tryptophan, %	0.1937	0.1911	0.1928	0.1893	0.1933	0.1902	0.1928	0.1919
Digest Threonine, %	0.7000	0.6986	0.7021	0.6891	0.7043	0.7040	0.7006	0.7017
Crude Protein, %	19.9553	19.9516	19.9461	19.9640	20.0112	19.9675	19.9456	19.9517
Moisture, %	10.5902	10.6166	10.6197	10.6188	10.5942	10.5927	10.6051	10.6150
Arginine, %	1.2926	1.2831	1.2656	1.2663	1.2965	1.2955	1.3072	1.2909
Lysine, %	1.0707	1.0731	1.0704	1.0716	1.0717	1.0728	1.0720	1.0717
Methionine, %	0.5636	0.5713	0.5625	0.5796	0.5698	0.5672	0.5638	0.5606
Meth & Cystine, %	0.9405	0.9373	0.9345	0.9346	0.9377	0.9366	0.9356	0.9386
Tryptophan, %	0.3044	0.3016	0.3035	0.2996	0.3039	0.3007	0.3034	0.3025
Glycine, %	0.8202	0.8244	0.8275	0.8093	0.8212	0.8346	0.8309	0.8283
Threonine, %	0.8395	0.8387	0.8425	0.8285	0.8440	0.8444	0.8405	0.8423
Valine, %	1.0165	1.0266	1.0298	1.0097	1.0199	1.0272	1.0245	1.0313
Proline, %	1.2645	1.3014	1.2875	1.2615	1.2972	1.2913	1.2724	1.3001
Crude Fat, %	4.4509	4.4869	4.4372	4.4225	4.9395	4.5507	5.0880	4.2662
Crude Fiber, %	2.2065	2.5009	2.6102	2.4119	2.4251	2.6752	2.6301	2.7480
Ash, %	3.7259	3.3905	3.3022	3.3198	3.8075	3.6747	3.6704	3.4452
Calcium, %	0.9182	0.8737	0.8825	0.8584	0.9188	0.9115	0.9204	0.8742
Phosphorus (total), %	0.6646	0.6747	0.6690	0.6560	0.6724	0.6764	0.6887	0.6669
Phosphorus (avail.), %	0.4263	0.4293	0.4276	0.4237	0.4224	0.4236	0.4273	0.4270
Salt, %	0.4365	0.3381	0.3369	0.3342	0.4398	0.4026	0.3425	0.3365
Sodium, %	0.2604	0.2213	0.2207	0.2197	0.2593	0.2443	0.2207	0.2205
Potassium, %	0.7855	0.7727	0.7698	0.7531	0.7869	0.7842	0.7860	0.7743
Manganese, PPM	133.1761	131.7966	132.4652	132.1698	132.5905	132.6990	132.8719	131.7182
Zinc, PPM	127.1794	124.5745	126.8824	126.8037	125.8317	128.4919	127.8759	126.5743
Copper, PPM	15.7362	15.6219	15.8110	16.0904	15.4848	16.3167	15.6990	15.8235
Selenium, PPM	0.4415	0.5531	0.4292	0.4772	0.4720	0.4577	0.4669	0.4447

[1] [Kcal/lb × 2.2 = Kcal/kg]

Appendix II – Table 4. Nutrient composition of starter diets (as is basis)

Assay Component	Treatment ID[1]							
	1	2	3	4	5	7	8	9
Proximates								
Crude Protein, %	22.10	21.90	22.78	22.70	22.45	22.47	22.38	22.37
Moisture, %	12.16	14.03	11.44	13.65	11.85	13.41	11.90	12.15
Crude Fat, %	3.93	3.83	4.05	3.73	4.32	3.95	4.45	3.93
Crude Fiber, %	1.67	1.52	1.55	1.75	1.51	1.60	1.65	1.50
Ash, %	5.61	5.10	5.30	5.10	5.44	5.03	5.06	5.18
Acid detergent fiber, %	2.71	2.75	2.71	2.95	2.59	2.64	2.73	2.62
Neutral detergent fiber, %	7.86	8.04	8.03	7.85	7.64	7.30	8.82	6.94
Minerals								
Calcium, %	1.01	0.90	0.92	0.87	0.98	0.88	0.92	0.89
Phosphorus,%	0.72	0.72	0.74	0.71	0.74	0.71	0.71	0.74
Magnesium, %	0.16	0.16	0.18	0.17	0.17	0.15	0.16	0.16
Potassium, %	0.89	0.85	0.90	0.92	0.92	0.86	0.84	0.91
Sodium, %	0.24	0.22	0.22	0.18	0.18	0.18	0.17	0.18
Sulfur, %	0.28	0.29	0.29	0.30	0.27	0.29	0.28	0.28
Chloride, %	0.31	0.27	0.26	0.21	0.21	0.20	0.19	0.20
Iron, ppm	180	181	178	164	167	189	189	190
Zinc, ppm	127	120	125	120	118	124	123	137
Copper, ppm	17	16	16	17	15	15	16	19
Manganese, ppm	129	116	128	116	120	117	119	129
Molybdenum, ppm	1.5	1.0	1.0	1.7	1.5	1.7	1.0	1.9
Amino Acids (w/w of sample %)								
Taurine	0.04	0.03	0.03	0.04	0.03	0.04	0.05	0.04
Hydroxyproline	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Aspartic Acid	2.06	2.04	2.06	2.20	2.13	2.07	2.04	2.07
Threonine	0.86	0.87	0.87	0.93	0.89	0.88	0.90	0.91
Serine	0.87	0.93	0.91	0.98	0.95	0.93	0.97	0.98
Glutamic Acid	4.16	4.21	4.26	4.47	4.28	4.20	4.22	4.23
Proline	1.36	1.39	1.41	1.46	1.41	1.39	1.38	1.39
Lanthionine	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Glycine	0.84	0.84	0.85	0.90	0.85	0.84	0.83	0.85
Alanine	1.24	1.28	1.29	1.34	1.27	1.26	1.28	1.28
Cysteine	0.34	0.35	0.36	0.36	0.34	0.35	0.35	0.36
Valine	1.09	1.06	1.09	1.14	1.07	1.06	1.00	1.01
Methionine	0.51	0.52	0.52	0.54	0.53	0.50	0.51	0.51
Isoleucine	0.96	0.95	0.96	1.02	0.96	0.94	0.89	0.89
Leucine	2.22	2.30	2.32	2.42	2.27	2.27	2.30	2.29
Tyrosine	0.72	0.74	0.75	0.78	0.72	0.71	0.74	0.73
Phenylalanine	1.12	1.14	1.15	1.21	1.14	1.14	1.12	1.13
Hydroxylysine	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Ornithine	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Lysine	1.17	1.13	1.15	1.23	1.17	1.14	1.13	1.15
Histidine	0.57	0.55	0.56	0.59	0.57	0.56	0.55	0.56
Arginine	1.32	1.31	1.33	1.40	1.34	1.32	1.30	1.31
Tryptophan	0.31	0.29	0.32	0.31	0.30	0.31	0.29	0.31

Treatment ID[1]	Corn ID / Product
1	XE6001 (Conventional Control)
2	Dekalb DKC61-50
3	Golden Harvest H8920
4	Golden Harvest H9166
5	MON 89034 × TC1507 × MON 88017 × DAS-59122-7
7	Pioneer 33N29
8	Willcross 3103
9	Willcross 3123

Appendix II – Table 5. Nutrient composition of grower/finisher diets (as is basis)

	Treatment ID[1]							
Assay Component	**1**	**2**	**3**	**4**	**5**	**7**	**8**	**9**
Proximates								
Crude Protein, %	19.84	20.13	20.08	20.11	19.86	19.68	19.90	20.21
Moisture, %	11.95	13.91	11.38	13.79	11.46	13.27	11.26	11.53
Crude Fat, %	5.05	5.05	5.26	5.25	5.38	5.28	5.84	5.23
Crude Fiber, %	1.50	1.63	1.69	1.59	1.40	1.67	1.69	1.56
Ash, %	5.39	5.06	5.29	5.30	5.38	5.16	5.30	5.28
Acid detergent fiber, %	2.66	2.76	2.84	2.78	2.55	2.81	2.84	2.63
Neutral detergent fiber, %	7.21	8.23	9.12	7.85	7.98	7.78	9.15	7.80
Minerals								
Calcium, %	0.99	0.89	0.99	0.91	0.96	0.96	1.03	0.96
Phosphorus,%	0.70	0.71	0.74	0.76	0.75	0.72	0.80	0.75
Magnesium, %	0.16	0.15	0.17	0.16	0.16	0.16	0.17	0.16
Potassium, %	0.87	0.84	0.85	0.83	0.84	0.86	0.86	0.89
Sodium, %	0.24	0.22	0.24	0.23	0.23	0.25	0.23	0.23
Sulfur, %	0.26	0.27	0.29	0.28	0.27	0.28	0.28	0.28
Chloride, %	0.26	0.23	0.24	0.25	0.22	0.29	0.23	0.22
Iron, ppm	202	156	183	206	192	169	200	182
Zinc, ppm	131	120	131	138	129	126	133	132
Copper, ppm	17	16	18	18	16	18	17	23
Manganese, ppm	132	121	140	140	134	122	132	131
Molybdenum, ppm	1.0	1.3	1.6	1.0	1.8	1.6	1.1	1.1
Amino Acids (w/w of sample %)								
Taurine	0.04	0.04	0.05	0.05	0.05	0.04	0.05	0.04
Hydroxyproline	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aspartic Acid	1.93	1.85	1.88	1.87	1.91	1.96	1.89	1.98
Threonine	0.83	0.81	0.82	0.82	0.82	0.83	0.82	0.85
Serine	0.88	0.86	0.85	0.87	0.87	0.86	0.91	0.86
Glutamic Acid	3.74	3.69	3.73	3.69	3.72	3.85	3.73	3.93
Proline	1.18	1.19	1.18	1.19	1.21	1.22	1.17	1.28
Lanthionine	0.00	0.04	0.00	0.00	0.01	0.00	0.00	0.00
Glycine	0.78	0.77	0.78	0.76	0.77	0.80	0.77	0.82
Alanine	1.08	1.09	1.10	1.10	1.09	1.12	1.09	1.15
Cysteine	0.32	0.32	0.32	0.30	0.32	0.33	0.31	0.34
Valine	0.91	0.90	0.95	0.89	0.91	0.98	0.80	1.02
Methionine	0.51	0.51	0.52	0.54	0.50	0.53	0.51	0.56
Isoleucine	0.81	0.80	0.84	0.79	0.81	0.88	0.71	0.91
Leucine	1.90	1.92	1.94	1.93	1.91	2.00	1.90	2.06
Tyrosine	0.66	0.63	0.64	0.62	0.65	0.67	0.68	0.65
Phenylalanine	0.99	0.98	0.99	0.98	0.98	1.04	0.96	1.06
Hydroxylysine	0.01	0.02	0.02	0.02	0.02	0.02	0.01	0.02
Ornithine	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Lysine	1.05	1.01	1.03	1.03	1.02	1.05	0.99	1.08
Histidine	0.52	0.50	0.51	0.50	0.51	0.53	0.50	0.55
Arginine	1.25	1.20	1.23	1.19	1.22	1.27	1.22	1.27
Tryptophan	0.28	0.29	0.31	0.29	0.28	0.29	0.28	0.28

Treatment ID[1]	Corn ID / Product
1	XE6001 (Conventional Control)
2	Dekalb DKC61-50
3	Golden Harvest H8920
4	Golden Harvest H9166
5	MON 89034 × TC1507 × MON 88017 × DAS-59122-7
7	Pioneer 33N29
8	Willcross 3103
9	Willcross 3123

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APPENDIX III

Bird Performance and Processing Data

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Appendix III – Table 1. Day 0 body weights (4/03/07)

Treatment	Sex	Pen	Number Of Birds Weighed	Day 0 Pen Wt. (kg)	Day 0 Avg Bird Wt (kg)
1	f	11	12	0.456	0.038
1	f	37	12	0.472	0.039
1	f	66	12	0.442	0.037
1	f	71	12	0.464	0.039
1	f	87	12	0.458	0.038
Total & Average			60	0.458	0.038
Standard Deviation				0.011	0.001
CV				2.417%	2.417%
2	f	3	12	0.470	0.039
2	f	46	12	0.458	0.038
2	f	53	12	0.472	0.039
2	f	75	12	0.474	0.040
2	f	90	12	0.458	0.038
Total & Average			60	0.466	0.039
Standard Deviation				0.008	0.001
CV				1.672%	1.672%
3	f	10	12	0.456	0.038
3	f	35	12	0.438	0.037
3	f	54	12	0.472	0.039
3	f	67	12	0.458	0.038
3	f	86	12	0.478	0.040
Total & Average			60	0.460	0.038
Standard Deviation				0.016	0.001
CV				3.384%	3.384%

Treatment	Sex	Pen	Number Of Birds Weighed	Day 0 Pen Wt. (kg)	Day 0 Avg Bird Wt (kg)
1	m	1	12	0.470	0.039
1	m	39	12	0.460	0.038
1	m	51	12	0.486	0.041
1	m	68	12	0.466	0.039
1	m	94	12	0.478	0.040
Total & Average			60	0.472	0.039
Standard Deviation				0.010	0.001
CV				2.161%	2.161%
2	m	17	12	0.448	0.037
2	m	26	12	0.466	0.039
2	m	48	12	0.440	0.037
2	m	64	12	0.484	0.040
2	m	80	12	0.460	0.038
Total & Average			60	0.460	0.038
Standard Deviation				0.017	0.001
CV				3.698%	3.698%
3	m	13	12	0.478	0.040
3	m	28	12	0.456	0.038
3	m	45	12	0.442	0.037
3	m	52	12	0.474	0.040
3	m	84	12	0.472	0.039
Total & Average			60	0.464	0.039
Standard Deviation				0.015	0.001
CV				3.243%	3.243%

Treatment ID[1]	Corn ID / Product
1	XE6001 (Conventional Control)
2	Dekalb DKC61-50
3	Golden Harvest H8920
4	Golden Harvest H9166
5	MON 89034 × TC1507 × MON 88017 × DAS-59122-7
7	Pioneer 33N29
8	Willcross 3103
9	Willcross 3123

Appendix III – Table 1 (Cont'd). Day 0 body weights (4/03/07)

Treatment	Sex	Pen	Number Of Birds Weighed	Day 0 Pen Wt. (kg)	Day 0 Avg Bird Wt (kg)
4	f	9	12	0.468	0.039
4	f	38	12	0.476	0.040
4	f	57	12	0.466	0.039
4	f	78	12	0.470	0.039
4	f	79	12	0.452	0.038
Total & Average			60	0.466	0.039
Standard Deviation				0.009	0.001
CV				1.903%	1.903%
5	f	15	12	0.474	0.040
5	f	40	12	0.470	0.039
5	f	55	12	0.464	0.039
5	f	70	12	0.466	0.039
5	f	89	12	0.474	0.040
Total & Average			60	0.470	0.039
Standard Deviation				0.005	0.000
CV				0.971%	0.971%

Treatment	Sex	Pen	Number Of Birds Weighed	Day 0 Pen Wt. (kg)	Day 0 Avg Bird Wt (kg)
4	m	2	12	0.464	0.039
4	m	21	12	0.448	0.037
4	m	33	12	0.480	0.040
4	m	50	12	0.462	0.039
4	m	83	12	0.452	0.038
Total & Average			60	0.461	0.038
Standard Deviation				0.012	0.001
CV				2.701%	2.701%
5	m	8	12	0.478	0.040
5	m	29	12	0.476	0.040
5	m	31	12	0.470	0.039
5	m	59	12	0.472	0.039
5	m	93	12	0.462	0.039
Total & Average			60	0.472	0.039
Standard Deviation				0.006	0.001
CV				1.321%	1.321%

Treatment ID[1]	Corn ID / Product
1	XE6001 (Conventional Control)
2	Dekalb DKC61-50
3	Golden Harvest H8920
4	Golden Harvest H9166
5	MON 89034 × TC1507 × MON 88017 × DAS-59122-7
7	Pioneer 33N29
8	Willcross 3103
9	Willcross 3123

Appendix III – Table 1 (Cont'd). Day 0 body weights (4/03/07)

Treatment	Sex	Pen	Number Of Birds Weighed	Day 0 Pen Wt. (kg)	Day 0 Avg Bird Wt (kg)
7	f	12	12	0.482	0.040
7	f	27	12	0.472	0.039
7	f	41	12	0.464	0.039
7	f	60	12	0.456	0.038
7	f	95	12	0.478	0.040
Total & Average			60	0.470	0.039
Standard Deviation				0.011	0.001
CV				2.238%	2.238%
8	f	18	12	0.466	0.039
8	f	22	12	0.470	0.039
8	f	44	12	0.466	0.039
8	f	62	12	0.462	0.039
8	f	92	12	0.470	0.039
Total & Average			60	0.467	0.039
Standard Deviation				0.003	0.000
CV				0.717%	0.717%
9	f	14	12	0.458	0.038
9	f	30	12	0.462	0.039
9	f	34	12	0.462	0.039
9	f	58	12	0.460	0.038
9	f	96	12	0.446	0.037
Total & Average			60	0.458	0.038
Standard Deviation				0.007	0.001
CV				1.463%	1.463%

Treatment	Sex	Pen	Number Of Birds Weighed	Day 0 Pen Wt. (kg)	Day 0 Avg Bird Wt (kg)
7	m	5	12	0.500	0.042
7	m	36	12	0.458	0.038
7	m	61	12	0.464	0.039
7	m	77	12	0.478	0.040
7	m	82	12	0.458	0.038
Total & Average			60	0.472	0.039
Standard Deviation				0.018	0.001
CV				3.786%	3.786%
8	m	6	12	0.492	0.041
8	m	19	12	0.490	0.041
8	m	32	12	0.484	0.040
8	m	65	12	0.472	0.039
8	m	88	12	0.452	0.038
Total & Average			60	0.478	0.040
Standard Deviation				0.016	0.001
CV				3.450%	3.450%
9	m	7	12	0.482	0.040
9	m	20	12	0.468	0.039
9	m	47	12	0.456	0.038
9	m	49	12	0.460	0.038
9	m	91	12	0.466	0.039
Total & Average			60	0.466	0.039
Standard Deviation				0.010	0.001
CV				2.131%	2.131%

Treatment ID[1]	Corn ID / Product
1	XE6001 (Conventional Control)
2	Dekalb DKC61-50
3	Golden Harvest H8920
4	Golden Harvest H9166
5	MON 89034 × TC1507 × MON 88017 × DAS-59122-7
7	Pioneer 33N29
8	Willcross 3103
9	Willcross 3123

Appendix III - Table 2. Summary of mortality , removal and probable cause of death (Day 0 - 7 and Day 7 – 42)

			No. Birds	Day 0 - 7					Number of Birds (day 7 - 42)				
Treatment	Sex	Pen No.	Started	Removed[1]	Mortality	Percent	Cause of Death[2]	Added[3]	Removed	Reason	Mortality	Percent	Cause of Death[2]
1	f	11	12	1	1	8.3%	1dh 1cd	0	0			0.0%	
1	f	37	12	1	1	8.3%	1dh 1cd	0	0			0.0%	
1	f	66	12	1	1	8.3%	1bac 1cd	0	0			0.0%	
1	f	71	12	1	1	8.3%	1dh/bac 1cd	0	0			0.0%	
1	f	87	12	2		0.0%	2cd	0	0		1	10.0%	1sds
1	m	1	12	2		0.0%	2cd	0	0			0.0%	
1	m	39	12		2	16.7%	1bac 1dh	0	0			0.0%	
1	m	51	12	2		0.0%	2cd	0	0			0.0%	
1	m	68	12	1	1	8.3%	1dh 1cd	0	0			0.0%	
1	m	94	12		2	16.7%	1bac 1dh	0	0			0.0%	
Total & Average			**120**	**11**	**9**	**7.50%**		**0**	**0**		**1**	**1.00%**	
2	f	3	12	1	1	8.3%	1bac 1cd		0		1	10.0%	1bac
2	f	46	12	2		0.0%	2cd		0			0.0%	
2	f	53	12	2		0.0%	2cd		0			0.0%	
2	f	75	12	2		0.0%	2cd		0			0.0%	
2	f	90	12	1	2	16.7%	1bac 1bac/ss 1cd	1	0			0.0%	
2	m	17	12		2	16.7%	1dh 1bac		1	1cd/bl/fhn		0.0%	
2	m	26	12	2		0.0%	2cd		1	1cd/bl/fhn	1	10.0%	1dh/fhn
2	m	48	12		3	25.0%	1dh 1dh/bac 1bac	1	1	1cd/bl/fhn		0.0%	
2	m	64	12	2	1	8.3%	1bac 2cd	1	1	1cd/bl/fhn		0.0%	
2	m	80	12	1	1	8.3%	1bac 1cd		0			0.0%	
Total & Average			**120**	**13**	**10**	**8.33%**		**3**	**4**		**2**	**2.00%**	
3	f	10	12	1	1	8.3%	1BAC 1CD		0		1	10.0%	1sds
3	f	35	12	1	1	8.3%	1bac 1cd		0			0.0%	
3	f	54	12	2		0.0%	2cd		0			0.0%	
3	f	67	12	2		0.0%	2cd		1	1cd/ss		0.0%	
3	f	86	12		2	16.7%	2bac		0			0.0%	
3	m	13	12	2		0.0%	2cd		0		1	10.0%	1dh/fhn
3	m	28	12	1	1	8.3%	1dh 1cd		0			0.0%	
3	m	45	12	2		0.0%	2cd		0			0.0%	
3	m	52	12	2		0.0%	2cd		1	1cd/bl/fhn		0.0%	
3	m	84	12	1	1	8.3%	1dh 1cd		0			0.0%	
Total & Average			**120**	**14**	**6**	**5.00%**		**0**	**2**		**2**	**2.00%**	

[1] Removed = birds removed on day 7 to adjust the count to 10 birds/pen, removed birds were euthanized by cervical dislocation

[2] Codes: DH = dehydrated, SDS = Sudden Death Syndrome, BAC = bacterial, ACT = ascites, C = cull, SS = sex slip, BL = bad leg, ACT-S = Acities + SDS, CD = cervical dislocation, FHN = femoral head necrosis

[3] Number of birds added to pen from pool of birds removed from other pens of birds on the same treatment at the day 7 recount to adjust count to 10 birds/pen.

