A REPORT on KIKO TECHNOLOGY™ to IMPROVE POULTRY AND LAYER EGG PRODUCTION WITH LOWER FEED COST

Prepared by: Kiko Technology Limited

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SYNOPSIS of the POULTRY RESULTS

Water is one of the most fundamental resources for the agriculture sector, yet one of the least understood and largely taken for granted. The Kiko Technology Kinetic Energy Delivery System (coined as "KEDS") delivers direct kinetic energy to all water instantly, thus allowing many health and productivity benefits to all living organisms, including broiler poultry and layer hens and layer eggs.

From 2011 to 2013, this three year study was conducted respectively in Africa, United Kingdom, Ireland, India and the United States for broiler poultry and layer hens, the results here in sends a strong message to all global poultry farmers and food processors. The benefits include production yield gains from 2 % to hefty 12 % in live bird weight, 5% to 6 % more layer eggs, improved feed conversion rates and fewer mortality.

INTRODUCTION TO THE WORLD POULTRY INDUSTRY

The KIKO TECHNOLOGY™ provides a kinetic energy delivery technique to any poultry farming practices –via the "physics of water" e.g. by increasing the drinking water's kinetic energy at a molecular level, the animals absorb their required hydration easier and faster, increases the absorption of the critical Far Infrared energy and the technology allows the water tanks and associated drip nozzles and pipelines to become nearly scale free maintaining a cleaner environment from toxins and unwanted bacteria infestation.

This report validates a 3 year-long study in cooperation with reputable Poultry Research Institutes and renowned broiler and layer eggs farms.

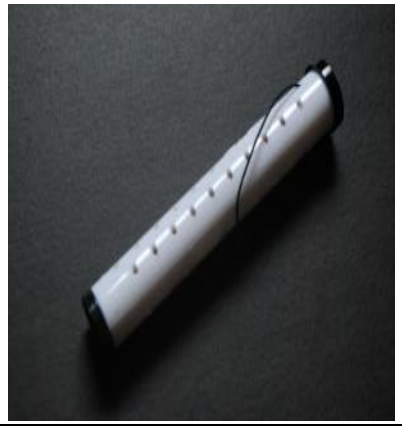
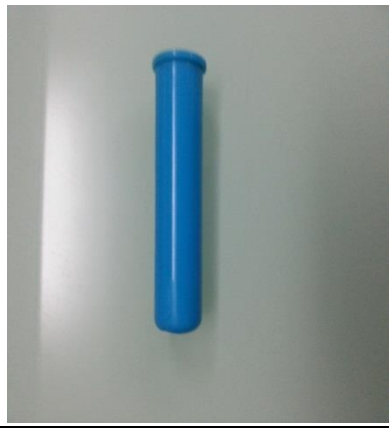
The Kiko Technology is a Game Changer to increase production and higher quality poultry meats, fewer "seconds or damaged" layer eggs and improves feed conversion rates. The opportunity is not only limited to farms but the technology allows symbiotic benefits to feed suppliers, pharmaceutical delivery means, research organizations and ammonia waste utilizers. Kiko Technology provides a sustainable solution to address the industry's growth rate, product quality, escalating feed costing and profitability concerns.

SUMMARY of the KIKO TECHNOLOGY™ RESULTS

The science behind the Kiko Technology™ was developed by the Founder Mr. James T. Osugi a former engineer in the NASA aerospace program. There is a global climatic change, denied or otherwise by governments, yet verifiable by sophisticated laboratory testing (e.g. equipment such as Nuclear Magnetic Resonance, Far Infrared spectrometers, surface tension dynes, etc.)

The continuous atmospheric damage means today's water simply does not vibrate as fast as it once did 60 years ago. Kiko Technology allows our water to become vibrant in nano-seconds; the action coined "energized or activated water". The fundamentals behind the science are seemingly mysterious yet the field results are quantified faster growth rates, improved yields, healthier products, lower feed costs and productivity.

The technology is formulated in Japan, the carrier being natural volcanic stones that change the molecular interrelations including bond structure, surface tension, far infrared absorption and harmonic motion (the science is related to "phonon molecular theory").

