



I Egg farm avoids Avian Flu and eliminates antibiotics after switching to MIOX for drinking water, coop and cooling pad disinfection.

MORTALITY DECREASED BY

62%

LOCATION

A.B. Foods Inc.
Egg Farm - 2 million eggs per day
Manyas, Balikesir, Turkey

CONTACT

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EQUIPMENT

MIOX Vault M30 MOS generator
Installed 2013

PREVIOUS DISINFECTION

Organic Acids / Antibiotics

MIOX'S MOS ADVANTAGE

Mixed Oxidant Solution (MOS) is a biocide generated on site using salt, water, and electricity. MOS is composed primarily of sodium hypochlorite and trace hydrogen peroxide.

The MIOX Vault on-site chemical generator product line is capable of producing up to 60 lbs/day FAC equivalent. The system capacity scales up by increments of 15 lbs/day by adding electrolytic cells to the enclosure cabinet.

MIOX customers typically see a **return on investment in less than 1 year.**



CUSTOMER'S CHALLENGE

In 2014, a resurgence of various avian flu strains was seen on a global scale affecting more than 35 countries and resulting in millions of poultry deaths from infection and precautionary slaughter.

Egg producers struggle with various chickens diseases that affect mortality rates and egg production. As disease increases, mortality rates follow. Expensive antibiotics are usually administered in order to maintain the health of a coop by combating waterborne illnesses which spread rapidly through coliform and E-coli contaminated water and feed. Yet, antibiotics do not maintain low mortality rates in the long term because they cannot combat widespread disease outbreaks such as Avian Influenza. Further complications are imposed by new vendor requirements banning the use of antibiotics. This restricts producers' ability to adhere to new policies while preventing and controlling outbreaks that threaten chicken health.

A.B. Foods Inc. operates a 2 million egg production farm in Turkey. The country of Turkey experienced a massive outbreak of the H5N1 avian flu strain in early 2015 after being absent since 2008.

Prior to the avian flu outbreak, A.B. Foods Inc. completed a successful pilot and was in the process of changing all of their drinking water, cooling pad and coop disinfection to MIOX.

STUDY DESIGN

Two similar coops were selected for the 16-week case study. The Control Group was 60 weeks old with 120,000 chickens and the Trial Group was also 60-weeks old with 122,000 chickens. During the 16-week timeframe results on mortality rate and egg production efficiency were recorded from the two groups.

The Trial Group received drinking water that was treated with Mixed Oxidant Solution and the drinking water was continuously dosed at 10 ppm. In comparison, the Control Group received drinking water treated by organic acid without the application of Mixed Oxidant Solution.



RESULTS

During the 16-week trial, necropsy and increased chicken mortality rates were observed with the Control Group. As a result, the facility administers antibiotics (enrofloxacin and florfenicol) to treat the chickens. After using antibiotics, the death ratio fell; however, the chicken disease reoccurred after a short period of time.

The Trial Group observed zero diseases with the application of MIOX Mixed Oxidant Solution; therefore, no antibiotics were used on the chickens, and:

- Mortality Rates are reduced by 62%
- Egg Production is increased by 60%
- Antibiotics were eliminated
- Water and Feed are free of bacteria and contaminants including coliform and E. coli
- Facility has eliminated the transportation, delivery, handling and storage of all bulk bleach

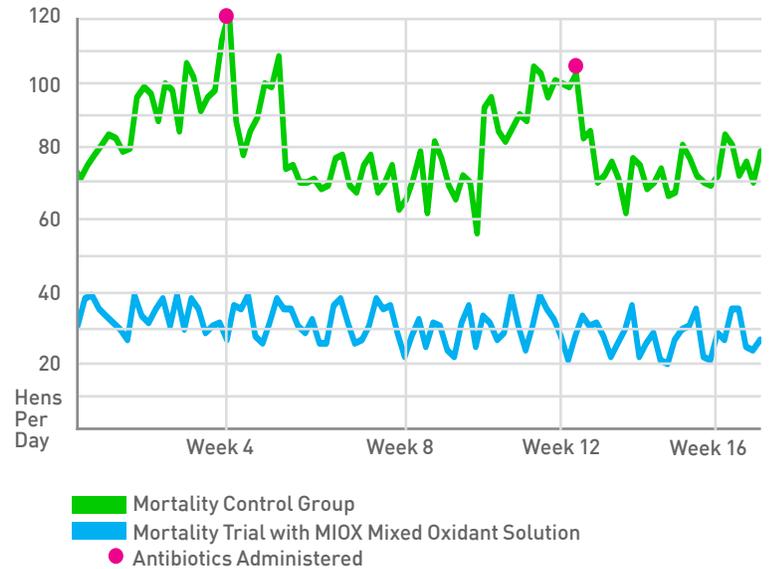
CONCLUSION

Since the conclusion of this trial, A.B. Foods started using MIOX for all drinking water treatment, cooling pad and coop disinfection and suspended the use of antibiotics. **The return on investment for the MIOX equipment was less than 1 year.**

The switch to MIOX Mixed Oxidant Solution was timed quite well as it occurred shortly before the 2015 Avian Influenza outbreak. A.B. Foods reported that, although all farms in their region have been severely affected by the disease with over 15 million chickens destroyed, they experienced zero occurrence of illness at their farms and have continued to operate without any setbacks.



MORTALITY RATE



	BEFORE	AFTER
Water Treatment	Organic Acids	Mixed Oxidant Solution (MOS)
Group Size	120,000 Hens	122,000 Hens
Age	60 weeks	60 weeks
Antibiotics	Enrofloxacin & Florfenicol	None
Mortality Rate	80 Hens/day average	30 Hens/day average



Since we started using MIOX for chickens, we have had no disease occurrences. Our farms have been announced as 'free from the Avian Influenza Virus,' thanks to MIOX.

Abdullah Unakitan, A.B. Group