Appendix III - Table 2 (Cont'd). Summary of mortality, removal and probable death (Day 0 - 7 and Day 7 – 42)

Treatment	Sex	Pen No.	No. Birds Started	Day 0 - 7					Number of Birds (day 7 - 42)				
				Removed[1]	Mortality	Percent	Cause of Death[2]	Added[3]	Removed	Reason	Mortality	Percent	Cause of Death[2]
4	f	9	12	2		0.0%	1CD		0			0.0%	
4	f	38	12	2		0.0%	2cd		0			0.0%	
4	f	57	12	2		0.0%	2cd		1	1cd/ss		0.0%	
4	f	78	12	2		0.0%	2cd		0		1	10.0%	1bac
4	f	79	12		2	16.7%	2bac		0			0.0%	
4	m	2	12	1	1	8.3%	1dh 1cd		0		1	10.0%	1bac/bl/fhn/dh
4	m	21	12	1	1	8.3%	1bac 1cd		1	1cd/ss		0.0%	
4	m	33	12	2		0.0%	2cd		1	1cd/bl/fhn		0.0%	
4	m	50	12	2		0.0%	2cd		1	1cd/bl/fhn		0.0%	
4	m	83	12	1	1	8.3%	1bac 1cd		0			0.0%	
Total & Average			**120**	**15**	**5**	**4.17%**		**0**	**4**		**2**	**2.00%**	
5	f	15	12	1	1	8.3%	1dh 1cd		0		1	10.0%	1sds
5	f	40	12	2	1	8.3%	1bac 2cd	1	0			0.0%	
5	f	55	12	2		0.0%	2cd		0			0.0%	
5	f	70	12	1	2	16.7%	1bac 1dh 1cd	1	0			0.0%	
5	f	89	12	2		0.0%	2cd		0			0.0%	
5	m	8	12		3	25.0%	1bac 2dh	1	1	1cd bl small bird		0.0%	
5	m	29	12	2		0.0%	2cd		1	1cd/bl/fhn		0.0%	
5	m	31	12	2		0.0%	2cd		0			0.0%	
5	m	59	12	2		0.0%	2cd		0			0.0%	
5	m	93	12	1	1	8.3%	1bac 1cd		0			0.0%	
Total & Average			**120**	**15**	**8**	**6.67%**		**3**	**2**		**1**	**1.00%**	

[1] Removed = birds removed on day 7 to adjust the count to 10 birds/pen, removed birds were euthanized by cervical dislocation

[2] Codes: DH = dehydrated, SDS = Sudden Death Syndrome, BAC = bacterial, ACT = ascites, C = cull, SS = sex slip, BL = bad leg, ACT-S = Acities + SDS, CD = cervical dislocation, FHN = femoral head necrosis

[3] Number of birds added to pen from pool of birds removed from other pens of birds on the same treatment at the day 7 recount to adjust count to 10 birds/pen.

Appendix III - Table 2 (Cont'd). Summary of mortality , removal and probable cause of death (Day 0 - 7 and Day 7 – 42)

			No. Birds	Day 0 - 7					Number of Birds (day 7 - 42)				
Treatment	Sex	Pen No.	Started	Removed[1]	Mortality	Percent	Cause of Death[2]	Added[3]	Removed	Reason	Mortality	Percent	Cause of Death[2]
7	f	12	12		2	16.7%	2bac		0			0.0%	
7	f	27	12	1	1	8.3%	1dh 1cd		0		1	10.0%	1sds
7	f	41	12	1	1	8.3%	1bac 1cd		0			0.0%	
7	f	60	12	1	1	8.3%	1bac 1cd		0			0.0%	
7	f	95	12	1	1	8.3%	1bac 1cd		1	1cd/ss	1	10.0%	1bac
7	m	5	12		2	16.7%	2bac		0			0.0%	
7	m	36	12	2		0.0%	2cd		2	2cd/bl/fhn	1	10.0%	1act
7	m	61	12		3	25.0%	1dh/bac 1dh 1bac	1	0		1	10.0%	1sds
7	m	77	12	2		0.0%	2cd		0			0.0%	
7	m	82	12	1	1	8.3%	1bac 1cd		0			0.0%	
Total & Average			**120**	**9**	**12**	**10.00%**		**1**	**3**		**4**	**4.00%**	
8	f	18	12		2	16.7%	2dh		1	1cd/bl/fhn		0.0%	
8	f	22	12	2		0.0%	2cd		1	1cd/ss		0.0%	
8	f	44	12	2		0.0%	2cd		0			0.0%	
8	f	62	12		3	25.0%	3dh	1	0			0.0%	
8	f	92	12	1	1	8.3%	1bac 1cd		0			0.0%	
8	m	6	12	2		0.0%	2cd		0			0.0%	
8	m	19	12		2	16.7%	2bac		0			0.0%	
8	m	32	12	1	1	8.3%	1dh 1cd		0			0.0%	
8	m	65	12	2		0.0%	2cd		0			0.0%	
8	m	88	12	1	1	8.3%	1bac 1cd		0			0.0%	
Total & Average			**120**	**11**	**10**	**8.33%**		**1**	**2**		**0**	**0.00%**	
9	f	14	12	1	1	8.3%	1bac 1cd		1	1cd/ss		0.0%	
9	f	30	12	3		0.0%	3cd	1	0		1	10.0%	1sds
9	f	34	12	1	1	8.3%	1bac 1cd		0			0.0%	
9	f	58	12	1	1	8.3%	1bac 1cd		0			0.0%	
9	f	96	12	1	1	8.3%	1bac 1cd		0		1	10.0%	1act
9	m	7	12	2		0.0%	2cd		0			0.0%	
9	m	20	12	1	1	8.3%	1dh 1cd		0			0.0%	
9	m	47	12	1	1	8.3%	1dh 1cd		0			0.0%	
9	m	49	12	2		0.0%	2cd		1	1cd/bl/fhn	1	10.0%	1sds
9	m	91	12	1	1	8.3%	1bac 1cd		0			0.0%	
Total & Average			**120**	**14**	**7**	**5.83%**		**1**	**2**		**3**	**3.00%**	

[1] Removed = birds removed on day 7 to adjust the count to 10 birds/pen, removed birds were euthanized by cervical dislocation

[2] Codes: DH = dehydrated, SDS = Sudden Death Syndrome, BAC = bacterial, ACT = ascites, C = cull, SS = sex slip, BL = bad leg, ACT-S = Acities + SDS, CD = cervical dislocation, FHN = femoral head necrosis

[3] Number of birds added to pen from pool of birds removed from other pens of birds on the same treatment at the day 7 recount to adjust count to 10 birds/pen.

Appendix III - Table 3. Performance, carcass yield, and meat quality of broilers fed diets formulated with MON 89034 × TC1507 × MON 88017 × DAS-59122-7, conventional control, and reference corn (means[1] combined across males and females)

Corn ID / Product	MON 89034 × TC1507 × MON 88017 × DAS-59122-7	XE6001 (Conventional Control)	Golden Harvest H9166	Dekalb DKC61-50	Pioneer 33N29	Willcross 3103	Willcross 3123	Golden Harvest H8920	SEM[2]	Treatment p-value[3]	LSD[4] 5.0%
Performance											
Average bird weight (g/bird), d 0	39.217	38.767	38.650	38.583	39.250	39.367	38.500	38.533	0.3017	0.2668	0.851
Average bird weight (kg/bird), d 42	2.508	2.497	2.570	2.567	2.506	2.470	2.550	2.511	0.0253	0.0977	0.071
Average bird gain (kg/bird), d 42	2.469	2.458	2.531	2.529	2.467	2.431	2.511	2.472	0.0252	0.0905	0.071
Feed intake (kg/bird), d 0 to 42	3.996^{c}	4.024^{c}	4.176^{ba}	4.214^{a}	4.092^{bac}	4.004^{c}	4.077^{bc}	4.089^{bac}	0.0470	0.0156	0.133
Feed:gain (kg/kg), d 0 to 42	1.648	1.658	1.727	1.712	1.749	1.671	1.676	1.698	0.0256	0.1096	0.072
Adjusted feed:gain[5] (kg/kg), d 0 to 42	1.631^{e}	1.635^{de}	1.661^{bc}	1.684^{a}	1.673^{ba}	1.645^{dce}	1.630^{e}	1.653^{dc}	0.0064	<0.0001	0.018
Carcass Yield											
Processing live weight[6] (kg)	2.476^{bc}	2.457^{c}	2.565^{a}	2.535^{ba}	2.480^{bc}	2.450^{c}	2.512^{bac}	2.483^{bc}	0.0237	0.0218	0.067
Chilled carcass weight (kg)	1.759^{dc}	1.745^{dc}	1.832^{a}	1.814^{ba}	1.761^{dc}	1.736^{d}	1.789^{bac}	1.765^{bdc}	0.0183	0.0065	0.052
Chilled carcass weight (% of live wt.)	71.054^{c}	70.979^{c}	71.442^{ba}	71.533^{a}	70.975^{c}	70.835^{c}	71.197^{bac}	71.052^{c}	0.1290	0.0051	0.364
Fat pad weight (kg)	0.047^{ba}	0.043^{c}	0.047^{a}	0.047^{a}	0.048^{a}	0.047^{ba}	0.048^{a}	0.044^{bc}	0.0010	0.0025	0.003
Fat pad weight (% of live wt.)	1.887^{a}	1.724^{c}	1.848^{ba}	1.870^{ba}	1.922^{a}	1.908^{a}	1.925^{a}	1.778^{bc}	0.0357	0.0011	0.101
Breast meat weight (kg)	0.442^{cd}	0.445^{cd}	0.489^{a}	0.468^{b}	0.447^{cd}	0.438^{d}	0.455^{cbd}	0.460^{cb}	0.0066	<0.0001[8]	0.019
Breast meat weight (% of chilled wt.)	25.148^{d}	25.476^{cd}	26.654^{a}	25.836^{cb}	25.327^{d}	25.170^{d}	25.404^{cd}	26.001^{b}	0.1744	<0.0001[8]	0.492
Thigh weight (kg)	0.300	0.298	0.307	0.307	0.303	0.298	0.307	0.298	0.0038	0.3492	0.011
Thigh weight (% of chilled wt.)	17.062	17.050	16.736	16.919	17.189	17.150	17.165	16.916	0.1330	0.3051	0.375
Drum weight (kg)	0.253	0.249	0.257	0.256	0.250	0.248	0.255	0.247	0.0026	0.0750	0.008
Drum weight (% of chilled wt.)	14.362^{a}	14.270^{ba}	14.015^{d}	14.090^{bd}	14.233^{bda}	14.310^{ba}	14.248^{bac}	14.033^{dc}	0.0807	0.0068[8]	0.228
Wing weight (kg)	0.190^{ba}	0.189^{b}	0.195^{a}	0.195^{a}	0.188^{b}	0.188^{b}	0.193^{ba}	0.188^{b}	0.0020	0.0466	0.006
Wing weight (% of chilled wt.)	10.839	10.870	10.678	10.779	10.727	10.822	10.784	10.713	0.0633	0.4638[8]	0.179
Breast Meat Analysis[7]											
Moisture (%)	75.060	75.028	75.297	75.332	75.405	75.280	75.335	75.563	0.1742	0.4010	0.492
Protein (%, as is basis)	22.324	22.424	22.013	22.040	21.956	21.875	21.933	21.835	0.1811	0.2216	0.511
Fat (%, as is basis)	1.044	1.159	0.922	1.058	1.051	1.210	1.088	0.945	0.0999	0.5855	0.282
Thigh Meat Analysis[7]											
Moisture (%)	76.820	76.475	76.824	76.912	76.907	76.921	76.871	76.829	0.1816	0.6590	0.513
Protein (%, as is basis)	19.771	19.979	19.511	19.757	20.049	19.706	19.790	19.795	0.2173	0.8236	0.613
Fat (%, as is basis)	2.030	2.102	1.780	1.874	2.128	2.126	1.827	1.728	0.1922	0.6678	0.543

[1] Each mean represents 10 observations (1/pen).

[2] SEM = standard error of the mean for respective parameter.

[3] p-value for test of dietary treatment effect; [a-e]Individual treatment means in the same row with the same superscript are not statistically different ($P \geq 0.05$).

[4] LSD = least significant difference between two means ($P < 0.05$).

[5] Adjusted feed:gain is adjusted by adding the weight at removal of mortalities and culls to the weight of the live birds in a pen.

[6] Processing live weight = pre-processing weight on d 43 (males) or d 44 (females).

[7] Mean values for skinless breast and thigh meat analyses based on one bird per pen.

[8] A diet × sex interaction ($P < 0.15$) was detected, see appended statistical report (Appendix IV, Tables 11 - 23) for within sex analysis for the respective variable.

Appendix III - Table 4. Performance, carcass yield, and meat quality of broilers fed diets formulated with MON 89034 × TC1507 × MON 88017 × DAS-59122-7 corn versus that of the population of broilers fed diets formulated with conventional control and reference corn (means[1] ± SEM[2] combined across males and females)

Parameter	Corn Diets		Treatment p-value[3]	LSD[4] 5%
	MON 89034 × TC1507 × MON 88017 × DAS-59122-7	Conventional Control and References		
Performance				
Average bird weight (g/bird), d 0	39.217 ± 0.3547	38.807 ± 0.1341	0.3216	0.928
Average bird weight (kg/bird), d 42	2.508 ± 0.0382	2.524 ± 0.0144	0.7054	0.100
Average bird gain (kg/bird), d 42	2.469 ± 0.0384	2.486 ± 0.0145	0.7003	0.101
Feed intake (kg/bird), d 0 to 42	3.996 ± 0.0758	4.097 ± 0.0287	0.2585	0.198
Feed:gain (kg/kg), d 0 to 42	1.648 ± 0.0328	1.699 ± 0.0124	0.2028	0.086
Adjusted feed:gain[5] (kg/kg), d 0 to 42	1.631 ± 0.0198	1.654 ± 0.0075	0.3113	0.052
Carcass Yield				
Processing live wt[6] (kg/bird)	2.476 ± 0.0420	2.497 ± 0.0159	0.6459	0.110
Chilled wt (kg/bird)	1.759 ± 0.0357	1.777 ± 0.0135	0.6411	0.094
Chilled wt (% of live wt.)	71.054 ± 0.2589	71.145 ± 0.0979	0.7540	0.677
Fat pad wt (kg/bird)	0.047 ± 0.0021	0.046 ± 0.0008	0.8535	0.006
Fat pad wt (% of live wt.)	1.887 ± 0.0769	1.854 ± 0.0291	0.7012	0.201
Breast wt (kg/bird)	0.442 ± 0.0173	0.457 ± 0.0065	0.4464	0.045
Breast wt (% of chilled wt)	25.148 ± 0.5129	25.696 ± 0.1938	0.3566	1.342
Thigh wt (kg/bird)	0.300 ± 0.0045	0.303 ± 0.0017	0.6346	0.012
Thigh wt (% of chilled wt)	17.062 ± 0.1679	17.018 ± 0.0635	0.8149	0.439
Drum wt (kg/bird)	0.253 ± 0.0040	0.252 ± 0.0015	0.8196	0.010
Drum wt (% of chilled wt)	14.362 ± 0.1217	14.171 ± 0.0460	0.1925	0.318
Wing wt (kg/bird)	0.190 ± 0.0034	0.191 ± 0.0013	0.8544	0.009
Wing wt (% of chilled wt)	10.839 ± 0.0961	10.768 ± 0.0363	0.4982	0.224
Breast Meat Analysis[7]				
Moisture (%)	75.060 ± 0.1702	75.320 ± 0.0643	0.1575	0.362
Protein (%, as is basis)	22.324 ± 0.1959	22.011 ± 0.0740	0.1859	0.512
Fat (%, as is basis)	1.044 ± 0.1044	1.062 ± 0.0395	0.8804	0.273
Thigh Meat Analysis[7]				
Moisture (%)	76.820 ± 0.1752	76.820 ± 0.0662	0.9995	0.373
Protein (%, as is basis)	19.771 ± 0.2109	19.798 ± 0.0797	0.9033	0.449
Fat (%, as is basis)	2.030 ± 0.1869	1.938 ± 0.0706	0.6455	0.398

[1] Each mean for MON 89034 × TC1507 × MON 88017 × DAS-59122-7 represents 10 observations (1/pen) and the that for the population of control and references represents 70 observations (1/pen).

[2] SEM = standard error of the mean for respective parameter.

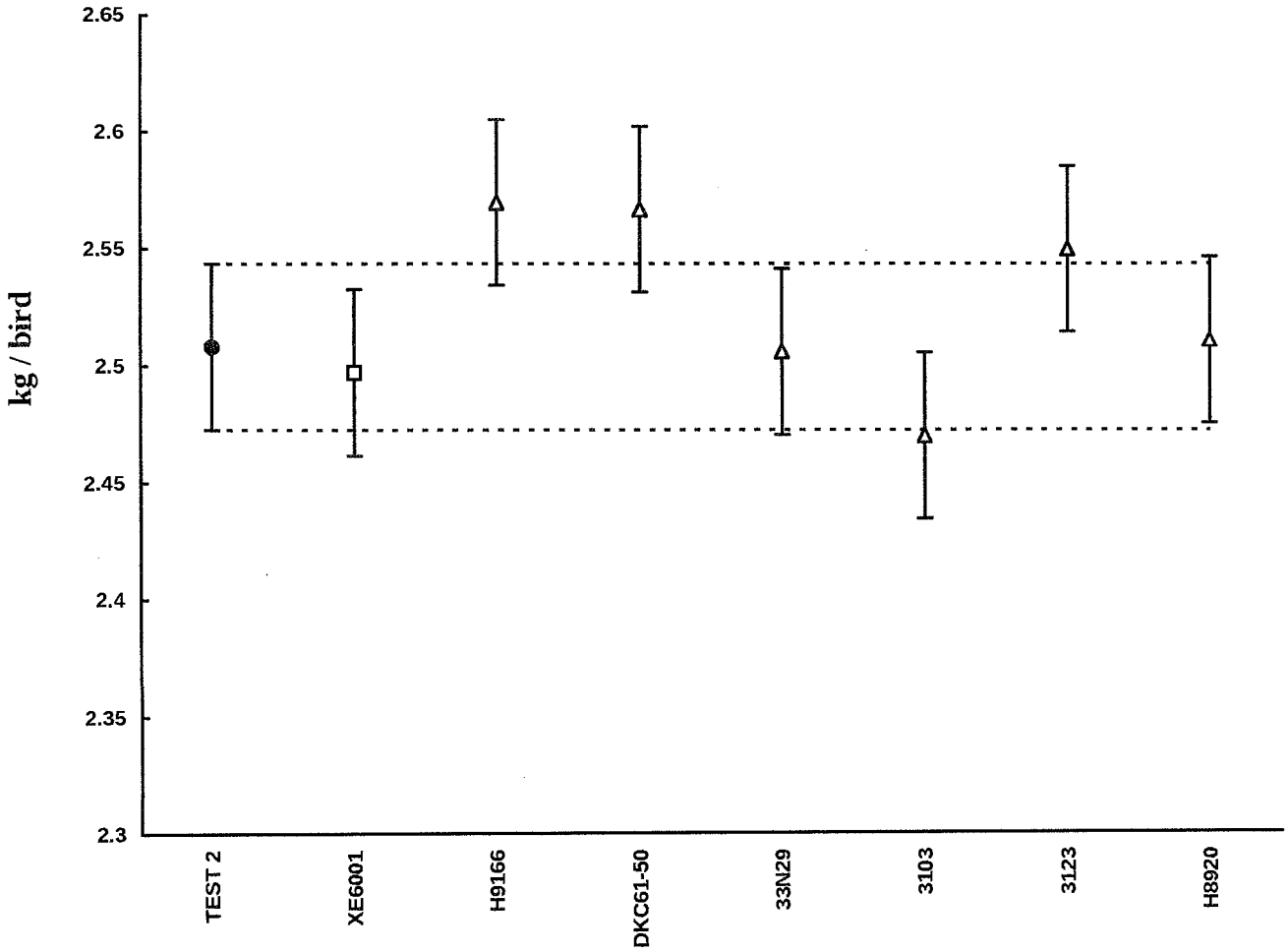
[3] MON 89034 × TC1507 × MON 88017 × DAS-59122-7 diet versus the population of the control and six reference diets

[4] LSD = least significant difference between two means ($P < 0.05$).

[5] Adjusted feed:gain is adjusted by adding the weight at removal of mortalities and culls to the weight of the live birds in a pen.