Benefit Summary for Poultry Farmers

PARAMETERS	**BENEFITS ACHIEVED WITH KIKO TECHNOLOGY™ TREATMENT**
Live bird weight gain	3% to over 10 % HEAVIER
Growth speed	Average 2 to 8 days FASTER
Layer Egg gains	Average 5% to 6% MORE
Egg quality	STRONGER shell with UNIFORM size & brighter color
Mortality	2 % LOWER
Feed conversion	0.9 to 12 % IMPROVEMENT
Meat quality	Legs and thighs are LARGER
Water piping cleaning	NO scale formation implies elimination of chemical cleaning treatment thus provides HEALTHIER drinking water to the birds.

TESTING PROTOCOL set by SOUTHERN POULTRY RESEARCH INC., GEORGIA, UNITED STATES:

TEST FACILITY:

The test facility was a controlled environmental pen with controlled water and feed equipment.

EXPERIMENTAL DESIGN:

The experiment consisted of 4 pens starting with 50 broiler chickens. The treatments were replicated in two blocks, randomized within blocks of two pens each. A randomization procedure for pen assignment for treatments and blocks were provided.

TREATMENTS:

Treatment	Cages/ Treatment	Birds/ Cage
T1 Water	2	50
T2 Kiko energized water	2	50

Water treatment were administered continuously. Water were placed into two 50 gallon drum with covers. Two Kiko cartridges were suspended in one water drum for 24 hours prior to first administration and kept suspended in this container of water for the remainder of the study.

All chicks were spray vaccinated - recommended dosage of Coccivac-B on the day of hatch.

MATERIALS AND METHODS:

1. Sponsor to provide Kiko cartridges.
2. All bird pens have approximately 4 inches of built up litter top dressed with fresh pine shavings.
3. Fifty male birds started in each treatment pen.
4. Birds/feeder space: For the treatment pens, there are approximately twenty-five (25) birds/hanging feeder.
5. Floor space per bird: For the treatment pens, there were minimum 0.93 square feet per bird.
6. Feed and watering method: ad libitum.
7. Environmental control: This was under ambient humidity and twenty-four hour lighting. Gas heaters are the primary heat source with a heat lamp in each pen for supplemental heat as required. Fans and side wall curtains manipulation were used for ventilation.
8. Disease control: No concomitant drug therapy were used during the study.
9. Bird identification: The pen is the unit of measure. Pen security will prevent bird migration.
10. Basal diet: Commercial dietary formulations were used for all feeds. No anti-coccidian or antibiotic were mixed into the feed. Broiler diets were fed as crumbles (starter feed) or as pellets.
11. Feed mixing: Quantities of test articles were documented for each batch manufactured. Feed mixed to assure a uniform distribution.
12. Feed changes: Birds received feed appropriate to the treatment from Day 0 to Day 42. A change from starter to grower in which all previous feed were removed and weighed on Day 21. A change from grower to finisher in which all previous feed were removed and weighed on Day 35. Finisher diet fed from Day 35 to Day 42. On the final day of the study (Day 42), non-consumed feed were weighed.
13. Birds: Day of hatch male chicks were obtained from a designated supplier and 200 day-old chicks were allocated to the study. At the hatchery, the birds will receive routine vaccinations. The birds were sexed at the hatchery.

All chicks, using a SprayCox machine, were spray vaccinated with the recommended dosage of Coccivac-B on day of hatch. Only healthy appearing chicks were used in the study. At study initiation fifty males were allocated to each treatment pen by blocks.

Chicks were allocated at random by block to each pen, and carefully counted to assure the correct number of birds will be placed into each experimental pen. No birds were replaced during the course of the study. Number and disposition of all birds not used for allocation were documented. Bird weights (kg) by pen were recorded at study initiation, Day 21, Day 35, and termination (Day 42).

14. Mortality: Pens were checked daily for mortality. A bird will be culled only to relieve suffering. When a bird is culled or found dead, the pen, date and removal weight (kg) will be recorded. A gross necropsy will be performed on all dead or culled birds to determine the sex and probable cause of death.

15. Feed and bird disposition: All birds will be disposed of by appropriate methods. All mortalities will be buried in SPR's on site disposal pit. All remaining feeds, including mixer flushes, will be buried.

16. Data were recorded in indelible ink. Entries are legible, and each sheet of source data were signed or initialed, and dated by the person making the entry. Any mistake or change in the source data were initialed and dated on the form and a brief statement or error code were provided as to why the change was made.

