

# TECHNICAL SERVICE



# BULLETIN



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## **AQUALYTE® IMPROVES PERFORMANCE AND REDUCES CONDEMNATIONS IN BROILER FIELD TEST**

A field test was recently completed by a large integrated broiler producer in the Southeast United States to determine the effectiveness of **AQUALYTE®** for improving performance and carcass quality of broilers. Results of this trial indicate that **AQUALYTE®** can improve performance and reduce total carcass condemnations of broilers when supplied in the drinking water for 5 days before processing.

Two houses, containing a total of 35,275 broilers, had **AQUALYTE®** added to their drinking water at a rate of 8 oz, per 128 gallons continuously for 5 days prior to processing. Four houses, with a total of 71,300 birds, served as controls. All broilers used in this test were straight-run, Peterson X Arbor Acre crossbreds. Temperatures during this period were moderate, with a range of 42° to 65° F. **AQUALYTE®** - treated birds were processed at 42 days of age, while control birds were processed at 43 days. All birds were trucked 23 miles from the farm to the processing plant. Time from catching to processing was approximately 10 hours. All broilers were processed for cut-up parts sales.

Data collected during this trial revealed that broilers receiving **AQUALYTE®** in their drinking water had improved overall performance and reduced total percent condemnations. **AQUALYTE®** - treated birds had a final weight (42 days) of 3.96 lbs., with a Feed/Gain ratio of 1.766. Control birds had a 43 day weight of 3.99 lbs, with a 1.788 Feed/Gain ratio. If a daily gain of .15 lb. and feed conversion of 2.26 are assumed for day 43, 42-day adjusted weight and Feed/Gain ratio can be calculated for control birds, so both treatments can be compared on an equivalent age (42 day) basis. The adjusted 42-day weight for control broilers is 3.84 lbs., and the adjusted Feed/Gain ratio is 1.770. On this adjusted basis, birds receiving **AQUALYTE®** in the drinking water for 5 days before processing had .15 lb. greater final weight, with .004 lower Feed/Gain ratio than the control birds.

There was a dramatic reduction in total percent condemnation (including field and plant condemnations as a percentage of carcass weight) when broilers were given **AQUALYTE®** in their drinking water. Total percent condemnations were 1.87% for control birds, but only 1.45% for **AQUALYTE®** - treated birds.

An economic evaluation of these results can be made assuming:

Dressing percent =	80%
Carcass value/lb., \$ =	.45
Feed cost/lb., \$ =	.075
<b>AQUALYTE® cost/lb., \$ =</b>	<b>2.00</b>

All calculations use 42-day adjusted weight and feed conversion for control birds.

	<b>AQUALYTE®</b>	<b>Control</b>
<b><u>Value per 10,000 Birds</u></b>		
Final weight, lbs.	<b>39,600</b>	<b>38,400</b>
<u>X Carcass percent</u>	<u><b>80%</b></u>	<u><b>80%</b></u>
Carcass weight, lbs.	<b>31,680</b>	<b>30,720</b>
<u>X Percent condemnation</u>	<u><b>1.45%</b></u>	<u><b>1.87%</b></u>
Pounds condemned	<b>459</b>	<b>574</b>
Carcass weight, lbs.	<b>31,680</b>	<b>30,720</b>
- <u>pounds condemned</u>	<u><b>459</b></u>	<u><b>574</b></u>
Sold weight, lbs.	<b>31,221</b>	<b>30,146</b>
<u>X Carcass value, \$</u>	<u><b>.45</b></u>	<u><b>.45</b></u>
Total value, \$	<b>14,049.45</b>	<b>13,565.70</b>
<b><u>Cost per 10,000 Birds</u></b>		
Final weight, lbs.	<b>39,600</b>	<b>38,400</b>
<u>X Feed/Gain ratio</u>	<u><b>1.766</b></u>	<u><b>1.770</b></u>
Total feed consumed, lbs.	<b>69,934</b>	<b>67,968</b>
<u>X Feed cost/lb., \$</u>	<u><b>.075</b></u>	<u><b>.075</b></u>
Total feed cost, \$	<b>5245.05</b>	<b>5097.60</b>
<b>AQUALYTE® consumed, lbs.</b>	<b>10.00</b>	<b>0</b>
<u>X <b>AQUALYTE® cost/lb., \$</b></u>	<u><b>2.00</b></u>	<u><b>2.00</b></u>
<b>AQUALYTE® cost, \$</b>	<b>20.00</b>	<b>0</b>
Total feed cost, \$	<b>5245.05</b>	<b>5097.60</b>
+ <u><b>AQUALYTE® cost, \$</b></u>	<u><b>20.00</b></u>	<u><b>0</b></u>
Total cost, \$	<b>5265.05</b>	<b>5097.60</b>
<b><u>Economic Benefit of AQUALYTE®</u></b>		
Total value, \$	<b>14049.45</b>	<b>13565.70</b>
- <u>Total cost, \$</u>	<u><b>5265.05</b></u>	<u><b>5097.60</b></u>
Economic return, \$	<b>8784.40</b>	<b>8468.10</b>

This economic analysis of results from the field test reveal that broilers receiving **AQUALYTE®** during the 5 days prior to processing can achieve an increased return of \$316.30/10,000 birds. The integrated broiler producer that conducted this trial processes approximately 1,000,000 birds each week. Projecting the economic benefits seen in this study to the weekly production of this processor indicates that **AQUALYTE®** can bring about an increased return of \$31,630 per week.

University research has demonstrated that **AQUALYTE®** can reduce transit shrink and condemnations of turkeys (Dawe's TSB #193-E). The reduction in total condemnations in the present field test are consistent with these previous findings. More recent research conducted at the University of Arkansas demonstrated that **AQUALYTE®** can also improve performance of broilers raised under typical summer conditions (Dawe's TSB #260-E). The improvements in weight gain and feed efficiency seen in the present field trial, conducted during a period of mild temperatures, suggest that **AQUALYTE®** may be effective for improving performance of broilers under a broader range of environmental conditions than previously demonstrated.

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