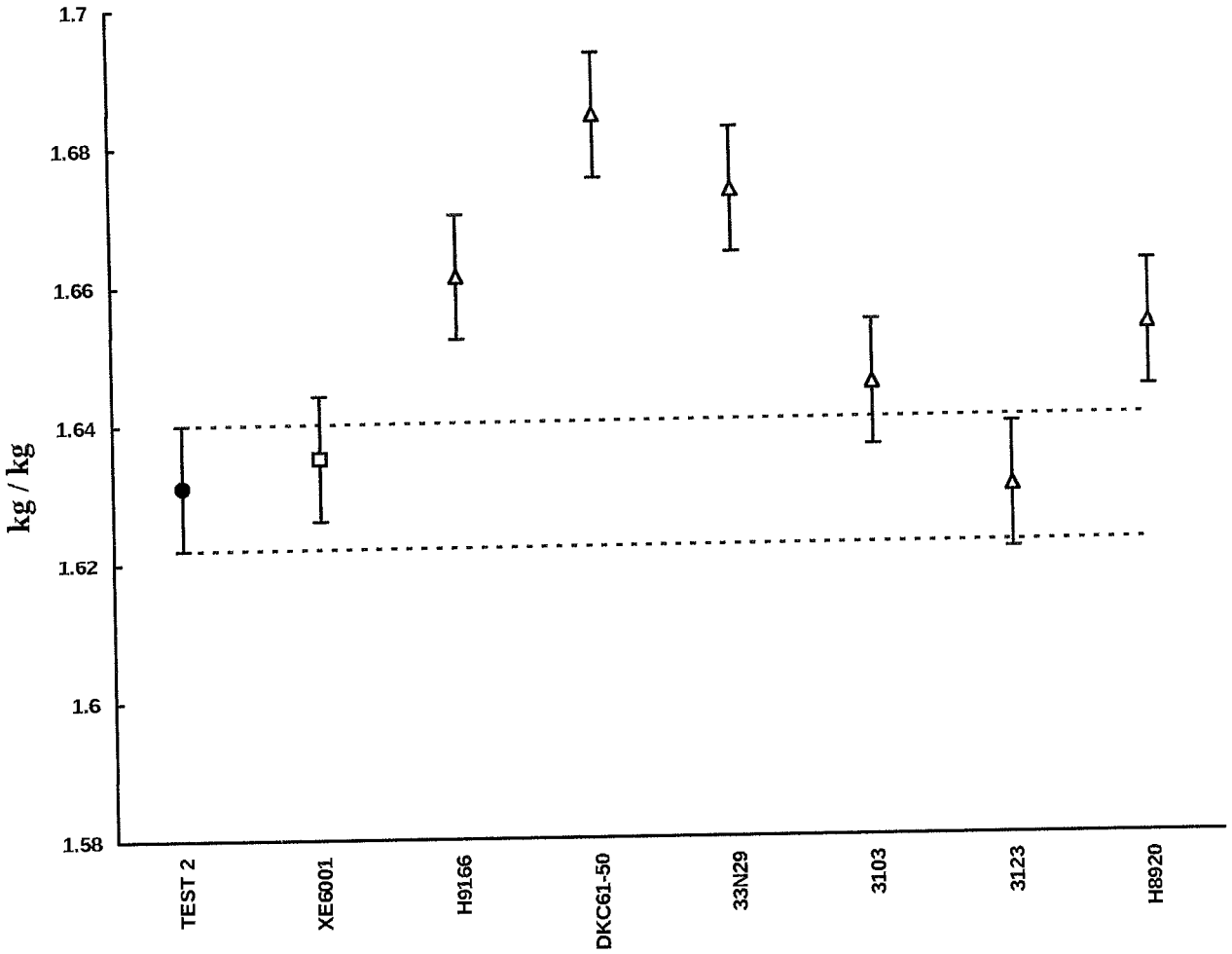
[6] Processing live weight = pre-processing weight on d 43 (males) or d 44 (females).

[7] Mean values for skinless breast and thigh meat analyses based on one bird per pen.



Appendix III - Figure 1. Average Bird Weight Day 42[1] (kg / bird) for broilers fed diets containing MON 89034 × TC1507 × MON 88017 × DAS-59122-7 (TEST 2), control or reference corn

[1] Error bars are ± one half the 5% Least Significant Difference (LSD). Therefore, if the overall F-test is significant at $P < 0.05$, any two non-overlapping hybrids are statistically different at the 5% level of significance.



Appendix III - Figure 2. Adjusted Feed:Gain Day 0 – 42[1] (kg/kg) for broilers fed diets containing MON 89034 × TC1507 × MON 88017 × DAS-59122-7 (TEST 2), control or reference corn

[1] Adjusted for mortality and culled birds. Error bars are ± one half the 5% Least Significant Difference (LSD). Therefore, if the overall F-test is significant at $P < 0.05$, any two non-overlapping hybrids are statistically different at the 5% level of significance.

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APPENDIX IV

Statistical Report (including Data Listing)

Pages 57 - 131

Statistical Subreport

Monsanto Study # 07-01-52-04
CQR Study # MN-07-2

Comparison of Broiler Performance and Carcass Parameters When Fed Diets Containing MON 89034 × TC1507 × MON 88017 × DAS59122-7, Control, or Reference Corn

The purpose of this subreport was to evaluate the nutritional value of diets containing MON 89034 × TC1507 × MON 88017 × DAS59122-7, control or reference corn.

1. DATA

Equal numbers of male and female chicks were fed one of 9 diets/treatments, listed in Table A.1. These diets were statistically compared with respect to the 29 response variables listed in Table A.2. The raw data from this study were supplied by CQR in the form of three Excel files with several spreadsheets (filenames: "MN-07-2 processing data.xls", "MN-07-2 performance data.xls" and "MN-07-2 Meat Analysis STATS.xls"). In order to read the data into SAS, the formatting in the excel file "MN-07-2 Meat Analysis STATS.xls" was removed and modified file was saved as "MN-07-2 Meat Analysis STATS modified.xls". The data were imported and organized using SAS 9.1.3 for statistical analysis. A data listing is provided in Appendix 1.

2. STATISTICAL ANALYSES

Pens were set up as a randomized complete block experimental design with 9 diets (treatments) in each of 5 replicated blocks of pens. Each block contained 18 pens (one for each diet and sex combination), with 10 birds per pen for a total of 900 birds (450 males and 450 females). The GLM and Mixed procedures in Release 9.1.3 of SAS® were used in analyzing the data.

Each measurement was statistically analyzed by two different procedures. The first method was a two-factor analysis of variance under a randomized complete block structure. The two factors were diet and sex. The main effects of diet and sex along with the diet-by-sex interaction were tested and noted. If the interaction was not significant ($p \geq 0.15$) then the comparisons of the diets were done using the main effect for diets, i.e., diet means were averaged over sex. If the interaction was significant then the diet comparisons were done separately for each sex. Mean separation procedures were performed using the protected LSD method at a 0.05 level of significance. The statistical model is as follows:

$$y_{ijk} = \mu + \tau_i + \beta_j + (\tau\beta)_{ij} + \gamma_k + \varepsilon_{ijk} \qquad \text{model (1)}$$

where μ is the overall mean

τ_i is the effect for the i^{th} diet, i= 1, …9
β_j is the effect of j^{th} sex, j=1,2
$(\tau\beta)_{ij}$ is the interaction between the i^{th} diet and the j^{th} sex
γ_k is the effect of the k^{th} block, k=1, …5
y_{ijk} is the measured response for the i^{th} diet and j^{th} sex in the k^{th} block
ε_{ijk} is the random error associated with the measurement for the i^{th} diet and j^{th} sex in the k^{th} block

In addition to the tables, the results of these analyses (mean and least significant difference) for Bird Weight Day 42, Average Feed Intake, Adjusted Feed Conversion, Percent Chilled Weight and Average Breast Weight are graphically summarized in Figures 1-5. Figures 6-10 also show summary statistics (mean and standard error) for these variables. All figures are listed in Table A.3.

The additional analysis compared two test articles with the population, of which the control and six reference corn diets (seven diets in total) were considered as a sample. Analyses were averaged over sex unless there was a significant diet-by-sex interaction, in which case analyses were broken out by sex and included in the table. The statistical model is as follows:

$$y_{ijkl} = \mu + \delta_i + \tau_j(\delta_i) + \beta_k + (\delta\beta)_{i\,k} + \tau_j(\delta_i)*\beta_k + \gamma_l + \varepsilon_{ijkl} \qquad \text{model (2)}$$

where

μ is the overall mean
δ_i is the effect of i^{th} diet type (test 1, 2 or control/reference), i =1, 2, 3
$\tau_j(\delta_i)$ is the effect of j^{th} diet within the i^{th} diet type
β_k is the effect of the k^{th} sex
$(\delta\beta)_{i\,k}$ is the interaction between the i^{th} diet type and the k^{th} sex
$\tau_j(\delta_i)*\beta_k$ is the interaction between j^{th} diet within the i^{th} diet type and k^{th} sex
γ_l is the effect of the l^{th} block
y_{ijkl} is the measured response for the j^{th} diet, within the i^{th} diet type, and k^{th} sex in the l^{th} block
ε_{ijkl} is the random error associated with the measurement for the j^{th} diet, within the i^{th} diet type, and k^{th} sex in the l^{th} block

Standard error of means from model (1) and (2) are provided in Appendix 2.

3. RESULTS/CONCLUSIONS

Treatment means and results of statistical comparisons of MON 89034 × TC1507 × MON 88017 × DAS59122-7, control and reference corn diets are summarized in Tables 1-29 for each of the 29 analysis variables listed in Table A.2. Following the analysis plan for model (1), the p-value for the diet*sex interaction term was checked for each of the

29 analysis variables. Because the interaction term was significant ($p<0.15$) for 4 out of 29 variables, the results were summarized overall and by sex in Tables 14, 20, 21 and 23, respectively.

The p-values for the diet effect are found in Tables 1-29. The following summarizes the analyses of those variables for which there were significant differences between diets ($p<0.05$), or a significant diet*sex interaction. In Table 1-29, diet means followed by the same letter are not significantly different from each other.

Average Feed Intake, kg/bird (Table 5): There was no significant Diet*Sex interaction (p-value=0.9004) so the data were analyzed overall combining males and females. There were significant mean differences among diets (p-value=0.0156). However, MON 89034 × TC1507 × MON 88017 × DAS59122-7 was not significantly different than the control diet (XE6001). Additionally, mean separation procedures show that the means for MON 89034 × TC1507 × MON 88017 × DAS59122-7, XE6001, 33N29, 3103, 3123 and H8920 were not significantly different than each other. H9166 and DKC61-50 were significantly different than MON 89034 × TC1507 × MON 88017 × DAS59122-7, XE6001 and 3103, but not significantly different than each other. Also, DKC61-50 was significantly different than 3123. Note that the p-value from the mixed model [model (2)] comparing differences between MON 89034 × TC1507 × MON 88017 × DAS59122-7 and the control and commercial diets was not significant (p-value=0.2585).

Adjusted Feed Conversion (adjusted for R/M birds) (Table 10): There was no significant Diet*Sex interaction (p-value=0.9205) so the data were analyzed overall combining males and females. There were significant mean differences among diets (p-value<.0001). However, MON 89034 × TC1507 × MON 88017 × DAS59122-7 was not significantly different than the control diet (XE6001). Additionally, mean separation procedures show that the mean for MON 89034 × TC1507 × MON 88017 × DAS59122-7 was not significantly different than XE6001, 3103, and 3123, but significantly different than H9166, DKC61-50, 33N29 and H8920. XE6001 was significantly different than H9166, DKC61-50 and 33N29, but not significantly different than other diets. Also, H9166 was significantly different than DKC61-50 and 3123. DKC61-50 and 33N29 were significantly different than 3103, 3123 and H8920, but not significantly different than each other. 3123 and H8920 were significantly different. Note that the p-value from the mixed model [model (2)] comparing differences between MON 89034 × TC1507 × MON 88017 × DAS59122-7 and the control and commercial diets was not significant (p-value=0.3113).

Average Pre-Processing Live Body Weight, kg/bird (Table 11): There was no significant Diet*Sex interaction (p-value=0.3459) so the data were analyzed overall combining males and females. There were significant mean differences among diets (p-value=0.0218). However, MON 89034 × TC1507 × MON 88017 × DAS59122-7 was not significantly different than the control diet. Additionally, mean separation procedures show that the mean for MON 89034 × TC1507 × MON 88017 × DAS59122-7 was significantly different than H9166, but not significantly different than any of the other diets. XE6001 was significantly different than H9166 and DKC61-50, but not

significantly different than other diets. H9166 was also significantly different than 33N29, H8920 and 3103. DKC61-50 was significantly different than 3103. Note that the p-value from the mixed model [model (2)] comparing differences between MON 89034 × TC1507 × MON 88017 × DAS59122-7 and the control and commercial diets was not significant (p-value=0.6459).

Chilled Weight, kg/bird (Table 12): There was no significant Diet*Sex interaction (p-value=0.3056) so the data were analyzed overall combining males and females. There were significant mean differences among diets (p-value=0.0065). However, MON 89034 × TC1507 × MON 88017 × DAS59122-7 was not significantly different than the control diet. Additionally, mean separation procedures show that the means for MON 89034 × TC1507 × MON 88017 × DAS59122-7, XE6001 and 33N29 were not significantly different than each other, but they were significantly different than H9166 and DKC61-50. Also, H9166 and DKC61-50 were significantly different than 3103, but not significantly different than each other. H9166 was also significantly different than H8920, and 3103 was also significantly different than 3123. Note that the p-value from the mixed model [model (2)] comparing differences between MON 89034 × TC1507 × MON 88017 × DAS59122-7 and the control and commercial diets was not significant (p-value =0.6411).

Fat Pad Weight, kg/bird (Table 13): There was no significant Diet*Sex interaction (p-value=0.1947) so the data were analyzed overall combining males and females. There were significant mean differences among diets (p-value=0.0025) with mean separation comparisons indicating that the mean for MON 89034 × TC1507 × MON 88017 × DAS59122-7 was not significantly different than any of the other diets except for the control (XE6001). Additionally, XE6001 was not significantly different than H8920, but significantly different than any of the other diets. Also, H8920 was not significantly different than XE6001 and 3103, but significantly different than other diets. Note that the p-value from the mixed model [model (2)] comparing differences between MON 89034 × TC1507 × MON 88017 × DAS59122-7 and the control and commercial diets was not significant (p-value =0.8535).

Average Breast Weight, kg/bird (Table 14): There was significant Diet*Sex interaction (p-value=0.0258), so the data were analyzed separately for each sex. There were significant differences among diets for males but not for females (p-values=0.0001 and 0.1667, respectively). Additionally, mean separation procedures among males show that the means for MON 89034 × TC1507 × MON 88017 × DAS59122-7, XE6001, 33N29 and 3123 were not significantly different than each other. Also, H9166 was significantly different than any of the other diets. Also, DKC61-50 and H8920 were significantly different than H9166 and 3103, but not significantly different than each other or any other diets. Note that the p-values from the mixed model [model (2)] comparing differences between MON 89034 × TC1507 × MON 88017 × DAS59122-7 and the control and commercial corn diets were not significant for either males (p-value=0.5605) or females (p-value=0.3674).

Average Wing Weight, kg/bird (Table 15): There was no significant Diet*Sex interaction (p-value=0.5933) so the data were analyzed overall combining males and females. There were significant mean differences among diets (p-value=0.0466). However, MON 89034 × TC1507 × MON 88017 × DAS59122-7 was not significantly different than the control (XE6001) diet. Additionally, mean separation procedures show that the mean for MON 89034 × TC1507 × MON 88017 × DAS59122-7 was not significantly different than any of the other diets. Also, 3123 was not significantly different than any of the other diets. XE6001, 33N29, 3103 and H8920 were not significantly different than each other, but they were significantly different than H9166 and DKC61-50. Note that the p-value from the mixed model [model (2)] comparing differences between MON 89034 × TC1507 × MON 88017 × DAS59122-7 and the control and commercial diets was not significant (p-value =0.8544).

Percent Fat Pad Weight (Fat Pad Wt / Live Wt x 100) (Table 18): There was no significant Diet*Sex interaction (p-value=0.2384) so the data were analyzed overall combining males and females. There were significant mean differences among diets (p-value=0.0011) with mean separation comparisons indicating that the mean for MON 89034 × TC1507 × MON 88017 × DAS59122-7 was not significantly different than reference lines H9166, DKC61-50, 33N29, 3103 and 3123, but significantly different than the control (XE6001) and reference line H8920. Additionally, XE6001 was not significantly different than H8920, but significantly different than any other diets. 33N29, 3103 and 3123 were not significantly different than each other, but they were significantly different than H8920. Note that the p-value from the mixed model [model (2)] comparing differences between MON 89034 × TC1507 × MON 88017 × DAS59122-7 and the control and commercial diets was not significant (p-value =0.7012).

Percent Chilled Weight (Chilled Wt/Live Wt x 100) (Table 19): There was no significant Diet*Sex interaction (p-value=0.4241) so the data were analyzed overall combining males and females. There were significant mean differences among diets (p-value=0.0051). However, MON 89034 × TC1507 × MON 88017 × DAS59122-7 was not significantly different than the control diet. Additionally, mean separation procedures show that the means for MON 89034 × TC1507 × MON 88017 × DAS59122-7, XE6001, 33N29, 3103 and H8920 were not significantly different than each other, but they were significantly different than H9166 and DKC61-50. 3123 was not significantly different than any of the other diets. Note that the p-value from the mixed model [model (2)] comparing differences between MON 89034 × TC1507 × MON 88017 × DAS59122-7 and the control and commercial diets was not significant (p-value=0.7540).

Percent Breast Weight (Breast Wt/ Chilled Wt x 100) (Table 20): There was significant Diet*Sex interaction (p-value=0.0020), so the data were analyzed separately for each sex. There were significant differences among diets for males but not for females (p-values<.0001 and 0.0625, respectively). However, MON 89034 × TC1507 × MON 88017 × DAS59122-7 was not significantly different than the control diet. Additionally, mean separation procedures among males show that the means for MON 89034 × TC1507 × MON 88017 × DAS59122-7, XE6001, DKC61-50, 33N29 and 3123

were not significantly different than each other. H9166 was significantly different than any of the other diets. Also, 3103 was significantly different than XE6001 and DKC61-50. H8920 was significantly different than MON 89034 × TC1507 × MON 88017 × DAS59122-7, 33N29 and 3123. DKC61-50 was significantly different than 3103. Note that the p-values from the mixed model [model (2)] comparing differences between MON 89034 × TC1507 × MON 88017 × DAS59122-7 and the control and commercial corn diets were not significant for either males (p-value=0.4145) or females (p-value=0.3698).

Percent Wing Weight (Wing Wt/ Chilled Wt x 100) (Table 21): There was significant Diet*Sex interaction (p-value=0.0135), so the data were analyzed separately for each sex. There were significant differences among diets for males but not for females (p-values=0.0490 and 0.1865, respectively). However, MON 89034 × TC1507 × MON 88017 × DAS59122-7 was not significantly different than the control diet. Additionally, mean separation procedures among males show that the mean for MON 89034 × TC1507 × MON 88017 × DAS59122-7 was not significantly different than any of the other diets except for H9166. XE6001 was not significantly different than any of the other diets. Also, H9166 was significantly different than DKC61-50, 3103 and 3123. 3103 and 3123 were significantly different than H8920, but not significantly different than each other. Note that the p-values from the mixed model [model (2)] comparing differences between MON 89034 × TC1507 × MON 88017 × DAS59122-7 and the control and commercial corn diets were not significant for either males (p-value=0.5604) or females (p-value=0.7457).

Percent Drum Weight (Drum Wt/ Chilled Wt x 100) (Table 23): There was significant Diet*Sex interaction (p-value=0.1413), so the data were analyzed separately for each sex. There were significant differences among diets for males but not for females (p-values=0.0004 and 0.3941, respectively). However, MON 89034 × TC1507 × MON 88017 × DAS59122-7 was not significantly different than the control diet. Additionally, mean separation procedures among males show that the mean for MON 89034 × TC1507 × MON 88017 × DAS59122-7 was significantly different than H9166 and H8920, but not significantly different than any of the other diets. XE6001 and 33N29 were not significantly different than any of the other diets. Also, H9166 and H8920 were significantly different than 3103 and 3123, but not significantly different than each other. DKC61-50 was significantly different than 3103. Note that the p-values from the mixed model [model (2)] comparing differences between MON 89034 × TC1507 × MON 88017 × DAS59122-7 and the control and commercial corn diets were not significant for either males (p-value=0.3734) or females (p-value=0.1048).

References

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Table A.1: Diets

Test Articles	1. MON 89034 × TC1507 × MON 88017 × DAS59122-7 2. NA[1]
Control Article	1. XE6001 (Control)
Reference Articles	1. Golden Harvest H9166 (H9166) 2. Dekalb DKC61-50 (DKC61-50) 3. Pioneer 33N29 (33N29) 4. Willcross 3103 (3103) 5. Willcross 3123 (3123) 6. Golden Harvest H8920 (H8920)

[1] This report provides statistical analysis results for a single test article (MON 89034 × TC1507 × MON 88017 × DAS59122-7) vs. the 7 control and reference treatments. Results for the second test article evaluated in this study are not included in this report. However, all 9 experiment treatments were included in statistical analyses in order to maximize statistical power.