17. Data management and the calculation of the means for weight gain, feed consumption, feed conversion, and lesion scores were recorded for analysis.

KIKO POULTRY TRIAL RESULT SUMMARIES

Case study # 1 INDIA	
Date	2011
Location	India
Species	Cornish crosses broiler chicks starting at one day old
Conducted By	A South Asian commercial meat production farm is US FDA approved, MRSh (UK) audited and EU approved for sales to buyers such as KFC and McDonalds.
Objective	Observe Kiko effects on efficient meat production of fast growth rate, high feed conversion ratio broiler type.
Procedures	The trial was conducted on 200 chickens with 52-day growth cycles. 100 of which drank normal tap water (the Control) while the other half drank tap water containing one (1) Kiko Tritan cartridge. 
	Results were impressive. • The normal time it takes a day old chick to grow to full size at 2.1 kg is 52 days (Control). Chicks fed with Kiko energized water grew to 2.1 kg in just 44 days, saving **12.5%** in feed cost.

Results

- On average, the legs and thighs of the Kiko treated birds were noticeably thicker than the Control.

DAILY WEIGHT GAIN		
AGE IN DAYS	WATER WEIGHT (CONTROL)	WATER WEIGHT (TEST)
1	40.00g	40.00g
2	41.93g	41.93g
3	45.62g	45.62g
4	51.06g	51.06g
5	58.25g	58.25g
6	67.19g	63.00g
7	77.88g	64.30g
8	90.33g	84.24g
9	104.52g	86.00g
10	120.47g	95.65g
11	138.17g	101.05g
12	157.62g	122.60g
13	178.83g	143.22g
14	201.78g	174.00g
15	226.49g	198.06g
16	252.95g	228.00g
17	281.16g	267.64g
18	311.12g	307.05g
19	342.83g	358.22g
20	376.30g	403.63g
21	411.52g	443.00g
22	448.49g	491.73g
23	487.21g	522.05g
24	527.68g	568.90g
25	569.90g	621.05g
26	613.88g	649.00g
27	659.61g	714.04g
28	707.09g	783.62g
29	756.32g	829.04g
30	807.30g	897.00g
31	860.04g	978.72g
32	914.52g	1017.07g
33	970.76g	1102.00g
34	1028.75g	1192.00g
35	1088.49g	1270.62g
36	1149.98g	1363.00g
37	1213.23g	1470.03g
38	1278.22g	1581.61g
39	1344.97g	1671.93g
40	1413.47g	1793.03g
41	1483.72g	1862.00g
42	1555.73g	1986.01g
43	1629.48g	2101.43g
44	1704.99g	**2213.00g**
45	--	--
46	--	--
47	--	--
48	--	--
49	--	--
50	--	--
51	--	--
52	2100.00g	--

* All numbers rounded to 2 decimal points.

- From day 6 to day 18, chickens fed on normal tap water put on more weight than chickens fed on Kiko water.
- On day 19, chickens in the Kiko treated population caught up with the average weight of the Control chickens. This trend continued till the chickens achieved the desired weight of 2.1 Kg (day 44).
- On average, chickens fed with Kiko water grew to full desired size by day 43, but day 44 was credited to ensure all chickens were at or above 2.1 Kg, averages across

<table>
<tr><td></td><td>all 100 chickens.
• This particular trial was stopped at day 44 when the tested chickens reached their full potential.</td></tr>
<tr><td>Further comments</td><td>The chickens were fed on grain and the savings was 700 grams of feed after Kiko.
The cost of feed is USD $12 per 45kg.

Hence, cost savings for a farm raising 1,000,000 chickens in one cycle can easily save between USD $180,000 to $230,000.

