

# H2O3 Solutions Bird Performance Survey:

## Potential Negative Affects of Poor Water Quality”

- Increased labor and maintenance cost on equipment.
- Shorter effective life of equipment.
- Increased feed conversions
- Lower bird weights.
  - less water consumed.
  - an over active immune system – bacterial contamination.
- Increased condemnation
- Lessened therapeutic effect of some medications.

Last years discussion reviewed available methods for improving water quality on the farm. Now lets look at potential improvements when we do bring the water within portable water standards.

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## Contaminants Tested for

The farms evaluated in this discussion were monitored for the following contaminates.

Total Iron (Fe) – Iron can be visible (red) or dissolved (clear), but either way it can have significant impact on the operation and performance potential of the broiler farm.

Manganese (Mn) - Manganese can also be visible (black) or dissolved (clear) in drinking water on the farm.

Bacteria – This looked at Total Bacteria not just E.coli or coliform.

## Target Levels

Iron – less than .30 ppm

Mn – less than .05 ppm

Total bacteria – less than 10 at treated source

- The groups of farms reviewed were significantly above in one or more of these areas.
- All farms must have had water treatment on the water for at least 1 year.
- All farms in this review had Ultra Pure Ozone purification systems installed to address the issues of concern.
- A full 2 years of performance data was reviewed in each group.
  - 1 year prior to treatment
  - 1 year after treatment
- No other significant equipment or management changes could have occurred in the period of review.
- All farms were in the same complex with no bread or average bird weight change.

## Performance Comparison

### Group I

# Of Farms = 3

Avg. Flock Size= 84,000 birds placed per flock

Source = Ground water

# Of flocks per year =

### Water Test Results

	<i>Before Treatment</i>	<i>After Treatment</i>
Fe=	< .30 ppm	< .30 ppm
Mn=	< .05 ppm	< .05 ppm
Total Bacteria =	> 100 ppm	+ < 2
pH =	7.4	7.4

### Performance

	<b>% Live</b>	<b>Avg. Wt.</b>	<b>Gain/ Day</b>	<b>Feed. Conversion</b>	<b>Rank</b>
<b>Before Treatment</b>	96.01	4.00	.0958	1.88	-0.0015
<b>After Treatment</b>	97.7	4.09	.0979	1.85	+0.0035

## Performance Comparison

### Group II

# Of Farms = 2

Avg. Flock Size= 105,000 birds placed per flock

Source =

# Of flocks per year = 6

### Water Test Results

	<i>Before Treatment</i>	<i>After Treatment</i>
Fe=	< 3.8 ppm	<. 30 ppm
Mn=	< .60 ppm	< .05 ppm
Total Bacteria =	> 100 ppm	+ < 2
pH =	6.9	7.0

### Performance

	<b>% Live</b>	<b>Avg. Wt.</b>	<b>Gain/ Day</b>	<b>Feed. Conversion</b>	<b>Rank</b>
<b>Before Treatment</b>	96.17	4.06	.0955	1.85	-0.0016
<b>After Treatment</b>	97.29	4.18	.1045	1.79	+0.0057

## Performance Comparison

### Group III

# Of Farms = 3

Avg. Flock Size= 63,400 birds placed per flock

Source = Ground water

# Of flocks per year = 6

### Water Test Results

	<i>Before Treatment</i>	<i>After Treatment</i>
Fe=	< 1.94 ppm	<. 30 ppm
Mn=	< .21 ppm	< .05 ppm
Total Bacteria =	> 100 ppm	+ < 2
pH =	6.8	6.8

### Performance

	<b>% Live</b>	<b>Avg. Wt.</b>	<b>Gain/ Day</b>	<b>Feed. Conversion</b>	<b>Rank</b>
<b>Before Treatment</b>	96.12	4.08	.1003	1.86	-0.0013
<b>After Treatment</b>	96.71	4.17	.1017	1.85	+0.0029

### Conclusion

As you can see improving the quality of the water on broiler can pay dividends not only in labor and equipment savings but also in bird health and performance.

The average payback for this group of farms on the cost of treatment was 10 months.

As you well know improving the water quality on a broiler farm is not a silver bullet but along with good flock management great strides can be taken to make birds healthier, with more consistent efficient performance.