Table A.2: Listing of Variables Statistically Analyzed

1. Bird Weight Day 0, g/bird
2. Pen Weight Day 0, kg/pen
3. Bird Weight Day 42, kg/bird
4. Pen Weight Day 42, kg/pen
5. Average Feed Intake, kg/bird
6. Feed Intake by Pen, kg
7. Average Bird Gain Day 42, kg/bird
8. Feed Conversion (Feed Consumed/ Wt Gain)
9. R/M Weight (Wt of removed and dead birds), kg
10. Adjusted Feed Conversion (adjusted for R/M birds)
11. Average Pre-Processing Live Body Weight, kg/bird
12. Chilled Weight, kg/bird
13. Fat Pad Weight, kg/bird
14. Average Breast Weight, kg/bird
15. Average Wing Weight, kg/bird
16. Average Thigh Weight, kg/bird
17. Average Drum Weight, kg/bird
18. Percent Fat Pad Weight (Fat Pad Wt / Live Wt x 100)
19. Percent Chilled Weight (Chilled Wt/Live Wt x 100)
20. Percent Breast Weight (Breast Wt/ Chilled Wt x 100)
21. Percent Wing Weight (Wing Wt/ Chilled Wt x 100)
22. Percent Thigh Weight (Thigh Wt/ Chilled Wt x 100)
23. Percent Drum Weight (Drum Wt/ Chilled Wt x 100)
24. Breast Moisture (g/100 g)
25. Breast Protein (g/100 g)
26. Breast Fat (g/100 g)
27. Thigh Moisture (g/100 g)
28. Thigh Protein (g/100 g)
29. Thigh Fat (g/ 100g)

Table A.3. List of Figures

Table 1. Bird Weight Day 0, g/bird
MON 89034 × TC1507 × MON 88017 × DAS59122-7, Control and Reference

	Summary	Overall
ANOVA	p-value, Block	0.0763
	p-value, Diet	0.2668
	p-value, Sex	0.2500
	p-value, Diet*Sex	0.4344
	LSD 5%	0.851
Diet Means	MON 89034 x TC1507 x MON 88017 x DAS59122-7	39.217
	XE6001 (Control)	38.767
	Golden Harvest H9166	38.650
	Dekalb DKC61-50	38.583
	Pioneer 33N29	39.250
	Willcross 3103	39.367
	Willcross 3123	38.500
	Golden Harvest H8920	38.533
Mixed Model	Control and References*	38.807
	MON 89034 x TC1507 x MON 88017 x DAS59122-7*	39.217
	Mixed Model p-value*	0.3216
	Mixed Model 5% LSD*	0.928

The individual means were computed from the ANOVA model (1) accounting for only variation within diets.
* Derived from a mixed linear model for comparing MON 89034 × TC1507 × MON 88017 × DAS59122-7 to the population of control and reference diets

Table 2. Pen Weight Day 0, kg/pen
MON 89034 × TC1507 × MON 88017 × DAS59122-7, Control and Reference

	Summary	Overall
ANOVA	p-value, Block	0.0763
	p-value, Diet	0.2668
	p-value, Sex	0.2500
	p-value, Diet*Sex	0.4344
	LSD 5%	0.010
Diet Means	MON 89034 x TC1507 x MON 88017 x DAS59122-7	0.471
	XE6001 (Control)	0.465
	Golden Harvest H9166	0.464
	Dekalb DKC61-50	0.463
	Pioneer 33N29	0.471
	Willcross 3103	0.472
	Willcross 3123	0.462
	Golden Harvest H8920	0.462
Mixed Model	Control and References*	0.466
	MON 89034 x TC1507 x MON 88017 x DAS59122-7*	0.471
	Mixed Model p-value*	0.3216
	Mixed Model 5% LSD*	0.011

The individual means were computed from the ANOVA model (1) accounting for only variation within diets.
* Derived from a mixed linear model for comparing MON 89034 × TC1507 × MON 88017 × DAS59122-7 to the population of control and reference diets

Table 3. Bird Weight Day 42, kg/bird
MON 89034 × TC1507 × MON 88017 × DAS59122-7, Control and Reference

	Summary	Overall
ANOVA	p-value, Block	0.0001
	p-value, Diet	0.0977
	p-value, Sex	<.0001
	p-value, Diet*Sex	0.5955
	LSD 5%	0.071
Diet Means	MON 89034 x TC1507 x MON 88017 x DAS59122-7	2.508
	XE6001 (Control)	2.497
	Golden Harvest H9166	2.570
	Dekalb DKC61-50	2.567
	Pioneer 33N29	2.506
	Willcross 3103	2.470
	Willcross 3123	2.550
	Golden Harvest H8920	2.511
Mixed Model	Control and References*	2.524
	MON 89034 x TC1507 x MON 88017 x DAS59122-7*	2.508
	Mixed Model p-value*	0.7054
	Mixed Model 5% LSD*	0.100

The individual means were computed from the ANOVA model (1) accounting for only variation within diets.
* Derived from a mixed linear model for comparing MON 89034 × TC1507 × MON 88017 × DAS59122-7 to the population of control and reference diets

Table 4. Pen Weight Day 42, kg/pen
MON 89034 × TC1507 × MON 88017 × DAS59122-7, Control and Reference

	Summary	Overall
ANOVA	p-value, Block	0.1191
	p-value, Diet	0.9294
	p-value, Sex	<.0001
	p-value, Diet*Sex	0.8553
	LSD 5%	1.713
Diet Means	MON 89034 x TC1507 x MON 88017 x DAS59122-7	24.300
	XE6001 (Control)	24.746
	Golden Harvest H9166	24.126
	Dekalb DKC61-50	24.072
	Pioneer 33N29	23.332
	Willcross 3103	24.242
	Willcross 3123	24.234
	Golden Harvest H8920	24.110
Mixed Model	Control and References*	24.123
	MON 89034 x TC1507 x MON 88017 x DAS59122-7*	24.300
	Mixed Model p-value*	0.7787
	Mixed Model 5% LSD*	1.248

The individual means were computed from the ANOVA model (1) accounting for only variation within diets.
* Derived from a mixed linear model for comparing MON 89034 × TC1507 × MON 88017 × DAS59122-7 to the population of control and reference diets

Table 5. Average Feed Intake, kg/bird
MON 89034 × TC1507 × MON 88017 × DAS59122-7, Control and Reference

	Summary	Overall	
ANOVA	p-value, Block	0.0006	
	p-value, Diet	0.0156	
	p-value, Sex	<.0001	
	p-value, Diet*Sex	0.9004	
	LSD 5%	0.133	
Diet Means	MON 89034 x TC1507 x MON 88017 x DAS59122-7	3.996	C
	XE6001 (Control)	4.024	C
	Golden Harvest H9166	4.176	BA
	Dekalb DKC61-50	4.214	A
	Pioneer 33N29	4.092	BAC
	Willcross 3103	4.004	C
	Willcross 3123	4.077	B C
	Golden Harvest H8920	4.089	BAC
Mixed Model	Control and References*	4.097	
	MON 89034 x TC1507 x MON 88017 x DAS59122-7*	3.996	
	Mixed Model p-value*	0.2585	
	Mixed Model 5% LSD*	0.198	

Mean separation procedures were performed when the p-value for Diet effect was significant at 0.05 level for Overall, Males or Females. The letters accompany the means to the left. Individual diet means with the same letter(s), i.e., A, AB, ABC, etc., are not statistically different at the 5% level. The individual means were computed from the ANOVA model (1) accounting for only variation within diets.
* Derived from a mixed linear model for comparing MON 89034 × TC1507 × MON 88017 × DAS59122-7 to the population of control and reference diets

Table 6. Feed Intake by Pen, kg
MON 89034 × TC1507 × MON 88017 × DAS59122-7, Control and Reference

	Summary	Overall
ANOVA	p-value, Block	0.0457
	p-value, Diet	0.8937
	p-value, Sex	<.0001
	p-value, Diet*Sex	0.9150
	LSD 5%	2.012
Diet Means	MON 89034 x TC1507 x MON 88017 x DAS59122-7	39.370
	XE6001 (Control)	40.224
	Golden Harvest H9166	40.940
	Dekalb DKC61-50	40.548
	Pioneer 33N29	39.746
	Willcross 3103	39.724
	Willcross 3123	39.836
	Golden Harvest H8920	40.132
Mixed Model	Control and References*	40.164
	MON 89034 x TC1507 x MON 88017 x DAS59122-7*	39.370
	Mixed Model p-value*	0.2801
	Mixed Model 5% LSD*	1.453

The individual means were computed from the ANOVA model (1) accounting for only variation within diets.
* Derived from a mixed linear model for comparing MON 89034 × TC1507 × MON 88017 × DAS59122-7 to the population of control and reference diets

Table 7. Average Bird Gain Day 42, kg/bird
MON 89034 × TC1507 × MON 88017 × DAS59122-7, Control and Reference

	Summary	Overall
ANOVA	p-value, Block	0.0001
	p-value, Diet	0.0905
	p-value, Sex	<.0001
	p-value, Diet*Sex	0.5855
	LSD 5%	0.071
Diet Means	MON 89034 x TC1507 x MON 88017 x DAS59122-7	2.469
	XE6001 (Control)	2.458
	Golden Harvest H9166	2.531
	Dekalb DKC61-50	2.529
	Pioneer 33N29	2.467
	Willcross 3103	2.431
	Willcross 3123	2.511
	Golden Harvest H8920	2.472
Mixed Model	Control and References*	2.486
	MON 89034 x TC1507 x MON 88017 x DAS59122-7*	2.469
	Mixed Model p-value*	0.7003
	Mixed Model 5% LSD*	0.101

The individual means were computed from the ANOVA model (1) accounting for only variation within diets.
* Derived from a mixed linear model for comparing MON 89034 × TC1507 × MON 88017 × DAS59122-7 to the population of control and reference diets

Table 8. Feed Conversion (Feed Consumed/ Wt Gain)
MON 89034 × TC1507 × MON 88017 × DAS59122-7, Control and Reference

	Summary	Overall
ANOVA	p-value, Block	0.9181
	p-value, Diet	0.1096
	p-value, Sex	0.0004
	p-value, Diet*Sex	0.6610
	LSD 5%	0.072
Diet Means	MON 89034 x TC1507 x MON 88017 x DAS59122-7	1.648
	XE6001 (Control)	1.658
	Golden Harvest H9166	1.727
	Dekalb DKC61-50	1.712
	Pioneer 33N29	1.749
	Willcross 3103	1.671
	Willcross 3123	1.676
	Golden Harvest H8920	1.698
Mixed Model	Control and References*	1.699
	MON 89034 x TC1507 x MON 88017 x DAS59122-7*	1.648
	Mixed Model p-value*	0.2028
	Mixed Model 5% LSD*	0.086

Individual diet means with the same letter(s), i.e., A, AB, ABC, etc., are not statistically different at the 5% level. The individual means were computed from the ANOVA model (1) accounting for only variation within diets.
* Derived from a mixed linear model for comparing MON 89034 × TC1507 × MON 88017 × DAS59122-7 to the population of control and reference diets

Table 9. R/M Weight (Wt of removed and dead birds), kg
MON 89034 × TC1507 × MON 88017 × DAS59122-7, Control and Reference

	Summary	Overall
ANOVA	p-value, Block	0.9218
	p-value, Diet	0.6130
	p-value, Sex	0.9122
	p-value, Diet*Sex	0.4634
	LSD 5%	0.780
Diet Means	MON 89034 x TC1507 x MON 88017 x DAS59122-7	0.352
	XE6001 (Control)	0.372
	Golden Harvest H9166	1.029
	Dekalb DKC61-50	0.507
	Pioneer 33N29	0.941
	Willcross 3103	0.426
	Willcross 3123	0.704
	Golden Harvest H8920	0.684
Mixed Model	Control and References*	0.666
	MON 89034 x TC1507 x MON 88017 x DAS59122-7*	0.352
	Mixed Model p-value*	0.2911
	Mixed Model 5% LSD*	0.588

Individual diet means with the same letter(s), i.e., A, AB, ABC, etc., are not statistically different at the 5% level. The individual means were computed from the ANOVA model (1) accounting for only variation within diets.
* Derived from a mixed linear model for comparing MON 89034 × TC1507 × MON 88017 × DAS59122-7 to the population of control and reference diets

Table 10. Adjusted Feed Conversion (adjusted for R/M birds)
MON 89034 × TC1507 × MON 88017 × DAS59122-7, Control and Reference

	Summary	Overall	
ANOVA	p-value, Block	0.4230	
	p-value, Diet	<.0001	
	p-value, Sex	<.0001	
	p-value, Diet*Sex	0.9205	
	LSD 5%	0.018	
Diet Means	MON 89034 x TC1507 x MON 88017 x DAS59122-7	1.631	E
	XE6001 (Control)	1.635	D E
	Golden Harvest H9166	1.661	BC
	Dekalb DKC61-50	1.684	A
	Pioneer 33N29	1.673	BA
	Willcross 3103	1.645	DCE
	Willcross 3123	1.630	E
	Golden Harvest H8920	1.653	DC
Mixed Model	Control and References*	1.654	
	MON 89034 x TC1507 x MON 88017 x DAS59122-7*	1.631	
	Mixed Model p-value*	0.3113	
	Mixed Model 5% LSD*	0.052	

Mean separation procedures were performed when the p-value for Diet effect was significant at 0.05 level for Overall, Males or Females. The letters accompany the means to the left. Individual diet means with the same letter(s), i.e., A, AB, ABC, etc., are not statistically different at the 5% level. The individual means were computed from the ANOVA model (1) accounting for only variation within diets.
* Derived from a mixed linear model for comparing MON 89034 × TC1507 × MON 88017 × DAS59122-7 to the population of control and reference diets

Table 11. Average Pre-Processing Live Body Weight, kg/bird MON 89034 × TC1507 × MON 88017 × DAS59122-7, Control and Reference

	Summary	Overall	
ANOVA	p-value, Block	0.0001	
	p-value, Diet	0.0218	
	p-value, Sex	<.0001	
	p-value, Diet*Sex	0.3459	
	LSD 5%	0.067	
Diet Means	MON 89034 x TC1507 x MON 88017 x DAS59122-7	2.476	B C
	XE6001 (Control)	2.457	C
	Golden Harvest H9166	2.565	A
	Dekalb DKC61-50	2.535	BA
	Pioneer 33N29	2.480	B C
	Willcross 3103	2.450	C
	Willcross 3123	2.512	BAC
	Golden Harvest H8920	2.483	B C
Mixed Model	Control and References*	2.497	
	MON 89034 x TC1507 x MON 88017 x DAS59122-7*	2.476	
	Mixed Model p-value*	0.6459	
	Mixed Model 5% LSD*	0.110	

Mean separation procedures were performed when the p-value for Diet effect was significant at 0.05 level for Overall, Males or Females. The letters accompany the means to the left. The individual means were computed from the ANOVA model (1) accounting for only variation within diets.

* Derived from a mixed linear model for comparing MON 89034 × TC1507 × MON 88017 × DAS59122-7 to the population of control and reference diets

Table 12. Chilled Weight, kg/bird
MON 89034 × TC1507 × MON 88017 × DAS59122-7, Control and Reference

	Summary	Overall	
ANOVA	p-value, Block	0.0002	
	p-value, Diet	0.0065	
	p-value, Sex	<.0001	
	p-value, Diet*Sex	0.3056	
	LSD 5%	0.052	
Diet Means	MON 89034 x TC1507 x MON 88017 x DAS59122-7	1.759	DC
	XE6001 (Control)	1.745	DC
	Golden Harvest H9166	1.832	A
	Dekalb DKC61-50	1.814	BA
	Pioneer 33N29	1.761	DC
	Willcross 3103	1.736	D
	Willcross 3123	1.789	BAC
	Golden Harvest H8920	1.765	BDC
Mixed Model	Control and References*	1.777	
	MON 89034 x TC1507 x MON 88017 x DAS59122-7*	1.759	
	Mixed Model p-value*	0.6411	
	Mixed Model 5% LSD*	0.094	

Mean separation procedures were performed when the p-value for Diet effect was significant at 0.05 level for Overall, Males or Females. The letters accompany the means to the left. Individual diet means with the same letter(s), i.e., A, AB, ABC, etc., are not statistically different at the 5% level. The individual means were computed from the ANOVA model (1) accounting for only variation within diets.
* Derived from a mixed linear model for comparing MON 89034 × TC1507 × MON 88017 × DAS59122-7 to the population of control and reference diets

Table 13. Fat Pad Weight, kg/bird
MON 89034 × TC1507 × MON 88017 × DAS59122-7, Control and Reference

	Summary	Overall	
ANOVA	p-value, Block	0.0038	
	p-value, Diet	0.0025	
	p-value, Sex	0.0042	
	p-value, Diet*Sex	0.1947	
	LSD 5%	0.003	
Diet Means	MON 89034 x TC1507 x MON 88017 x DAS59122-7	0.047	BA
	XE6001 (Control)	0.043	C
	Golden Harvest H9166	0.047	A
	Dekalb DKC61-50	0.047	A
	Pioneer 33N29	0.048	A
	Willcross 3103	0.047	BA
	Willcross 3123	0.048	A
	Golden Harvest H8920	0.044	BC
Mixed Model	Control and References*	0.046	
	MON 89034 x TC1507 x MON 88017 x DAS59122-7*	0.047	
	Mixed Model p-value*	0.8535	
	Mixed Model 5% LSD*	0.006	

Mean separation procedures were performed when the p-value for Diet effect was significant at 0.05 level for Overall, Males or Females. The letters accompany the means to the left. Individual diet means with the same letter(s), i.e., A, AB, ABC, etc., are not statistically different at the 5% level. The individual means were computed from the ANOVA model (1) accounting for only variation within diets.
* Derived from a mixed linear model for comparing MON 89034 × TC1507 × MON 88017 × DAS59122-7 to the population of control and reference diets

Table 14. Average Breast Weight, kg/bird
MON 89034 × TC1507 × MON 88017 × DAS59122-7, Control and Reference

	Summary	Overall		Males		Females
ANOVA	p-value, Block	0.0006		0.0090		0.1580
	p-value, Diet	<.0001		0.0001		0.1667
	p-value, Sex	0.0795		.		.
	p-value, Diet*Sex	0.0258		.		.
	LSD 5%	0.019		0.029		0.026
Diet Means	MON 89034 x TC1507 x MON 88017 x DAS59122-7	0.442	C D	0.445	CB	0.440
	XE6001 (Control)	0.445	C D	0.459	CB	0.432
	Golden Harvest H9166	0.489	A	0.514	A	0.465
	Dekalb DKC61-50	0.468	B	0.473	B	0.464
	Pioneer 33N29	0.447	C D	0.446	CB	0.447
	Willcross 3103	0.438	D	0.431	C	0.444
	Willcross 3123	0.455	CBD	0.448	CB	0.461
	Golden Harvest H8920	0.460	CB	0.468	B	0.452
Mixed Model	Control and References*	0.457		0.463		0.452
	MON 89034 x TC1507 x MON 88017 x DAS59122-7*	0.442		0.445		0.440
	Mixed Model p-value*	0.4464		0.5605		0.3674
	Mixed Model 5% LSD*	0.045		0.070		0.032

Mean separation procedures were performed when the p-value for Diet effect was significant at 0.05 level for Overall, Males or Females. The letters accompany the means to the left. Individual diet means with the same letter(s), i.e., A, AB, ABC, etc., are not statistically different at the 5% level. The individual means were computed from the ANOVA model (1) accounting for only variation within diets.

* Derived from a mixed linear model for comparing MON 89034 × TC1507 × MON 88017 × DAS59122-7 to the population of control and reference diets

Table 15. Average Wing Weight, kg/bird
MON 89034 × TC1507 × MON 88017 × DAS59122-7, Control and Reference

	Summary	Overall	
ANOVA	p-value, Block	0.0087	
	p-value, Diet	0.0466	
	p-value, Sex	<.0001	
	p-value, Diet*Sex	0.5933	
	LSD 5%	0.006	
Diet Means	MON 89034 x TC1507 x MON 88017 x DAS59122-7	0.190	BA
	XE6001 (Control)	0.189	B
	Golden Harvest H9166	0.195	A
	Dekalb DKC61-50	0.195	A
	Pioneer 33N29	0.188	B
	Willcross 3103	0.188	B
	Willcross 3123	0.193	BA
	Golden Harvest H8920	0.188	B
Mixed Model	Control and References*	0.191	
	MON 89034 x TC1507 x MON 88017 x DAS59122-7*	0.190	
	Mixed Model p-value*	0.8544	
	Mixed Model 5% LSD*	0.009	

Mean separation procedures were performed when the p-value for Diet effect was significant at 0.05 level for Overall, Males or Females. The letters accompany the means to the left. Individual diet means with the same letter(s), i.e., A, AB, ABC, etc., are not statistically different at the 5% level. The individual means were computed from the ANOVA model (1) accounting for only variation within diets.