<table>
<tr><th>PARAMETERS</th><th>CONTROL</th><th>TEST (Kiko Technology)</th></tr>
<tr><td colspan="3">GENERAL INFO. & OBSERVATIONS</td></tr>
<tr><td>No. of growth days</td><td>52 days</td><td>44 days</td></tr>
<tr><td>Weight target per chicken</td><td>2.1 kg</td><td>2.1 kg</td></tr>
<tr><td>Savings on grain</td><td>--</td><td>700 g</td></tr>
<tr><td>Faster growth</td><td>--</td><td>7 days</td></tr>
<tr><td>Vaccinations</td><td>None</td><td>None</td></tr>
<tr><td>No. of deaths</td><td>1 chicken</td><td>4 chickens</td></tr>
<tr><td>Size of chicken thighs/legs</td><td>Thinner</td><td>Thicker</td></tr>
<tr><td colspan="3">COST SAVINGS SUMMARY</td></tr>
<tr><td>No. of cartridges</td><td>--</td><td>1 filter/tank</td></tr>
<tr><td>Size of water tank</td><td>2000 litre</td><td>2000 litre</td></tr>
<tr><td>Cost of feed per bird</td><td>USD $1.80</td><td>USD $1.80</td></tr>
<tr><td>Cost of grain</td><td>USD $12/45kg.</td><td>USD $12/45kg.</td></tr>
<tr><td>Savings in feed</td><td>--</td><td>12%</td></tr>
<tr><td>Est. savings (@ 1 million chicks)</td><td>--</td><td>US$ 180-230,000</td></tr>
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<tr><th colspan="2">Case study # 4 IRELAND</th></tr>
<tr><td>Date</td><td>2011</td></tr>
<tr><td>Species</td><td>Broiler chickens starting from day old chicks</td></tr>
<tr><td>Objectives</td><td>To observe Kiko effects in broiler chickens' growth rate & saving in feed.</td></tr>
<tr><td>Procedures</td><td>The trial was conducted on 200 chickens with 52-day growth cycles. 100 of which drank normal tap water (the Control) while the other half drank Kiko energized water with separate water line linked to water tank containing one (1) Kiko Tritan cartridge.</td></tr>
<tr><td>Results</td><td>
<table>
<tr><th>Growth Parameters</th><th>Control Birds Avg. weight</th><th>Kiko Birds Avg. weight</th></tr>
<tr><td>Day 1 to 14</td><td>40 – 202 gm</td><td>40 – 174 gm</td></tr>
<tr><td>Day 15 to 28</td><td>226 – 708 gm</td><td>198 – 783 gm</td></tr>
<tr><td>Day 29 to 43</td><td>756 – 1555 gm</td><td>829 – 1986 gm</td></tr>
<tr><td>Day 44 to 52</td><td>1629 – 2100 gm</td><td>2101 – 2213 gm</td></tr>
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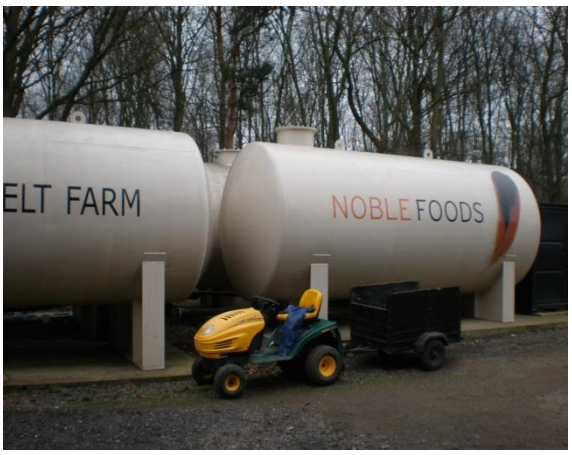
	• All watering pipes were cleaned from scale. • Kiko birds weight gain started to accelerate between day 15 to 28. • Kiko birds achieved targeted weight of 2.1 Kg at day 44 i.e. 8 days earlier thence saving more feed. • Kiko birds' meat taste better.

Case study # 3 AFRICA	
Date	4 April 2011 to 8 October 2012
Location	KANSATO FARMS, ZAMBIA
Species	PULLET CHICKENS
Conducted By	Mr Luke Powell, BEng
Objectives	Preference in drinking water and effect on Improvement of EGG Laying Percentage
Procedures	Two (2) hen houses, housing 199 and 196 pullets each, were treated identically in terms of lighting, type of feed, number of feed bins, number of water troughs (3 in each house), number of laying nests, time of egg collection…..etc. The only difference between the 2 houses was that in one house, 2 of the 3 water containers contained untreated normal spring water while 1 container contained Kiko treated water (inserted with one Kiko cartridge). Each water container was filled with their respective waters at 06:30 am every morning and again at mid-day. Furthermore, on a weekly basis, the 3 water containers in the house were swapped and moved, thus preventing the Kiko treated water container from enjoying a preferential location in the house. Information from each hen house was independently monitored and recorded daily for : 1) amount of feed consumed, 2) number of eggs laid, 3) number of broken eggs, 4) quantity of water consumed from each container by mid-day, 5) average hen weight - weekly