* Derived from a mixed linear model for comparing MON 89034 × TC1507 × MON 88017 × DAS59122-7 to the population of control and reference diets

Table 16. Average Thigh Weight, kg/bird
MON 89034 × TC1507 × MON 88017 × DAS59122-7, Control and Reference

	Summary	Overall
ANOVA	p-value, Block	0.0399
	p-value, Diet	0.3492
	p-value, Sex	<.0001
	p-value, Diet*Sex	0.7208
	LSD 5%	0.011
Diet Means	MON 89034 x TC1507 x MON 88017 x DAS59122-7	0.300
	XE6001 (Control)	0.298
	Golden Harvest H9166	0.307
	Dekalb DKC61-50	0.307
	Pioneer 33N29	0.303
	Willcross 3103	0.298
	Willcross 3123	0.307
	Golden Harvest H8920	0.298
Mixed Model	Control and References*	0.303
	MON 89034 x TC1507 x MON 88017 x DAS59122-7*	0.300
	Mixed Model p-value*	0.6346
	Mixed Model 5% LSD*	0.012

The individual means were computed from the ANOVA model (1) accounting for only variation within diets.
* Derived from a mixed linear model for comparing MON 89034 × TC1507 × MON 88017 × DAS59122-7 to the population of control and reference diets

Table 17. Average Drum Wt, kg/bird
MON 89034 × TC1507 × MON 88017 × DAS59122-7, Control and Reference

	Summary	Overall
ANOVA	p-value, Block	0.0432
	p-value, Diet	0.0750
	p-value, Sex	<.0001
	p-value, Diet*Sex	0.3358
	LSD 5%	0.008
Diet Means	MON 89034 x TC1507 x MON 88017 x DAS59122-7	0.253
	XE6001 (Control)	0.249
	Golden Harvest H9166	0.257
	Dekalb DKC61-50	0.256
	Pioneer 33N29	0.250
	Willcross 3103	0.248
	Willcross 3123	0.255
	Golden Harvest H8920	0.247
Mixed Model	Control and References*	0.252
	MON 89034 x TC1507 x MON 88017 x DAS59122-7*	0.253
	Mixed Model p-value*	0.8196
	Mixed Model 5% LSD*	0.010

The individual means were computed from the ANOVA model (1) accounting for only variation within diets.
* Derived from a mixed linear model for comparing MON 89034 × TC1507 × MON 88017 × DAS59122-7 to the population of control and reference diets

Table 18. Percent Fat Pad Weight (Fat Pad Wt / Live Wt x 100) MON 89034 × TC1507 × MON 88017 × DAS59122-7, Control and Reference

	Summary	Overall	
ANOVA	p-value, Block	0.0776	
	p-value, Diet	0.0011	
	p-value, Sex	<.0001	
	p-value, Diet*Sex	0.2384	
	LSD 5%	0.101	
Diet Means	MON 89034 x TC1507 x MON 88017 x DAS59122-7	1.887	A
	XE6001 (Control)	1.724	C
	Golden Harvest H9166	1.848	BA
	Dekalb DKC61-50	1.870	BA
	Pioneer 33N29	1.922	A
	Willcross 3103	1.908	A
	Willcross 3123	1.925	A
	Golden Harvest H8920	1.778	BC
Mixed Model	Control and References*	1.854	
	MON 89034 x TC1507 x MON 88017 x DAS59122-7*	1.887	
	Mixed Model p-value*	0.7012	
	Mixed Model 5% LSD*	0.201	

Mean separation procedures were performed when the p-value for Diet effect was significant at 0.05 level for Overall, Males or Females. The letters accompany the means to the left. Individual diet means with the same letter(s), i.e., A, AB, ABC, etc., are not statistically different at the 5% level. The individual means were computed from the ANOVA model (1) accounting for only variation within diets.

* Derived from a mixed linear model for comparing MON 89034 × TC1507 × MON 88017 × DAS59122-7 to the population of control and reference diets

**Table 19. Percent Chilled Weight (Chilled Wt/Live Wt x 100)
MON 89034 × TC1507 × MON 88017 × DAS59122-7, Control and Reference**

	Summary	Overall	
ANOVA	p-value, Block	0.0216	
	p-value, Diet	0.0051	
	p-value, Sex	<.0001	
	p-value, Diet*Sex	0.4241	
	LSD 5%	0.364	
Diet Means	MON 89034 x TC1507 x MON 88017 x DAS59122-7	71.054	C
	XE6001 (Control)	70.979	C
	Golden Harvest H9166	71.442	BA
	Dekalb DKC61-50	71.533	A
	Pioneer 33N29	70.975	C
	Willcross 3103	70.835	C
	Willcross 3123	71.197	BAC
	Golden Harvest H8920	71.052	C
Mixed Model	Control and References*	71.145	
	MON 89034 x TC1507 x MON 88017 x DAS59122-7*	71.054	
	Mixed Model p-value*	0.7540	
	Mixed Model 5% LSD*	0.677	

Mean separation procedures were performed when the p-value for Diet effect was significant at 0.05 level for Overall, Males or Females. The letters accompany the means to the left. Individual diet means with the same letter(s), i.e., A, AB, ABC, etc., are not statistically different at the 5% level. The individual means were computed from the ANOVA model (1) accounting for only variation within diets.
* Derived from a mixed linear model for comparing MON 89034 × TC1507 × MON 88017 × DAS59122-7 to the population of control and reference diets

Table 20. Percent Breast Weight (Breast Wt/ Chilled Wt x 100)
MON 89034 × TC1507 × MON 88017 × DAS59122-7, Control and Reference

	Summary	Overall		Males		Females
ANOVA	p-value, Block	0.0744		0.2733		0.3975
	p-value, Diet	<.0001		<.0001		0.0625
	p-value, Sex	<.0001		.		.
	p-value, Diet*Sex	0.0020		.		.
	LSD 5%	0.492		0.809		0.630
Diet Means	MON 89034 x TC1507 x MON 88017 x DAS59122-7	25.148	D	24.026	CD	26.270
	XE6001 (Control)	25.476	CD	24.793	CB	26.159
	Golden Harvest H9166	26.654	A	26.245	A	27.064
	Dekalb DKC61-50	25.836	CB	24.677	CB	26.995
	Pioneer 33N29	25.327	D	24.372	CD	26.281
	Willcross 3103	25.170	D	23.808	D	26.532
	Willcross 3123	25.404	CD	24.245	CD	26.563
	Golden Harvest H8920	26.001	B	25.221	B	26.781
Mixed Model	Control and References*	25.696		24.766		26.625
	MON 89034 x TC1507 x MON 88017 x DAS59122-7*	25.148		24.026		26.270
	Mixed Model p-value*	0.3566		0.4145		0.3698
	Mixed Model 5% LSD*	1.342		2.067		0.895

Mean separation procedures were performed when the p-value for Diet effect was significant at 0.05 level for Overall, Males or Females. The letters accompany the means to the left. Individual diet means with the same letter(s), i.e., A, AB, ABC, etc., are not statistically different at the 5% level. The individual means were computed from the ANOVA model (1) accounting for only variation within diets.
* Derived from a mixed linear model for comparing MON 89034 × TC1507 × MON 88017 × DAS59122-7 to the population of control and reference diets

Table 21. Percent Wing Weight (Wing Wt/ Chilled Wt x 100)
MON 89034 × TC1507 × MON 88017 × DAS59122-7, Control and Reference

	Summary	Overall	Males		Females
ANOVA	p-value, Block	0.0004	0.0007		0.2235
	p-value, Diet	0.4638	0.0490		0.1865
	p-value, Sex	<.0001	.		.
	p-value, Diet*Sex	0.0135	.		.
	LSD 5%	0.179	0.267		0.229
Diet Means	MON 89034 x TC1507 x MON 88017 x DAS59122-7	10.839	11.025	B AC	10.654
	XE6001 (Control)	10.870	10.926	BDAC	10.815
	Golden Harvest H9166	10.678	10.698	D	10.659
	Dekalb DKC61-50	10.779	11.024	B AC	10.535
	Pioneer 33N29	10.727	10.833	BD C	10.621
	Willcross 3103	10.822	11.075	B A	10.569
	Willcross 3123	10.784	11.110	A	10.458
	Golden Harvest H8920	10.713	10.787	D C	10.638
Mixed Model	Control and References*	10.768	10.922		10.613
	MON 89034 x TC1507 x MON 88017 x DAS59122-7*	10.839	11.025		10.654
	Mixed Model p-value*	0.4982	0.5604		0.7457
	Mixed Model 5% LSD*	0.224	0.408		0.294

Mean separation procedures were performed when the p-value for Diet effect was significant at 0.05 level for Overall, Males or Females. The letters accompany the means to the left. Individual diet means with the same letter(s), i.e., A, AB, ABC, etc., are not statistically different at the 5% level. The individual means were computed from the ANOVA model (1) accounting for only variation within diets.

* Derived from a mixed linear model for comparing MON 89034 × TC1507 × MON 88017 × DAS59122-7 to the population of control and reference diets

**Table 22. Percent Thigh Weight (Thigh Wt/ Chilled Wt x 100)
MON 89034 × TC1507 × MON 88017 × DAS59122-7, Control and Reference**

	Summary	Overall
ANOVA	p-value, Block	0.2606
	p-value, Diet	0.3051
	p-value, Sex	<.0001
	p-value, Diet*Sex	0.4975
	LSD 5%	0.375
Diet Means	MON 89034 x TC1507 x MON 88017 x DAS59122-7	17.062
	XE6001 (Control)	17.050
	Golden Harvest H9166	16.736
	Dekalb DKC61-50	16.919
	Pioneer 33N29	17.189
	Willcross 3103	17.150
	Willcross 3123	17.165
	Golden Harvest H8920	16.916
Mixed Model	Control and References*	17.018
	MON 89034 x TC1507 x MON 88017 x DAS59122-7*	17.062
	Mixed Model p-value*	0.8149
	Mixed Model 5% LSD*	0.439

The individual means were computed from the ANOVA model (1) accounting for only variation within diets.
* Derived from a mixed linear model for comparing MON 89034 × TC1507 × MON 88017 × DAS59122-7 to the population of control and reference diets

Table 23. Percent Drum Weight (Drum Wt/ Chilled Wt x 100)
MON 89034 × TC1507 × MON 88017 × DAS59122-7, Control and Reference

	Summary	Overall		Males		Females
ANOVA	p-value, Block	0.0047		0.0001		0.1701
	p-value, Diet	0.0068		0.0004		0.3941
	p-value, Sex	<.0001		.		.
	p-value, Diet*Sex	0.1413		.		.
	LSD 5%	0.228		0.268		0.338
Diet Means	MON 89034 x TC1507 x MON 88017 x DAS59122-7	14.362	A	14.928	BAC	13.797
	XE6001 (Control)	14.270	B A	14.778	BDC	13.762
	Golden Harvest H9166	14.015	D	14.519	D	13.510
	Dekalb DKC61-50	14.090	BD C	14.738	DC	13.443
	Pioneer 33N29	14.233	BDAC	14.763	BDC	13.702
	Willcross 3103	14.310	B A	15.009	BA	13.612
	Willcross 3123	14.248	B AC	14.893	B C	13.604
	Golden Harvest H8920	14.033	D C	14.580	D	13.487
Mixed Model	Control and References*	14.171		14.754		13.588
	MON 89034 x TC1507 x MON 88017 x DAS59122-7*	14.362		14.928		13.797
	Mixed Model p-value*	0.1925		0.3734		0.1048
	Mixed Model 5% LSD*	0.318		0.442		0.254

Mean separation procedures were performed when the p-value for Diet effect was significant at 0.05 level for Overall, Males or Females. The letters accompany the means to the left. Individual diet means with the same letter(s), i.e., A, AB, ABC, etc., are not statistically different at the 5% level. The individual means were computed from the ANOVA model (1) accounting for only variation within diets.

* Derived from a mixed linear model for comparing MON 89034 × TC1507 × MON 88017 × DAS59122-7 to the population of control and reference diets

Table 24. Breast Moisture (g/100 g)
MON 89034 × TC1507 × MON 88017 × DAS59122-7, Control and Reference

	Summary	Overall
ANOVA	p-value, Block	0.2769
	p-value, Diet	0.4010
	p-value, Sex	0.0004
	p-value, Diet*Sex	0.6483
	LSD 5%	0.492
Diet Means	MON 89034 x TC1507 x MON 88017 x DAS59122-7	75.060
	XE6001 (Control)	75.028
	Golden Harvest H9166	75.297
	Dekalb DKC61-50	75.332
	Pioneer 33N29	75.405
	Willcross 3103	75.280
	Willcross 3123	75.335
	Golden Harvest H8920	75.563
Mixed Model	Control and References*	75.320
	MON 89034 x TC1507 x MON 88017 x DAS59122-7*	75.060
	Mixed Model p-value*	0.1575
	Mixed Model 5% LSD*	0.362

The individual means were computed from the ANOVA model (1) accounting for only variation within diets.
* Derived from a mixed linear model for comparing MON 89034 × TC1507 × MON 88017 × DAS59122-7 to the population of control and reference diets

Table 25. Breast Protein (g/100 g)
MON 89034 × TC1507 × MON 88017 × DAS59122-7, Control and Reference

	Summary	Overall
ANOVA	p-value, Block	0.2544
	p-value, Diet	0.2216
	p-value, Sex	<.0001
	p-value, Diet*Sex	0.7118
	LSD 5%	0.511
Diet Means	MON 89034 x TC1507 x MON 88017 x DAS59122-7	22.324
	XE6001 (Control)	22.424
	Golden Harvest H9166	22.013
	Dekalb DKC61-50	22.040
	Pioneer 33N29	21.956
	Willcross 3103	21.875
	Willcross 3123	21.933
	Golden Harvest H8920	21.835
Mixed Model	Control and References*	22.011
	MON 89034 x TC1507 x MON 88017 x DAS59122-7*	22.324
	Mixed Model p-value*	0.1859
	Mixed Model 5% LSD*	0.512

The individual means were computed from the ANOVA model (1) accounting for only variation within diets.
* Derived from a mixed linear model for comparing MON 89034 × TC1507 × MON 88017 × DAS59122-7 to the population of control and reference diets

Table 26. Breast Fat (g/100 g)
MON 89034 × TC1507 × MON 88017 × DAS59122-7, Control and Reference

	Summary	Overall
ANOVA	p-value, Block	0.4060
	p-value, Diet	0.5855
	p-value, Sex	0.0712
	p-value, Diet*Sex	0.8861
	LSD 5%	0.282
Diet Means	MON 89034 x TC1507 x MON 88017 x DAS59122-7	1.044
	XE6001 (Control)	1.159
	Golden Harvest H9166	0.922
	Dekalb DKC61-50	1.058
	Pioneer 33N29	1.051
	Willcross 3103	1.210
	Willcross 3123	1.088
	Golden Harvest H8920	0.945
Mixed Model	Control and References*	1.062
	MON 89034 x TC1507 x MON 88017 x DAS59122-7*	1.044
	Mixed Model p-value*	0.8804
	Mixed Model 5% LSD*	0.273

The individual means were computed from the ANOVA model (1) accounting for only variation within diets.
* Derived from a mixed linear model for comparing MON 89034 × TC1507 × MON 88017 × DAS59122-7 to the population of control and reference diets

Table 27. Thigh Moisture (g/100 g)
MON 89034 × TC1507 × MON 88017 × DAS59122-7, Control and Reference

	Summary	Overall
ANOVA	p-value, Block	0.3265
	p-value, Diet	0.6590
	p-value, Sex	0.0257
	p-value, Diet*Sex	0.7660
	LSD 5%	0.513
Diet Means	MON 89034 x TC1507 x MON 88017 x DAS59122-7	76.820
	XE6001 (Control)	76.475
	Golden Harvest H9166	76.824
	Dekalb DKC61-50	76.912
	Pioneer 33N29	76.907
	Willcross 3103	76.921
	Willcross 3123	76.871
	Golden Harvest H8920	76.829
Mixed Model	Control and References*	76.820
	MON 89034 x TC1507 x MON 88017 x DAS59122-7*	76.820
	Mixed Model p-value*	0.9995
	Mixed Model 5% LSD*	0.373

The individual means were computed from the ANOVA model (1) accounting for only variation within diets.
* Derived from a mixed linear model for comparing MON 89034 × TC1507 × MON 88017 × DAS59122-7 to the population of control and reference diets

Table 28. Thigh Protein (g/100 g)
MON 89034 × TC1507 × MON 88017 × DAS59122-7, Control and Reference

	Summary	Overall
ANOVA	p-value, Block	0.3294
	p-value, Diet	0.8236
	p-value, Sex	0.1343
	p-value, Diet*Sex	0.7769
	LSD 5%	0.613
Diet Means	MON 89034 x TC1507 x MON 88017 x DAS59122-7	19.771
	XE6001 (Control)	19.979
	Golden Harvest H9166	19.511
	Dekalb DKC61-50	19.757
	Pioneer 33N29	20.049
	Willcross 3103	19.706
	Willcross 3123	19.790
	Golden Harvest H8920	19.795
Mixed Model	Control and References*	19.798
	MON 89034 x TC1507 x MON 88017 x DAS59122-7*	19.771
	Mixed Model p-value*	0.9033
	Mixed Model 5% LSD*	0.449

The individual means were computed from the ANOVA model (1) accounting for only variation within diets.
* Derived from a mixed linear model for comparing MON 89034 × TC1507 × MON 88017 × DAS59122-7 to the population of control and reference diets

Table 29. Thigh Fat (g/ 100g)
MON 89034 × TC1507 × MON 88017 × DAS59122-7, Control and Reference

	Summary	Overall
ANOVA	p-value, Block	0.5522
	p-value, Diet	0.6678
	p-value, Sex	0.0196
	p-value, Diet*Sex	0.9173
	LSD 5%	0.543
Diet Means	MON 89034 x TC1507 x MON 88017 x DAS59122-7	2.030
	XE6001 (Control)	2.102
	Golden Harvest H9166	1.780
	Dekalb DKC61-50	1.874
	Pioneer 33N29	2.128
	Willcross 3103	2.126
	Willcross 3123	1.827
	Golden Harvest H8920	1.728
Mixed Model	Control and References*	1.938
	MON 89034 x TC1507 x MON 88017 x DAS59122-7*	2.030
	Mixed Model p-value*	0.6455
	Mixed Model 5% LSD*	0.398

The individual means were computed from the ANOVA model (1) accounting for only variation within diets.
* Derived from a mixed linear model for comparing MON 89034 × TC1507 × MON 88017 × DAS59122-7 to the population of control and reference diets

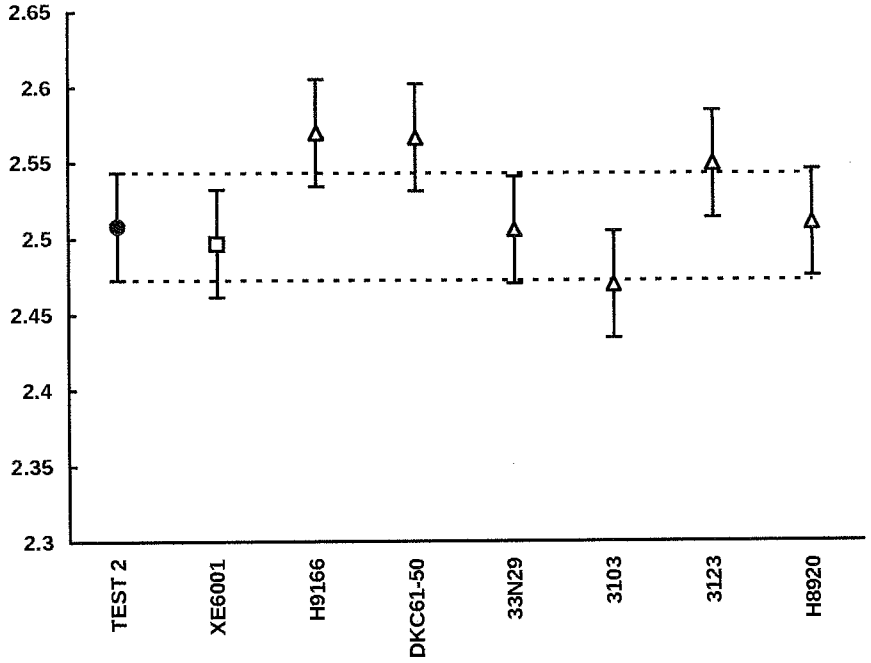

Figure 1. Comparison of Bird Weight Day 42 (males and females combined) for broilers fed diets containing MON 89034 × TC1507 × MON 88017 × DAS59122-7 (TEST2), Control or Reference corn

Average Bird Weight day 42 (kg/bird), for broilers fed diets containing corn produced from each hybrid. Error bars are ± one half the 5% Least Significant Difference (LSD). Therefore, if the overall F-test is significant at $P < 0.05$, any two non-overlapping treatments are statistically different at the 5% level of significance.

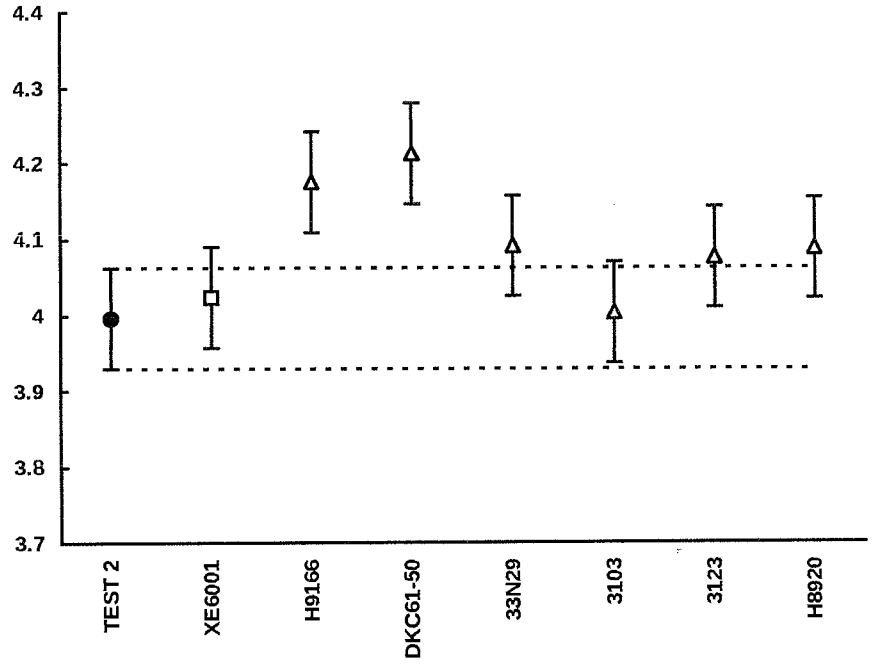

Figure 2. Comparison of Average Feed Intake (males and females combined) for broilers fed diets containing MON 89034 × TC1507 × MON 88017 × DAS59122-7 (TEST 2), Control or Reference corn

Average Feed Intake (kg/bird), day 42, for broilers fed diets containing corn produced from each hybrid. Error bars are ± one half the 5% Least Significant Difference (LSD). Therefore, if the overall F-test is significant at $P < 0.05$, any two non-overlapping treatments are statistically different at the 5% level of significance.

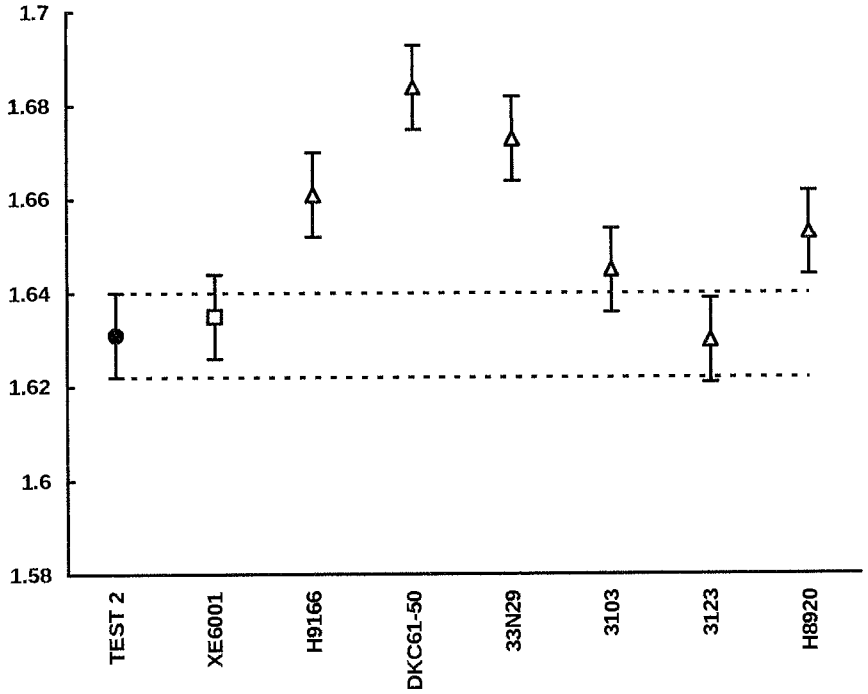

Figure 3. Comparison of Adjusted Feed Conversion (males and females combined) for broilers fed diets containing MON 89034 × TC1507 × MON 88017 × DAS59122-7 (TEST 2), Control or Reference corn

Adjusted feed conversion (adjusted for R/M birds), day 42, for broilers fed diets containing corn produced from each hybrid. Error bars are ± one half the 5% Least Significant Difference (LSD). Therefore, if the overall F-test is significant at $P < 0.05$, any two non-overlapping treatments are statistically different at the 5% level of significance.

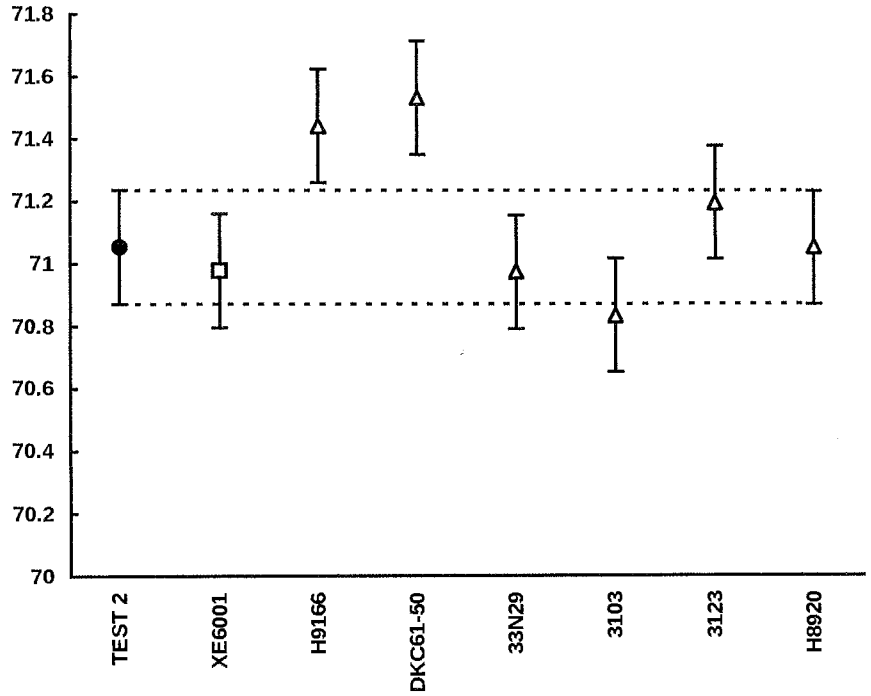

Figure 4. Comparison of Percent Chilled Weight (males and females combined) for broilers fed diets containing MON 89034 × TC1507 × MON 88017 × DAS59122-7 (TEST 2), Control or Reference corn

Percent Chilled Weight (Chilled Wt/Live Wt x 100), for broilers fed diets containing corn produced from each hybrid. Error bars are ± one half the 5% Least Significant Difference (LSD). Therefore, if the overall F-test is significant at $P < 0.05$, any two non-overlapping treatments are statistically different at the 5% level of significance.

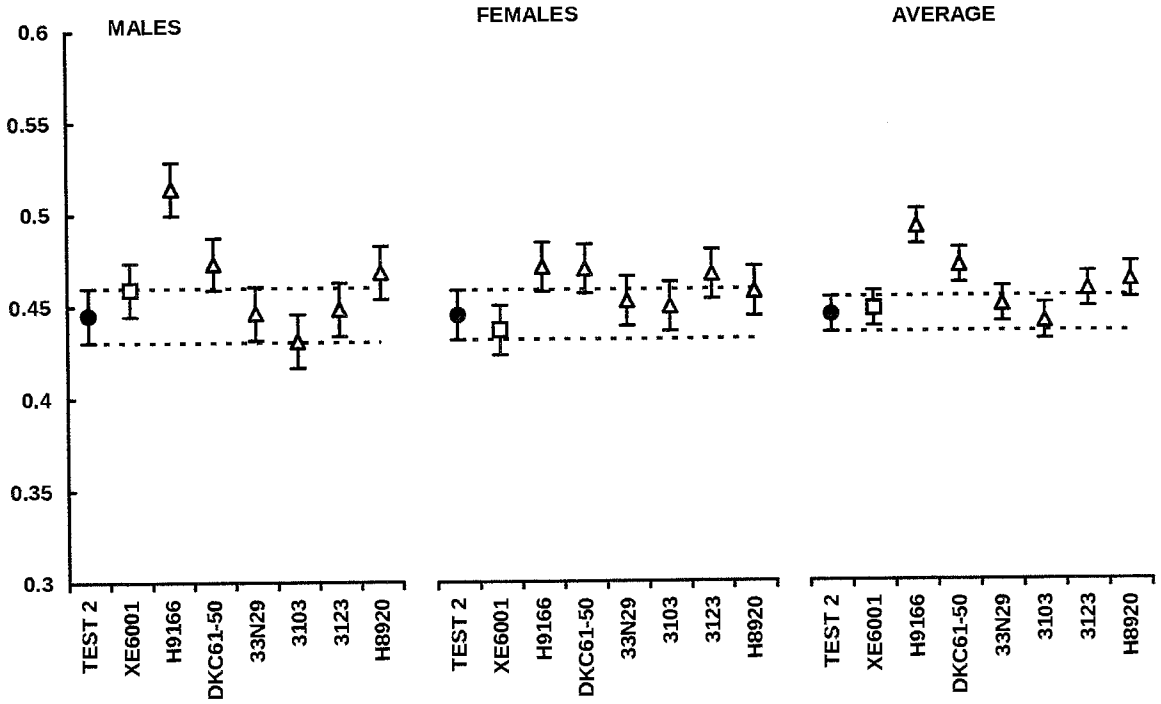

Figure 5. Comparison of Average Breast Weight for broilers fed diets containing MON 89034 × TC1507 × MON 88017 × DAS59122-7 (TEST 2), Control or Reference corn

Average Breast Weight (kg/bird), for broilers fed diets containing corn produced from each variety. Error bars are ± one half the 5% Least Significant Difference (LSD). Therefore, if the overall F-test is significant at $P < 0.05$, any two non-overlapping varieties are statistically different at the 5% level of significance.

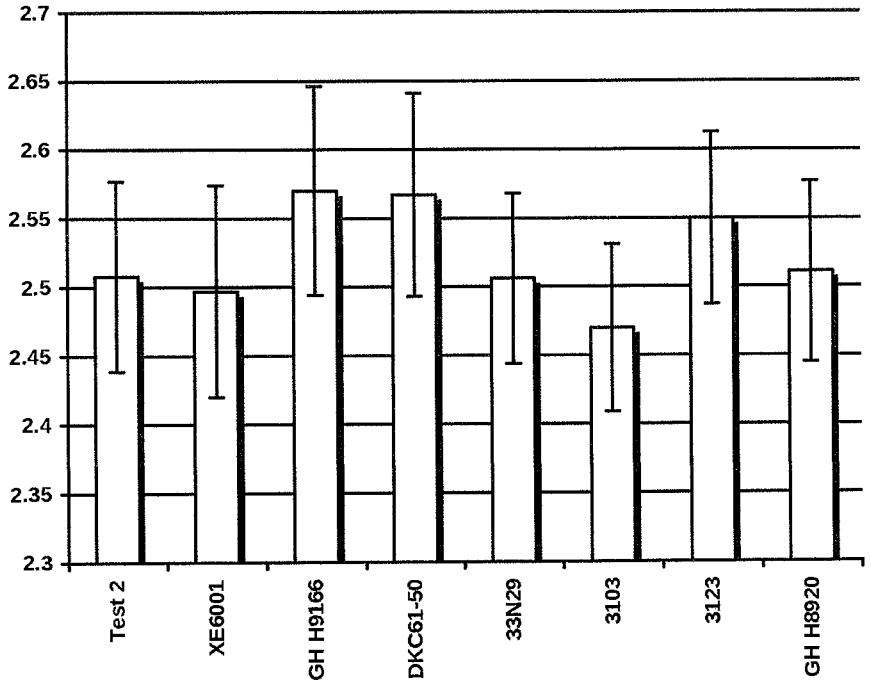

Figure 6. Summary of Bird Weight Day 42 (males and females combined) for MON 89034 × TC1507 × MON 88017 × DAS59122-7 (TEST 2), Control or Reference corn

Average Bird Weight day 42 (kg/bird), for broilers fed diets containing corn produced from each nybrid. Error bars are ± one standard error of the mean (SEM).

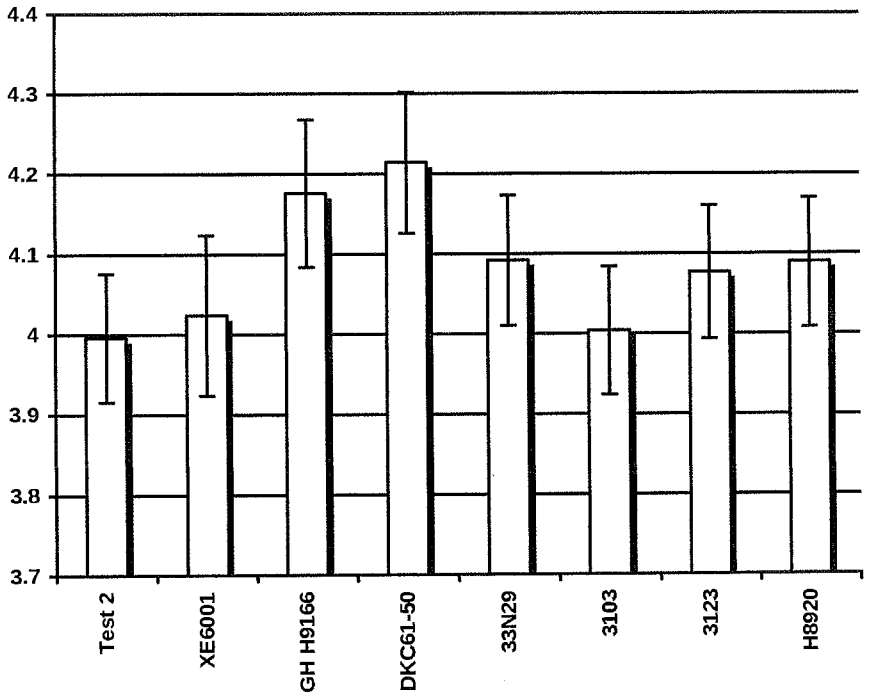

Figure 7. Summary of Average Feed Intake (males and females combined) for MON 89034 × TC1507 × MON 88017 × DAS59122-7 (TEST 2), Control or Reference corn

Average feed intake (kg/bird), day 42, for broilers fed diets containing corn produced from each hybrid. Error bars are ± one standard error of the mean (SEM).

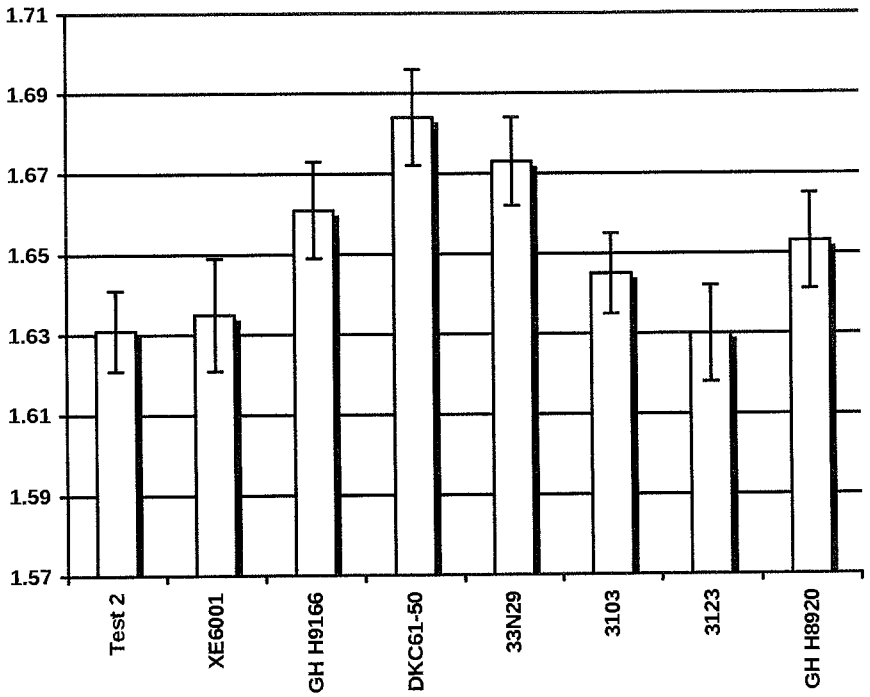

Figure 8. Summary of Adjusted Feed Conversion (males and females combined) for MON 89034 × TC1507 × MON 88017 × DAS59122-7 (TEST 2), Control or Reference corn

Adjusted feed conversion (adjusted for R/M birds), day 42, for broilers fed diets containing corn produced from each hybrid. Error bars are ± one standard error of the mean (SEM).

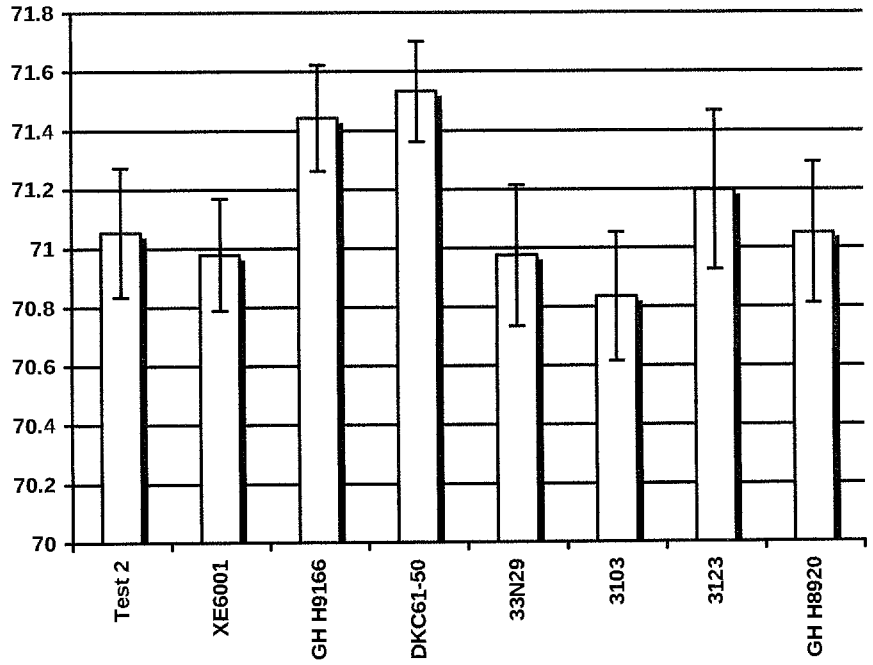

Figure 9. Summary of Percent Chilled Weight (males and females combined) for MON 89034 × TC1507 × MON 88017 × DAS59122-7 (TEST 2), Control or Reference corn

Percent Chilled Weight (Chilled Wt/Live Wt x 100), for broilers fed diets containing corn produced from each hybrid. Error bars are ± one standard error of the mean (SEM).

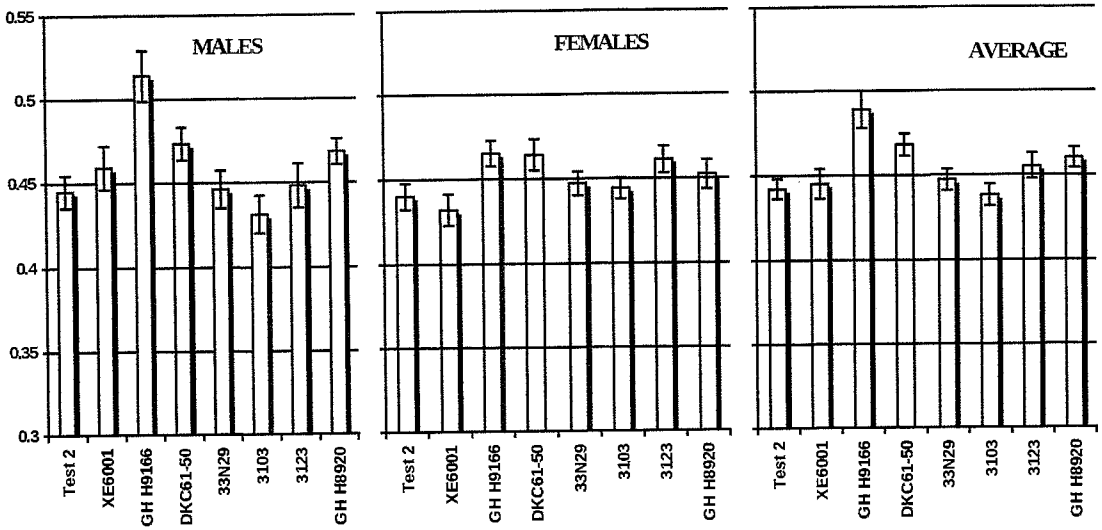

Figure 10. Summary of Average Breast Weight (males and females combined) for MON 89034 × TC1507 × MON 88017 × DAS59122-7 (TEST 2), Control or Reference corn

Average Breast Weight (kg/bird), for broilers fed diets containing corn produced from each hybrid. Error bars are ± one standard error of the mean (SEM).

Appendix 1 - Data Listing
Table 1. Broiler Performance Data

Trt #	Block	Treatment	Gender	Pen #	Bird Weight Day 0, g/bird	Pen Weight Day 0, kg/pen	Bird Weight Day 42, kg/bird	Pen Weight Day 42, kg/pen	Aver. Feed Intake, kg/bird	Feed Intake by Pen, kg	Feed Conversion (Feed Consumed/Wt Gain)	R/M Weight (Wt of removed & dead birds), kg	Adjusted Feed Conversion (adjust for R/M birds)
1	1	XE6001	m	1	39.17	0.47	2.69	26.86	4.20	42.00	1.59	0.18	1.58
			f	11	38.00	0.46	2.32	23.22	3.83	38.34	1.68	0.12	1.68
1	2	XE6001	m	39	38.33	0.46	2.73	27.28	4.37	43.70	1.62	0.10	1.62
			f	37	39.33	0.47	2.35	23.48	3.94	39.42	1.71	0.12	1.70
1	3	XE6001	m	51	40.50	0.49	2.61	26.06	4.10	40.98	1.60	0.19	1.59
			f	66	36.83	0.44	2.17	21.74	3.54	35.42	1.66	0.16	1.65
1	4	XE6001	m	94	39.83	0.48	2.87	28.72	4.58	45.80	1.62	0.070	1.62
			f	87	38.17	0.46	2.23	20.04	3.69	36.76	1.87	2.52	1.66
1	5	XE6001	m	68	38.83	0.47	2.68	26.82	4.18	41.76	1.58	0.13	1.58
			f	71	38.67	0.46	2.32	23.24	3.81	38.06	1.67	0.13	1.66
2	1	DKC61-50	m	17	37.33	0.45	2.75	24.78	4.41	40.78	1.67	0.50	1.64
			f	3	39.17	0.47	2.25	20.28	3.79	34.82	1.75	0.42	1.72
2	2	DKC61-50	m	48	36.67	0.44	2.63	23.64	4.17	39.16	1.68	0.76	1.64
			f	46	38.17	0.46	2.30	22.96	3.90	39.00	1.73	0.20	1.72
2	3	DKC61-50	m	64	40.33	0.48	2.78	25.00	4.42	43.56	1.77	1.56	1.67
			f	53	39.33	0.47	2.40	24.04	4.09	40.86	1.73	0.23	1.72

Appendix 1 - Data Listing
Table 1. Broiler Performance Data (cont.)