	
Results	• Egg laid percentage: Kiko treated hens had 2.3% more eggs laid per hen (total eggs/total hen days) over the Control. • Conversion: Kiko treated hens laid 0.12 more eggs / kg of feed (total eggs/total feed) over the Control. • Water preference: Kiko water was preferred by hens over normal spring water. • Average hen weight (KG): Kiko =1.94 kg vs. Control=1.88 kg. (Kiko hens weighed 3.2% more than control) • Hen mortality - Over the 6 months test period (4 April 2011 to 8 Oct 2011), Kiko hens had a lower mortality rate of 2.0% (2.55% Kiko vs. 4.52% Control)
Layer Egg Comments	• Even though Kiko hens had slightly more broken eggs (0.53% Kiko vs. 0.40% Control), this had a negligible impact on the overall INCREASE in Percentage of laid eggs recorded on the Kiko water 'fed' hens. • Kiko hens had a marginal advantage of 141 gm vs 140 gm feed per day (0.8% more feed). This was attributed to the fact that the feed given to hens was determined on 'reward' basis. • The calculation for feed available in each barn was: Feed = 150 gm feed per egg laid + 100 gm feed per hen which did not lay egg. • Water preference - This was concluded on 70% of days, the container with the least amount of remaining water in the 12 hours feeding time (most consumed water) was the container holding Kiko water.
Conclusion	Apart from showing a PREFERENCE for Kiko treated water 70% of the time, the hens having access to Kiko water exhibited the following : 1) 2.3% MORE eggs laid 2) 3.2% HEAVIER bird weight 3) 2.0% LOWER mortality 4) 0.12 MORE eggs per kg of feed

Case study # 4 UNITED KINGDOM

Date	July 2012 – Nov 2013 (72 weeks)
Location	Longbelt, Rufford Park, Rufford, Newark, Notts, UK NG22 9HB  
Species	Layer hens and egg production.
Conducted By	Mr Michael Darrah, Noble Foods
Objectives	Reduction on the number of cracked or imperfect eggs ('seconds') beyond the thresholds from 16 weeks to 72 weeks. Improved water clarity and scale removed in water feed tanks and pipes and drip nozzles
Procedures	• No. of birds placed: The colony site contains circa 1 million 'caged' 16 weeks old hens which produces some 800,000 eggs per day, 5.6 million eggs per week, and 292 million p.a. from six houses each containing from 153,000–177,000 chickens. After 72 to 76 weeks, these layer birds will be killed & sold as meat. • This is a straight Kiko trial with no parallel control trial as Longbelt is one of Noble's two colony sites (the other being Millview.) has significant bench mark records. • Current bench mark: 'Second Transition Eggs' i.e. poor eggs (cracked, dirty, below size, etc.) amount to 7 to 8 % of the eggs produced at Longbelt, Rufford Park. • At 8 % = c.64,000 eggs per day or c.23.4 million p.a. If includes Millview colony site, this would equate to a total across their two colony sites of c.96,000 per day and c.35 million p.a. • No. of Kiko cartridge used: Eight (8) Tritans for four (4) 25-tonne water tanks. • Water consumption per 100 'egg-laying' birds is between 18–23 liters per day – i.e. an average of 20 litres per day. Per bird, that is 0.2 liters per day or 73 liters p.a. • Trial observation period: 16 weeks to 72 weeks.

	 
Results	• After Kiko, the "second" eggs' percentage was recorded at 5%, an improvement of 2-3 % against average bench mark. • The profits rewards for a 1% savings of the 'seconds' translates to £2,000 savings per week. Pro rata for the entire caged hen production at Longbelt & Millview combined sites would equate to £3,000 savings per week, or £156,000 p.a. • Annual saving would be between £ 312,000 to 468,000. • Kiko egg's shells were stronger; more appealing & uniform color that yields greater market value. • No scale was formed in all water feed tanks and piping. No cleaning chemical was needed that in turn helps to improve egg laying hens health as well as eggs quality.

Case study # 5 UNITED STATES	
Date	May 2, 2011 to June 10, 2011
Location	FM Side 2, 96 Roquemore Road, Athens, Georgia
Species	Breed : Cobb Vantress one day old Broiler Chick
Conducted By	Greg F. Mathis, Ph.D., SOUTHERN POULTRY RESHEACH INC., GORGIA and sponsored by Dr Hugh Johnson
Objectives	To determine if water immersed in Kiko Stones improves performance of commercial broiler chickens.
Procedures	Refer to above protocol set up by Southern Poultry Research, Inc. Two replications each with 50 male chicks both obtained from Cobb-Vantress hatchery, Cleveland, GA.
Results	

Growth Parameters	50 Control Birds	50 Kiko Birds
Day 21		
Feed Consumption	29.93	29.95
Feed Conversion %	1.46	1.449

Weight Gain	0.557	0.566
Day 35		
Feed Consumption	85.27	83.58
Feed Conversion %	1.743	1.664
Weight Gain	1.433	1.455
Day 42		
Feed Consumption	123.83	121.93
Feed Conversion %	1.807	1.734
Weight Gain	2.040	2.061

DIFFERENCE AFTER KIKO TREATMENT

Feed Conversion	Weight Gain	Feed Conversion	Weight Gain	Total Gain
0.073	0.021	4.04 %	1.029 %	5.07 %

Case study # 6 UNITED STATES	
Date	2011 back to back to trial case 5
Location	Swancy Farm N. Georgia – one of the broiler production farm for GAGLE'S INC. This trial proceeded with the supervision of Southern Poultry Research, Inc.
Species	Breed : Cobb Vantress one day old Broiler Chick
Conducted By	Greg F. Mathis, Ph.D., SOUTHERN POULTRY RESHEACH INC., GORGIA and sponsored by Dr Hugh Johnson
Objectives	To determine if water immersed in Kiko Stones improves performance of commercial broiler chickens after 21 days.
Procedures	Refer to above protocol set up by Southern Poultry Research, Inc. Total 57,400 chicks divided into two replications.
Results	

Growth Parameters	50 Control Birds	50 Kiko Birds
Day 21		
Weight Gain	0.557	0.615
Day 35	N.A.	Kiko cartridges removed after Day 21
Day 42		
Feed Conversion %	1.778	1.762
Weight Gain	2.040	2.061

	DIFFERENCE AFTER KIKO TREATMENT				
	Feed Conversion	Weight Gain	Feed Conversion	Weight Gain	Total Gain
	0.016	0.058	0.90 %	2.956 %	3.86 %

CONCLUSIONS

1) Kiko Technology improves water utilization at the molecular level by an action called harmonics (e.g. frequency of water). This frequency is not visible to the human eye; however for animals and living organisms like the poultry live stocks, the effects seen in this trial study created a scientific viewpoint. Poultry bird senses Kiko frequency and shows their preference of drinking Kiko water.

2) Kiko Technology presents Game Changing opportunities for poultry farmers. The improvements quantified in this report include more weight gain and layer egg yields, faster growth rates, lowers mortality rates, produces healthier end products, higher savings in feed costs.

3) Working on the statistics collated from Trial No 6 at Swancy Farm N. Georgia, CAGLE'S INC. the top four chicken producing companies in USA with 150 Broiler Farms under its wing can project to achieve extra annual profit earning after adoption of Kiko technology:

Weight Gain by Dressed Weight

Cagle lbs per Year to Stores		350,000,000
Cost Per lb to Store	$	0.70
Total Store Sales Income	$	245,000,000
KIKO % Weight Gain (see Chart)		2.956%
Weight Gain Profit	$	7,242,610
Weight Gain Profit per year	$	7,242,610

Feed Conversion Gain

Feed Cost per ton	$	400
Cost per lb	$	0.200
Average Weight of Birds	lbs	4.50
Feed Conversion Ratio		1.78
Weight of Feed per Bird	lbs	8.001
Feed Cost per Bird	$	1.60
Number of Birds per Farm		110,000
Feed Cost per Farm	$	176,022
Rotations per Year at 52 days		7
Feed Cost per Year	$	1,232,154
KIKO Feed Conversion Gain (see Chart)		0.9 0 %
Feed Conversion Gain per Farm	$	11,089
Farms		150

Total Feed Conversion Gain	$	1,663,408
Total Net Profit Weight and Feed Gains	$	8,906,017

END OF KIKO REPORT