Trt #	Block	Treatment	Gender	Pen #	Bird Weight Day 0, g/bird	Pen Weight Day 0, kg/pen	Bird Weight Day 42, kg/bird	Pen Weight Day 42, kg/pen	Aver. Feed Intake, kg/bird	Feed Intake by Pen, kg	Feed Conversion (Feed Consumed/Wt Gain)	R/M Weight (Wt of removed & dead birds), kg	Adjusted Feed Conversion (adjust for R/M birds)
2	4	DKC61-50	m	80	38.33	0.46	2.91	29.06	4.71	47.14	1.64	0.14	1.64
			f	90	38.17	0.46	2.48	24.82	4.16	41.62	1.70	0.050	1.71
2	5	DKC61-50	m	26	38.83	0.47	2.79	22.32	4.41	37.78	1.72	0.98	1.66
			f	75	39.50	0.47	2.38	23.82	4.08	40.76	1.74	0.23	1.73
3	1	H8920	m	13	39.83	0.48	2.69	24.22	4.32	39.72	1.66	0.81	1.62
			f	10	38.00	0.46	2.41	21.66	4.03	39.10	1.83	1.95	1.69
3	2	H8920	m	45	36.83	0.44	2.68	26.82	4.25	42.54	1.61	0.18	1.60
			f	35	36.50	0.44	2.24	22.40	3.72	37.20	1.69	0.14	1.68
3	3	H8920	m	52	39.50	0.47	2.58	23.26	4.20	39.48	1.72	0.66	1.68
			f	54	39.33	0.47	2.30	23.00	3.80	38.02	1.68	0.15	1.68
3	4	H8920	m	84	39.33	0.47	2.78	27.80	4.37	43.70	1.59	0.096	1.59
			f	86	39.83	0.48	2.37	23.74	3.92	39.20	1.68	0.12	1.68
3	5	H8920	m	28	38.00	0.46	2.76	27.56	4.43	44.30	1.63	0.14	1.63
			f	67	38.17	0.46	2.29	20.64	3.85	38.06	1.88	2.60	1.67
4	1	H9166	m	2	38.67	0.46	2.70	24.28	4.36	42.82	1.79	1.98	1.66
			f	9	39.00	0.47	2.43	24.34	4.12	41.16	1.72	0.18	1.71

Appendix 1 - Data Listing
Table 1. Broiler Performance Data (cont.)

Trt #	Block	Treatment	Gender	Pen #	Bird Weight Day 0, g/bird	Pen Weight Day 0, kg/pen	Bird Weight Day 42, kg/bird	Pen Weight Day 42, kg/pen	Aver. Feed Intake, kg/bird	Feed Intake by Pen, kg	Feed Conversion (Feed Consumed/Wt Gain)	R/M Weight (Wt of removed & dead birds), kg	Adjusted Feed Conversion (adjust for R/M birds)
4	2	H9166	m	33	40.00	0.48	2.82	25.40	4.52	44.56	1.78	1.91	1.66
			f	38	39.67	0.48	2.39	23.94	3.93	39.26	1.67	0.21	1.66
4	3	H9166	m	50	38.50	0.46	2.73	24.56	4.28	40.22	1.66	0.80	1.62
			f	57	38.83	0.47	2.26	20.30	3.78	37.36	1.87	2.44	1.68
4	4	H9166	m	83	37.67	0.45	2.81	28.06	4.48	44.80	1.62	0.17	1.61
			f	79	37.67	0.45	2.33	23.32	3.87	38.74	1.69	0.10	1.69
4	5	H9166	m	21	37.33	0.45	2.89	26.00	4.51	44.62	1.74	2.08	1.62
			f	78	39.17	0.47	2.34	21.06	3.91	35.86	1.73	0.41	1.71
5	1	MON 89034 x TC1507 x MON 88017 x DAS59122-7	m	8	39.83	0.48	2.70	24.28	4.19	39.38	1.65	0.36	1.63
			f	15	39.50	0.47	2.37	21.34	3.85	35.66	1.70	0.70	1.65
5	2	MON 89034 x TC1507 x MON 88017 x DAS59122-7	m	31	39.17	0.47	2.80	28.02	4.40	43.98	1.59	0.20	1.59
			f	40	39.17	0.47	2.28	22.76	3.74	37.44	1.67	0.10	1.67
5	3	MON 89034 x TC1507 x MON 88017 x DAS59122-7	m	59	39.33	0.47	2.56	25.64	4.05	40.52	1.60	0.19	1.60
			f	55	38.67	0.46	2.30	22.96	3.76	37.64	1.67	0.19	1.66

Appendix 1 - Data Listing
Table 1. Broiler Performance Data (cont.)

Trt #	Block	Treatment	Gender	Pen #	Bird Weight Day 0, g/bird	Pen Weight Day 0, kg/pen	Bird Weight Day 42, kg/bird	Pen Weight Day 42, kg/pen	Aver. Feed Intake, kg/bird	Feed Intake by Pen, kg	Feed Conversion (Feed Consumed/Wt Gain)	R/M Weight (Wt of removed & dead birds), kg	Adjusted Feed Conversion (adjust for R/M birds)
5	4	MON 89034 x TC1507 x MON 88017 x DAS59122-7	m	93	38.50	0.46	2.71	27.12	4.27	42.74	1.60	0.12	1.60
			f	89	39.50	0.47	2.33	23.28	3.81	38.06	1.66	0.21	1.65
5	5	MON 89034 x TC1507 x MON 88017 x DAS59122-7	m	29	39.67	0.48	2.76	24.80	4.18	41.34	1.69	1.44	1.61
			f	70	38.83	0.47	2.28	22.80	3.69	36.94	1.65	0.010	1.65
6	1	Test Article 2[1]	m	16									
			f	4									
6	2	Test Article 2	m	43	NA – Test Article 2 is not the subject of this report.								
			f	42									
6	3	Test Article 2	m	63									
			f	56									
6	4	Test Article 2	m	81									
			f	85									
6	5	Test Article 2	m	69									
			f	76									
7	1	33N29	m	5	41.67	0.50	2.76	27.64	4.49	44.88	1.65	0.094	1.65
			f	12	40.17	0.48	2.42	24.16	4.02	40.16	1.69	0.10	1.69

Appendix 1 - Data Listing
Table 1. Broiler Performance Data (cont.)

Trt #	Block	Treatment	Gender	Pen #	Bird Weight Day 0, g/bird	Pen Weight Day 0, kg/pen	Bird Weight Day 42, kg/bird	Pen Weight Day 42, kg/pen	Aver. Feed Intake, kg/bird	Feed Intake by Pen, kg	Feed Conversion (Feed Consumed/Wt Gain)	R/M Weight (Wt of removed & dead birds), kg	Adjusted Feed Conversion (adjust for R/M birds)
7	2	33N29	m	36	38.17	0.46	2.50	17.48	3.89	36.66	2.13	4.50	1.71
			f	41	38.67	0.46	2.22	22.18	3.76	37.62	1.73	0.13	1.72
7	3	33N29	m	61	38.67	0.46	2.65	23.82	4.20	39.44	1.68	0.76	1.64
			f	60	38.00	0.46	2.33	23.34	3.90	39.04	1.70	0.13	1.70
7	4	33N29	m	82	38.17	0.46	2.71	27.06	4.37	43.74	1.64	0.13	1.64
			f	95	39.83	0.48	2.41	19.28	4.02	36.52	1.93	2.79	1.69
7	5	33N29	m	77	39.83	0.48	2.75	27.46	4.40	43.98	1.63	0.21	1.62
			f	27	39.33	0.47	2.32	20.90	3.87	35.42	1.72	0.55	1.69
8	1	3103	m	6	41.00	0.49	2.48	24.78	3.95	39.52	1.62	0.15	1.62
			f	18	38.83	0.47	2.30	20.68	3.78	35.00	1.72	0.61	1.68
8	2	3103	m	32	40.33	0.48	2.64	26.42	4.20	41.96	1.61	0.12	1.61
			f	44	38.83	0.47	2.27	22.68	3.72	37.18	1.67	0.19	1.66
8	3	3103	m	65	39.33	0.47	2.54	25.36	4.05	40.48	1.62	0.19	1.61
			f	62	38.50	0.46	2.27	22.72	3.74	37.42	1.68	0.014	1.68
8	4	3103	m	88	37.67	0.45	2.79	27.88	4.45	44.52	1.62	0.15	1.61
			f	92	39.17	0.47	2.39	23.90	3.98	39.76	1.69	0.13	1.69

Appendix 1 - Data Listing
Table 1. Broiler Performance Data (cont.)

Trt #	Block	Treatment	Gender	Pen #	Bird Weight Day 0, g/bird	Pen Weight Day 0, kg/pen	Bird Weight Day 42, kg/bird	Pen Weight Day 42, kg/pen	Aver. Feed Intake, kg/bird	Feed Intake by Pen, kg	Feed Conversion (Feed Consumed/Wt Gain)	R/M Weight (Wt of removed & dead birds), kg	Adjusted Feed Conversion (adjust for R/M birds)
8	5	3103	m	19	40.83	0.49	2.71	27.10	4.33	43.30	1.62	0.16	1.62
			f	22	39.17	0.47	2.32	20.90	3.85	38.10	1.85	2.54	1.66
9	1	3123	m	7	40.17	0.48	2.71	27.14	4.35	43.46	1.63	0.21	1.62
			f	14	38.17	0.46	2.44	22.00	4.07	40.30	1.86	2.48	1.68
9	2	3123	m	47	38.00	0.46	2.49	24.86	3.89	38.90	1.59	0.13	1.59
			f	34	38.50	0.46	2.40	24.04	3.97	39.74	1.68	0.16	1.67
9	3	3123	m	49	38.33	0.46	2.71	21.64	4.12	36.14	1.69	1.61	1.59
			f	58	38.33	0.46	2.29	22.94	3.71	37.12	1.65	0.14	1.64
9	4	3123	m	91	38.83	0.47	2.88	28.82	4.50	44.96	1.58	0.17	1.58
			f	96	37.17	0.45	2.46	22.10	3.93	36.98	1.70	0.74	1.65
9	5	3123	m	20	39.00	0.47	2.77	27.68	4.41	44.08	1.62	0.11	1.61
			f	30	38.50	0.46	2.35	21.12	3.82	36.68	1.77	1.29	1.67

[1] A second test article was evaluated in this study. That test article is not the subject of this report; therefore, data for that dietary treatment (Trt #6) are not included in the data listing.

Appendix 1 - Data Listing
Table 2A. Broiler Process Data (weights, by pen)

Trt #	Block	Treatment	Gender	Pen #	Avg Processing Live Body Wt, kg/bird	Mean Fat Pad Weight, kg	Mean Chilled Weight, kg	Mean Wings Wt, kg	Mean Drum Wt, kg	Mean Thigh Wt, kg	Mean Breast Wt, kg
1	1	XE6001	m	1	2.60	0.045	1.83	0.20	0.27	0.34	0.45
			f	11	2.34	0.045	1.67	0.18	0.23	0.27	0.45
1	2	XE6001	m	39	2.62	0.042	1.86	0.20	0.27	0.31	0.48
			f	37	2.34	0.046	1.69	0.18	0.23	0.28	0.44
1	3	XE6001	m	51	2.52	0.038	1.77	0.20	0.27	0.31	0.42
			f	66	2.20	0.038	1.57	0.17	0.22	0.26	0.41
1	4	XE6001	m	94	2.74	0.052	1.95	0.21	0.28	0.33	0.50
			f	87	2.24	0.037	1.61	0.18	0.22	0.28	0.41
1	5	XE6001	m	68	2.59	0.037	1.82	0.20	0.27	0.31	0.45
			f	71	2.36	0.044	1.69	0.18	0.23	0.28	0.45
2	1	DKC61-50	m	17	2.66	0.044	1.88	0.20	0.28	0.32	0.46
			f	3	2.30	0.050	1.65	0.18	0.22	0.28	0.44
2	2	DKC61-50	m	48	2.57	0.048	1.83	0.20	0.27	0.32	0.44
			f	46	2.35	0.049	1.68	0.18	0.23	0.28	0.45
2	3	DKC61-50	m	64	2.69	0.044	1.92	0.21	0.29	0.33	0.48
			f	53	2.42	0.049	1.75	0.19	0.24	0.29	0.47

Appendix 1 - Data Listing
Table 2A. Broiler Process Data (weights, by pen) (cont.)

Trt #	Block	Treatment	Gender	Pen #	Avg Processing Live Body Wt, kg/bird	Mean Fat Pad Weight, kg	Mean Chilled Weight, kg	Mean Wings Wt, kg	Mean Drum Wt, kg	Mean Thigh Wt, kg	Mean Breast Wt, kg
2	4	DKC61-50	m	80	2.79	0.041	1.99	0.22	0.28	0.34	0.50
			f	90	2.48	0.052	1.80	0.18	0.24	0.29	0.49
2	5	DKC61-50	m	26	2.69	0.045	1.92	0.22	0.28	0.33	0.48
			f	75	2.41	0.049	1.71	0.18	0.22	0.28	0.47
3	1	H8920	m	13	2.62	0.046	1.85	0.19	0.27	0.31	0.46
			f	10	2.41	0.043	1.74	0.18	0.23	0.28	0.47
3	2	H8920	m	45	2.59	0.041	1.81	0.20	0.26	0.32	0.45
			f	35	2.29	0.046	1.64	0.18	0.22	0.28	0.44
3	3	H8920	m	52	2.51	0.034	1.79	0.20	0.26	0.29	0.47
			f	54	2.32	0.046	1.65	0.18	0.23	0.27	0.44
3	4	H8920	m	84	2.68	0.047	1.90	0.20	0.27	0.32	0.50
			f	86	2.40	0.048	1.73	0.18	0.23	0.29	0.47
3	5	H8920	m	28	2.69	0.046	1.89	0.21	0.28	0.33	0.47
			f	67	2.33	0.045	1.66	0.18	0.22	0.28	0.44
4	1	H9166	m	2	2.65	0.046	1.87	0.20	0.27	0.32	0.49
			f	9	2.48	0.049	1.79	0.19	0.24	0.30	0.48

Appendix 1 - Data Listing
Table 2A. Broiler Process Data (weights, by pen) (cont.)

Trt #	Block	Treatment	Gender	Pen #	Avg Processing Live Body Wt, kg/bird	Mean Fat Pad Weight, kg	Mean Chilled Weight, kg	Mean Wings Wt, kg	Mean Drum Wt, kg	Mean Thigh Wt, kg	Mean Breast Wt, kg
4	2	H9166	m	33	2.76	0.053	1.95	0.21	0.29	0.34	0.49
			f	38	2.44	0.045	1.76	0.19	0.24	0.30	0.48
4	3	H9166	m	50	2.64	0.046	1.87	0.20	0.28	0.31	0.49
			f	57	2.29	0.042	1.64	0.17	0.22	0.27	0.44
4	4	H9166	m	83	2.78	0.050	1.99	0.21	0.28	0.33	0.55
			f	79	2.36	0.048	1.69	0.18	0.23	0.27	0.46
4	5	H9166	m	21	2.88	0.047	2.06	0.22	0.30	0.35	0.55
			f	78	2.37	0.048	1.70	0.18	0.23	0.27	0.46
5	1	MON 89034 x TC1507 x MON 88017 x DAS59122-7	m	8	2.60	0.048	1.83	0.20	0.27	0.32	0.43
			f	15	2.39	0.050	1.72	0.18	0.23	0.29	0.46
5	2	MON 89034 x TC1507 x MON 88017 x DAS59122-7	m	31	2.72	0.048	1.91	0.21	0.29	0.33	0.47
			f	40	2.31	0.047	1.65	0.18	0.24	0.28	0.42
5	3	MON 89034 x TC1507 x MON 88017 x DAS59122-7	m	59	2.49	0.040	1.76	0.20	0.27	0.31	0.43
			f	55	2.31	0.046	1.65	0.18	0.23	0.28	0.42
5	4	MON 89034 x TC1507 x MON 88017 x DAS59122-7	m	93	2.61	0.046	1.84	0.20	0.27	0.32	0.43
			f	89	2.34	0.048	1.69	0.18	0.22	0.27	0.45

Appendix 1 - Data Listing
Table 2A. Broiler Process Data (weights, by pen) (cont.)

Trt #	Block	Treatment	Gender	Pen #	Avg Processing Live Body Wt, kg/bird	Mean Fat Pad Weight, kg	Mean Chilled Weight, kg	Mean Wings Wt, kg	Mean Drum Wt, kg	Mean Thigh Wt, kg	Mean Breast Wt, kg
5	5	MON 89034 x TC1507 x MON 88017 x DAS59122-7	m	29	2.68	0.048	1.89	0.21	0.28	0.32	0.47
			f	70	2.30	0.047	1.65	0.17	0.22	0.27	0.44
6	1	Test Article 2[1]	m	16							
			f	4	NA – Test Article 2 is not the subject of this report.						
6	2	Test Article 2	m	43							
			f	42							
6	3	Test Article 2	m	63							
			f	56							
6	4	Test Article 2	m	81							
			f	85							
6	5	Test Article 2	m	69							
			f	76	2.56	0.061	1.82	0.19	0.24	0.30	0.49
7	1	33N29	m	5	2.68	0.047	1.89	0.20	0.27	0.34	0.47
			f	12	2.44	0.051	1.75	0.18	0.24	0.30	0.46
7	2	33N29	m	36	2.42	0.047	1.69	0.18	0.25	0.28	0.41
			f	41	2.26	0.047	1.61	0.17	0.22	0.27	0.43

Appendix 1 - Data Listing
Table 2A. Broiler Process Data (weights, by pen) (cont.)

Trt #	Block	Treatment	Gender	Pen #	Avg Processing Live Body Wt, kg/bird	Mean Fat Pad Weight, kg	Mean Chilled Weight, kg	Mean Wings Wt, kg	Mean Drum Wt, kg	Mean Thigh Wt, kg	Mean Breast Wt, kg
7	3	33N29	m	61	2.55	0.042	1.80	0.20	0.27	0.31	0.44
			f	60	2.36	0.052	1.69	0.18	0.23	0.28	0.45
7	4	33N29	m	82	2.64	0.046	1.87	0.20	0.27	0.33	0.46
			f	95	2.44	0.049	1.76	0.19	0.25	0.30	0.46
7	5	33N29	m	77	2.65	0.046	1.87	0.20	0.28	0.33	0.44
			f	27	2.35	0.050	1.69	0.18	0.23	0.29	0.43
8	1	3103	m	6	2.45	0.044	1.71	0.19	0.26	0.32	0.40
			f	18	2.33	0.048	1.65	0.17	0.23	0.27	0.44
8	2	3103	m	32	2.57	0.043	1.81	0.21	0.27	0.33	0.42
			f	44	2.32	0.047	1.65	0.18	0.23	0.28	0.43
8	3	3103	m	65	2.47	0.043	1.75	0.20	0.26	0.32	0.43
			f	62	2.28	0.048	1.63	0.17	0.22	0.26	0.45
8	4	3103	m	88	2.68	0.048	1.90	0.20	0.28	0.32	0.47
			f	92	2.42	0.052	1.75	0.19	0.23	0.29	0.47
8	5	3103	m	19	2.61	0.047	1.83	0.20	0.27	0.32	0.44
			f	22	2.38	0.048	1.68	0.18	0.23	0.28	0.44

Appendix 1 - Data Listing
Table 2A. Broiler Process Data (weights, by pen) (cont.)

Trt #	Block	Treatment	Gender	Pen #	Avg Processing Live Body Wt, kg/bird	Mean Fat Pad Weight, kg	Mean Chilled Weight, kg	Mean Wings Wt, kg	Mean Drum Wt, kg	Mean Thigh Wt, kg	Mean Breast Wt, kg
9	1	3123	m	7	2.64	0.047	1.85	0.20	0.27	0.32	0.46
			f	14	2.48	0.052	1.78	0.18	0.24	0.29	0.48
9	2	3123	m	47	2.39	0.047	1.67	0.19	0.25	0.30	0.40
			f	34	2.44	0.050	1.75	0.18	0.25	0.30	0.46
9	3	3123	m	49	2.62	0.052	1.87	0.21	0.28	0.34	0.46
			f	58	2.28	0.042	1.63	0.17	0.22	0.28	0.43
9	4	3123	m	91	2.75	0.050	1.95	0.22	0.28	0.34	0.47
			f	96	2.47	0.050	1.78	0.19	0.24	0.30	0.48
9	5	3123	m	20	2.68	0.044	1.89	0.21	0.29	0.32	0.45
			f	30	2.38	0.051	1.72	0.18	0.23	0.29	0.46

[1] A second test article was evaluated in this study. That test article is not the subject of this report; therefore, data for that dietary treatment (Trt #6) are not included in the data listing.

Appendix 1 - Data Listing
Table 2B. Broiler Process Data (percentages, by pen)

Trt #	Block	Treatment	Gender	Pen #	Percent Chilled Weight (Chilled Wt/Live Wt x 100)	Percent Fat Pad Weight (Fat Pad Wt / Live Wt x 100)	Percent Breast Weight (Breast Wt/ Chilled Wt x 100)	Percent Wing Weight (Wing Wt/ Chilled Wt x 100)	Percent Thigh Weight (Thigh Wt/ Chilled Wt x 100)	Percent Drum Weight (Drum Wt/ Chilled Wt x 100)
1	1	XE6001	m	1	70.30	1.74	24.33	10.84	18.51	14.75
			f	11	71.20	1.91	26.80	10.56	16.34	13.60
1	2	XE6001	m	39	70.93	1.59	25.69	10.92	16.94	14.39
			f	37	71.87	1.97	26.22	10.71	16.67	13.62
1	3	XE6001	m	51	70.15	1.51	23.95	11.30	17.58	15.26
			f	66	71.16	1.69	25.70	10.80	16.64	13.93
1	4	XE6001	m	94	70.99	1.91	25.54	10.76	17.05	14.42
			f	87	71.42	1.65	25.68	11.16	17.44	13.91
1	5	XE6001	m	68	70.22	1.42	24.46	10.81	16.87	15.07
			f	71	71.54	1.85	26.40	10.85	16.47	13.75
2	1	DKC61-50	m	17	70.88	1.67	24.46	10.83	17.27	15.03
			f	3	71.86	2.17	26.44	10.80	16.74	13.47
2	2	DKC61-50	m	48	71.20	1.88	24.07	10.85	17.57	14.80
			f	46	71.64	2.10	26.72	10.54	16.48	13.78
2	3	DKC61-50	m	64	71.38	1.62	24.80	10.89	17.27	14.82
			f	53	72.30	2.03	26.95	10.64	16.75	13.46

Appendix 1 - Data Listing
Table 2B. Broiler Process Data (percentages, by pen) (cont.)

Trt #	Block	Treatment	Gender	Pen #	Percent Chilled Weight (Chilled Wt/Live Wt x 100)	Percent Fat Pad Weight (Fat Pad Wt / Live Wt x 100)	Percent Breast Weight (Breast Wt/ Chilled Wt x 100)	Percent Wing Weight (Wing Wt/ Chilled Wt x 100)	Percent Thigh Weight (Thigh Wt/ Chilled Wt x 100)	Percent Drum Weight (Drum Wt/ Chilled Wt x 100)
2	4	DKC61-50	m	80	71.29	1.45	25.19	11.24	17.06	14.27
			f	90	72.54	2.08	27.23	10.12	16.35	13.40
2	5	DKC61-50	m	26	71.21	1.65	24.86	11.32	17.42	14.77
			f	75	71.03	2.03	27.63	10.56	16.28	13.11
3	1	H8920	m	13	70.41	1.75	24.83	10.37	16.84	14.45
			f	10	72.15	1.76	27.17	10.39	16.19	13.31
3	2	H8920	m	45	69.92	1.60	24.54	11.07	17.91	14.62
			f	35	71.25	1.98	26.73	10.87	16.96	13.46
3	3	H8920	m	52	71.22	1.37	26.17	11.09	16.51	14.52
			f	54	71.29	1.97	26.29	10.62	16.48	13.96
3	4	H8920	m	84	70.75	1.73	25.85	10.53	17.03	14.46
			f	86	72.17	2.00	27.27	10.63	16.97	13.44
3	5	H8920	m	28	70.25	1.69	24.72	10.88	17.34	14.84
			f	67	71.12	1.94	26.45	10.68	16.93	13.27
4	1	H9166	m	2	70.56	1.71	26.02	10.49	17.16	14.32
			f	9	71.90	1.96	27.11	10.63	16.90	13.52

Appendix 1 - Data Listing
Table 2B. Broiler Process Data (percentages, by pen) (cont.)

Trt #	Block	Treatment	Gender	Pen #	Percent Chilled Weight (Chilled Wt/Live Wt x 100)	Percent Fat Pad Weight (Fat Pad Wt / Live Wt x 100)	Percent Breast Weight (Breast Wt/ Chilled Wt x 100)	Percent Wing Weight (Wing Wt/ Chilled Wt x 100)	Percent Thigh Weight (Thigh Wt/ Chilled Wt x 100)	Percent Drum Weight (Drum Wt/ Chilled Wt x 100)
4	2	H9166	m	33	70.72	1.91	25.15	10.94	17.61	14.76
			f	38	72.24	1.83	27.12	10.64	16.88	13.56
4	3	H9166	m	50	70.89	1.72	25.85	10.70	16.67	14.75
			f	57	71.29	1.86	26.93	10.58	16.61	13.52
4	4	H9166	m	83	71.72	1.81	27.35	10.46	16.38	14.27
			f	79	71.59	2.03	26.90	10.86	16.14	13.42
4	5	H9166	m	21	71.65	1.64	26.86	10.90	16.91	14.50
			f	78	71.85	2.02	27.25	10.58	16.11	13.52
5	1	MON 89034 x TC1507 x MON 88017 x DAS59122-7	m	8	70.42	1.82	23.55	10.86	17.59	14.86
			f	15	71.84	2.09	26.92	10.34	16.81	13.62
5	2	MON 89034 x TC1507 x MON 88017 x DAS59122-7	m	31	70.27	1.76	24.31	10.84	17.44	15.02
			f	40	71.47	2.01	25.70	10.91	16.93	14.64
5	3	MON 89034 x TC1507 x MON 88017 x DAS59122-7	m	59	70.55	1.58	24.15	11.37	17.57	15.15
			f	55	71.35	1.99	25.59	10.76	17.09	13.90
5	4	MON 89034 x TC1507 x MON 88017 x DAS59122-7	m	93	70.27	1.73	23.26	11.17	17.68	14.69
			f	89	72.14	2.04	26.77	10.68	16.23	13.30

Appendix 1 - Data Listing
Table 2B. Broiler Process Data (percentages, by pen) (cont.)

Trt #	Block	Treatment	Gender	Pen #	Percent Chilled Weight (Chilled Wt/Live Wt x 100)	Percent Fat Pad Weight (Fat Pad Wt / Live Wt x 100)	Percent Breast Weight (Breast Wt/ Chilled Wt x 100)	Percent Wing Weight (Wing Wt/ Chilled Wt x 100)	Percent Thigh Weight (Thigh Wt/ Chilled Wt x 100)	Percent Drum Weight (Drum Wt/ Chilled Wt x 100)
5	5	MON 89034 x TC1507 x MON 88017 x DAS59122-7	m	29	70.77	1.79	24.86	10.89	16.83	14.92
			f	70	71.45	2.05	26.37	10.58	16.45	13.54
6	1	Test Article 2[1]	m	16						
			f	4						
6	2	Test Article 2	m	43	NA – Test Article 2 is not the subject of this report.					
			f	42						
6	3	Test Article 2	m	63						
			f	56						
6	4	Test Article 2	m	81						
			f	85						
6	5	Test Article 2	m	69						
			f	76						
7	1	33N29	m	5	70.50	1.76	25.02	10.65	17.92	14.51
			f	12	71.52	2.09	26.32	10.54	17.29	13.64
7	2	33N29	m	36	69.67	1.91	24.10	10.70	16.94	14.92
			f	41	71.53	2.09	26.47	10.71	16.52	13.48

Appendix 1 - Data Listing
Table 2B. Broiler Process Data (percentages, by pen) (cont.)

Trt #	Block	Treatment	Gender	Pen #	Percent Chilled Weight (Chilled Wt/Live Wt x 100)	Percent Fat Pad Weight (Fat Pad Wt / Live Wt x 100)	Percent Breast Weight (Breast Wt/ Chilled Wt x 100)	Percent Wing Weight (Wing Wt/ Chilled Wt x 100)	Percent Thigh Weight (Thigh Wt/ Chilled Wt x 100)	Percent Drum Weight (Drum Wt/ Chilled Wt x 100)
7	3	33N29	m	61	70.24	1.63	24.53	11.26	17.16	15.11
			f	60	71.43	2.17	26.50	10.55	16.48	13.68
7	4	33N29	m	82	70.76	1.72	24.75	10.60	17.64	14.37
			f	95	72.11	1.99	26.36	10.56	17.09	13.99
7	5	33N29	m	77	70.40	1.73	23.47	10.95	17.78	14.91
			f	27	71.58	2.12	25.76	10.74	17.09	13.72
8	1	3103	m	6	69.95	1.78	23.01	10.90	18.41	15.22
			f	18	70.90	2.04	26.49	10.42	16.44	13.64
8	2	3103	m	32	70.31	1.66	23.29	11.34	18.02	15.11
			f	44	71.26	2.04	26.08	10.77	16.99	13.65
8	3	3103	m	65	70.51	1.71	24.42	11.54	18.11	15.15
			f	62	71.24	2.12	27.37	10.38	16.00	13.41
8	4	3103	m	88	70.98	1.79	24.33	10.68	17.05	14.57
			f	92	72.32	2.11	26.61	10.61	16.64	13.45
8	5	3103	m	19	70.20	1.80	23.99	10.92	17.32	14.99
			f	22	70.68	2.01	26.09	10.66	16.53	13.90

Appendix 1 - Data Listing
Table 2B. Broiler Process Data (percentages, by pen) (cont.)

Trt #	Block	Treatment	Gender	Pen #	Percent Chilled Weight (Chilled Wt/Live Wt x 100)	Percent Fat Pad Weight (Fat Pad Wt / Live Wt x 100)	Percent Breast Weight (Breast Wt/ Chilled Wt x 100)	Percent Wing Weight (Wing Wt/ Chilled Wt x 100)	Percent Thigh Weight (Thigh Wt/ Chilled Wt x 100)	Percent Drum Weight (Drum Wt/ Chilled Wt x 100)
9	1	3123	m	7	70.18	1.75	24.92	10.82	17.24	14.65
			f	14	71.69	2.08	26.65	10.17	16.29	13.31
9	2	3123	m	47	69.70	1.95	23.72	11.44	17.82	15.12
			f	34	72.00	2.03	25.92	10.43	16.86	13.98
9	3	3123	m	49	71.26	1.97	24.52	11.28	18.20	15.12
			f	58	71.66	1.82	26.55	10.65	17.25	13.63
9	4	3123	m	91	70.78	1.83	24.33	11.14	17.35	14.44
			f	96	71.98	2.03	26.84	10.55	16.72	13.74
9	5	3123	m	20	70.58	1.66	23.74	10.87	17.12	15.13
			f	30	72.15	2.13	26.85	10.48	16.79	13.36

[1] A second test article was evaluated in this study. That test article is not the subject of this report; therefore, data for that dietary treatment (Trt #6) are not included in the data listing.

Appendix 1 - Data Listing
Table 3. Moisture, protein & fat analysis of breast and thigh meat

Trt #	Block	Treatment	Gender	Pen #	Breast Moisture (g/100g)	Breast Protein (g/100g)	Breast Fat (g/100g)	Thigh Moisture (g/100g)	Thigh Protein (g/100g)	Thigh Fat (g/100g)
1	1	XE6001	M	1	75.17	21.97	1.17	77.32	19.24	1.68
			F	11	75.30	22.20	0.94	75.03	21.26	1.95
1	2	XE6001	M	39	74.22	23.17	1.20	74.71	20.51	1.96
			F	37	75.22	22.51	0.79	77.12	20.22	2.29
1	3	XE6001	M	51	76.65	20.82	1.08	78.06	19.03	2.03
			F	66	74.86	22.34	0.89	77.11	19.21	1.54
1	4	XE6001	M	94	74.82	22.90	1.11	76.18	19.92	3.62
			F	87	74.53	23.03	0.89	76.42	20.80	1.68
1	5	XE6001	M	68	74.94	22.50	1.19	76.22	19.82	2.93
			F	71	74.57	22.81	2.33	76.59	19.77	1.34
2	1	DKC61-50	M	17	75.71	21.63	0.94	77.00	19.89	1.72
			F	3	75.41	21.61	0.76	77.64	19.25	1.47
2	2	DKC61-50	M	48	75.73	21.58	0.90	77.22	20.27	2.16
			F	46	74.87	22.43	1.26	76.57	20.56	2.29
2	3	DKC61-50	M	64	76.69	21.44	0.69	76.37	20.03	2.53
			F	53	74.94	22.48	0.69	77.41	19.83	1.01

Appendix 1 - Data Listing
Table 3. Moisture, protein & fat analysis of breast and thigh meat (cont.)

Trt #	Block	Treatment	Gender	Pen #	Breast Moisture (g/100g)	Breast Protein (g/100g)	Breast Fat (g/100g)	Thigh Moisture (g/100g)	Thigh Protein (g/100g)	Thigh Fat (g/100g)
2	4	DKC61-50	M	80	75.63	21.95	1.07	76.68	19.51	1.74
			F	90	75.02	22.17	0.93	76.92	20.54	2.90
2	5	DKC61-50	M	26	74.68	22.43	2.42	76.74	18.36	1.77
			F	75	74.62	22.67	0.92	76.56	19.32	1.15
3	1	H8920	M	13	75.98	20.92	1.04	77.43	19.50	1.66
			F	10	75.30	22.18	0.84	76.53	18.80	1.40
3	2	H8920	M	45	75.80	21.84	1.11	76.23	19.67	1.40
			F	35	75.36	22.40	0.75	77.13	20.11	1.48
3	3	H8920	M	52	75.85	21.28	0.85	77.06	19.81	1.87
			F	54	75.51	22.21	0.89	76.57	20.88	2.44
3	4	H8920	M	84	75.61	21.35	1.24	76.92	19.45	2.43
			F	86	75.21	22.20	0.83	76.69	20.03	1.62
3	5	H8920	M	28	75.47	21.97	1.28	77.24	19.50	1.89
			F	67	75.54	22.00	0.64	76.49	20.20	1.08
4	1	H9166	M	2	74.82	22.21	0.93	77.74	19.02	1.57
			F	9	75.23	21.53	1.06	76.18	18.92	2.72
4	2	H9166	M	33	76.13	20.73	1.26	77.33	19.24	1.88
			F	38	76.02	21.31	0.75	77.44	18.23	2.04

Appendix 1 - Data Listing
Table 3. Moisture, protein & fat analysis of breast and thigh meat (cont.)

Trt #	Block	Treatment	Gender	Pen #	Breast Moisture (g/100g)	Breast Protein (g/100g)	Breast Fat (g/100g)	Thigh Moisture (g/100g)	Thigh Protein (g/100g)	Thigh Fat (g/100g)
4	3	H9166	M	50	75.49	22.04	0.95	77.33	19.62	1.62
			F	57	75.61	22.14	0.68	77.02	18.41	1.43
4	4	H9166	M	83	75.21	22.35	1.14	75.80	21.13	2.46
			F	79	74.65	22.85	0.75	76.34	20.01	1.65
4	5	H9166	M	21	74.92	22.46	0.88	76.55	19.68	1.05
			F	78	74.90	22.50	0.82	76.52	20.85	1.38
5	1	MON 89034 x TC1507 x MON 88017 x DAS59122-7	M	8	75.59	21.91	0.81	77.19	19.39	2.11
			F	15	74.87	22.78	1.00	76.08	20.93	1.29
5	2	MON 89034 x TC1507 x MON 88017 x DAS59122-7	M	31	75.44	22.35	1.08	77.63	19.62	1.53
			F	40	74.04	23.25	1.23	76.08	19.56	3.09
5	3	MON 89034 x TC1507 x MON 88017 x DAS59122-7	M	59	75.35	21.43	1.33	76.66	20.12	2.27
			F	55	74.98	22.55	0.66	76.83	20.51	1.75
5	4	MON 89034 x TC1507 x MON 88017 x DAS59122-7	M	93	75.58	21.79	0.71	76.99	19.81	3.27
			F	89	74.87	22.34	1.09	76.15	19.24	1.53
5	5	MON 89034 x TC1507 x MON 88017 x DAS59122-7	M	29	75.61	21.58	1.20	77.70	18.49	2.00
			F	70	74.28	23.25	1.34	76.89	20.04	1.47
6	1	Test Article 2[1]	M	16	NA - Test Article 2 is not the subject of this report.					
			F	4						

Appendix 1 - Data Listing
Table 3. Moisture, protein & fat analysis of breast and thigh meat (cont.)

Trt #	Block	Treatment	Gender	Pen #	Breast Moisture (g/100g)	Breast Protein (g/100g)	Breast Fat (g/100g)	Thigh Moisture (g/100g)	Thigh Protein (g/100g)	Thigh Fat (g/100g)
6	2	Test Article 2	M	43	NA - Test Article 2 is not the subject of this report.					
			F	42						
6	3	Test Article 2	M	63						
			F	56						
6	4	Test Article 2	M	81						
			F	85						
6	5	Test Article 2	M	69						
			F	76						
7	1	33N29	M	5	75.50	21.59	1.02	77.53	19.52	3.18
			F	12	75.42	22.16	1.34	76.51	19.86	3.56
7	2	33N29	M	36	74.84	22.39	1.28	76.37	20.69	3.08
			F	41	74.47	23.00	1.37	76.12	20.35	1.50
7	3	33N29	M	61	76.12	21.13	0.79	77.40	19.61	2.33
			F	60	76.23	20.93	0.89	77.53	19.86	1.22
7	4	33N29	M	82	75.72	21.54	1.43	77.30	20.12	1.42
			F	95	74.48	23.11	0.75	76.36	20.53	1.68
7	5	33N29	M	77	75.28	22.34	0.75	76.98	19.84	1.81
			F	27	76.00	21.36	0.88	76.98	20.11	1.49

Appendix 1 - Data Listing
Table 3. Moisture, protein & fat analysis of breast and thigh meat (cont.)

Trt #	Block	Treatment	Gender	Pen #	Breast Moisture (g/100g)	Breast Protein (g/100g)	Breast Fat (g/100g)	Thigh Moisture (g/100g)	Thigh Protein (g/100g)	Thigh Fat (g/100g)
8	1	3103	M	6	75.93	21.26	0.78	77.37	19.04	2.65
			F	18	75.14	22.45	1.44	76.52	19.56	2.44
8	2	3103	M	32	74.61	22.46	1.19	77.13	20.19	2.29
			F	44	75.14	22.29	1.27	77.03	19.62	1.32
8	3	3103	M	65	75.19	21.76	1.65	76.89	18.47	2.39
			F	62	74.79	22.09	1.07	76.54	20.23	2.52
8	4	3103	M	88	75.38	21.46	1.62	76.15	20.75	2.55
			F	92	74.33	22.97	0.92	76.23	20.58	1.73
8	5	3103	M	19	75.71	21.08	1.28	77.53	19.59	1.92
			F	22	76.57	20.92	0.88	77.83	19.03	1.44
9	1	3123	M	7	75.04	22.24	1.08	76.51	19.10	2.09
			F	14	75.28	22.00	0.81	77.06	19.24	1.74
9	2	3123	M	47	75.66	22.09	0.74	77.47	18.61	1.37
			F	34	74.74	22.35	1.30	77.13	19.78	1.64
9	3	3123	M	49	75.77	21.20	1.12	76.72	20.40	2.83
			F	58	74.55	22.83	1.44	76.52	19.52	1.32
9	4	3123	M	91	75.04	21.27	1.49	77.48	19.31	1.31
			F	96	75.08	22.60	0.69	76.24	20.60	1.28

Appendix 1 - Data Listing

Table 3. Moisture, protein & fat analysis of breast and thigh meat (cont.)

Trt #	Block	Treatment	Gender	Pen #	Breast Moisture (g/100g)	Breast Protein (g/100g)	Breast Fat (g/100g)	Thigh Moisture (g/100g)	Thigh Protein (g/100g)	Thigh Fat (g/100g)
9	5	3123	M	20	76.81	20.63	1.18	76.92	20.57	2.34
			F	30	75.38	22.11	1.03	76.66	20.77	2.35

[1] A second test article was evaluated in this study. That test article is not the subject of this report; therefore, data for that dietary treatment (Trt #6) are not included in the data listing.

Appendix 2. Standard error of means from model (1) and (2).

Model1_se*: pooled standard error of means for model (1), derived from the Error Mean Squares (from SAS output file) using SQRT(EMS/10)
Model2_test_se*: test standard error of means for model (2) (from SAS output file)
Model2_reference_se*: reference standard error of means for model (2) (from SAS output file)
*N=10 for each treatment.

Table	Variable	Model1_ se	Model2_ test_se	Model2_ reference_se
1	Bird Weight Day 0, g/bird	0.3017	0.3547	0.1341
2	Pen Weight Day 0, kg/pen	0.0036	0.0043	0.0016
3	Bird Weight Day 42, kg/bird	0.0253	0.0382	0.0144
4	Pen Weight Day 42, kg/pen	0.6069	0.5867	0.2218
5	Average Feed Intake, kg/bird	0.0470	0.0758	0.0287
6	Feed Intake by Pen, kg	0.7130	0.6832	0.2582
7	Average Bird Gain Day 42, kg/bird	0.0252	0.0384	0.0145
8	Feed Conversion (Feed Consumed/ Wt Gain)	0.0256	0.0328	0.0124
9	R/M Weight (Wt of removed and dead birds), kg	0.2765	0.2763	0.1044
10	Adjusted Feed Conversion (adjusted for R/M birds)	0.0064	0.0198	0.0075
11	Average Final Live Body Weight, kg/bird	0.0237	0.0420	0.0159
12	Chilled Weight, kg/bird	0.0183	0.0357	0.0135
13	Fat Pad Weight, kg/bird	0.0010	0.0021	0.0008
14	Average Breast Weight, kg/bird	0.0066	0.0173	0.0065
15	Average Wing Weight, kg/bird	0.0020	0.0034	0.0013
16	Average Thigh Weight, kg/bird	0.0038	0.0045	0.0017
17	Average Drum Weight, kg/bird	0.0026	0.0040	0.0015
18	Percent Fat Pad Weight (Fat Pad Wt / Live Wt x 100)	0.0357	0.0769	0.0291
19	Percent Chilled Weight (Chilled Wt/Live Wt x 100)	0.1290	0.2589	0.0979
20	Percent Breast Weight (Breast Wt/ Chilled Wt x 100)	0.1744	0.5129	0.1938
21	Percent Wing Weight (Wing Wt/ Chilled Wt x 100)	0.0633	0.0961	0.0363
22	Percent Thigh Weight (Thigh Wt/ Chilled Wt x 100)	0.1330	0.1679	0.0635
23	Percent Drum Weight (Drum Wt/ Chilled Wt x 100)	0.0807	0.1217	0.0460
24	Breast Moisture (g/100 g)	0.1742	0.1702	0.0643
25	Breast Protein (g/100 g)	0.1811	0.1959	0.0740
26	Breast Fat (g/100 g)	0.0999	0.1044	0.0395
27	Thigh Moisture (g/100 g)	0.1816	0.1752	0.0662
28	Thigh Protein (g/100 g)	0.2173	0.2109	0.0797
29	Thigh Fat (g/ 100g)	0.1922	0.1869	0.0706

Report Submitted by:

[redacted] 4-2-2008

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