



CASE STUDY

Hen Drinking Water at Egg Production Farm

MORTALITY DECREASED BY

62%

飲料水、小屋、冷却パッドに使用する消毒剤をMIOXに切り替えた後、鳥インフルエンザを回避でき、抗生物質を必要としなくなった。

LOCATION

A.B. Foods Inc.
Egg Farm - 2 million eggs per day
Marmas, Balıkesir, Turkey

CONTACT

Tuncer Tutar
Veterinary, A.B. Foods Inc.
ttutar@abfood.com.tr

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.



お客様の課題

2014年には、さまざまな鳥インフルエンザ株の復活が世界規模で見られ、35か国以上に影響を及ぼし、感染と予防的屠殺により数百万羽の家禽が死亡しました。

産卵者は、死亡率と産卵に影響を与えるさまざまな鶏の病気に苦しんでいます。病気が増えると、死亡率が続きます。高価な抗生物質は通常、大腸菌群や大腸菌で汚染された水や飼料を介して急速に広がる水系感染症と闘うことにより、小屋の健康を維持するために投与されます。それでも、抗生物質は鳥インフルエンザなどの広範囲にわたる病気の発生と戦うことができないため、長期的には低い死亡率を維持しません。抗生物質の使用を禁止する新しいベンダーの要件によって、さらに複雑になっています。これにより、鶏の健康を脅かす発生を防止および制御しながら、生産者が新しいポリシーを順守する能力が制限されます。

A.B. Foods Inc.は、トルコで200万個の産卵農場を運営しています。トルコの国では、2008年に降欠席した後、2015年初頭にH5N1型鳥インフルエンザ株の大発生が発生しました。

鳥インフルエンザの発生前、A.B. Foods Inc.はパイロットを成功裏に完了し、飲料水、冷却パッド、および小屋の消毒をすべてMIOXに変更する過程にありました。

研究デザイン

16週間のケーススタディでは、2つの同様の協同組合が選択されました。対照群は60週齢で120,000羽、試験群も60週齢で122,000羽でした。16週間の期間中に、死亡率と産卵効率に関する結果が2つのグループから記録されました。

試験グループは、混合酸化剤溶液で処理された飲料水を受け取り、飲料水は10ppmで継続的に投与されました。対照的に、対照群は、混合酸化剤溶液を適用せずに有機酸で処理された飲料水を受け取った。



結果

16週間の試験中に、対照群で剖検とニワトリの死亡率の増加が観察されました。その結果、施設はニワトリを治療するために抗生物質（エンロフロキサシンとフロルフェニコール）を投与しました。抗生物質を使用した後、死亡率は低下しました。しかし、ニワトリの病気は短期間で再発しました。試験グループは、MIOX混合酸化剤溶液の適用で発病数がゼロという結果が得られました。よってニワトリには抗生物質は使用されませんでした。また、次の項目についても変化がありました。

- ・死亡率が62%減少
- ・産卵が60%増加
- ・抗生物質が排除されました
- ・水と飼料には、大腸菌群や大腸菌などの細菌や汚染物質が含まれない
- ・施設は、すべての漂白剤の輸送、配送、取り扱い、保管をしなくなった

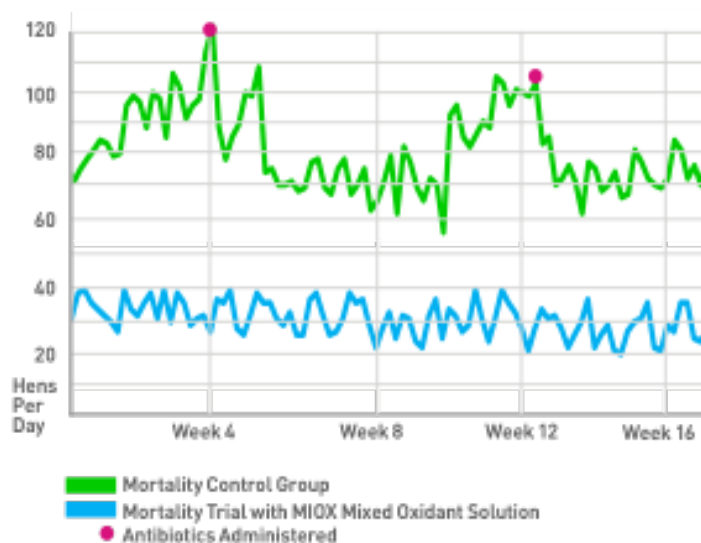
まとめ

この試験の終了以来、A.B. Foodsは、すべての飲料水処理、冷却パッド、および小屋の消毒にMIOXの使用を開始し、抗生物質の使用を停止しました。MIOX機器の投資収益率は1年未満でした。

MIOX混合酸化剤溶液への切り替えは、2015年の鳥インフルエンザの発生直前に発生したため、非常に適切なタイミングで行われました。A.B. Foodsは、その地域のすべての農場が1,500万羽以上の鶏を破壊し、この病気の深刻な影響を受けたものの、農場での病気の発生はゼロであり、挫折することなく操業を続けていると報告しました。



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

ニワトリにMINOXを使い始めて以来、病気の発生はありませんでした。MIOXのおかげで、私たちの農場は「鳥インフルエンザウイルスに感染していない」と発表されることができました。

Abdullah Unakitan, A.B. Group





CASE STUDY

Hen Drinking Water at Egg Production Farm

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

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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

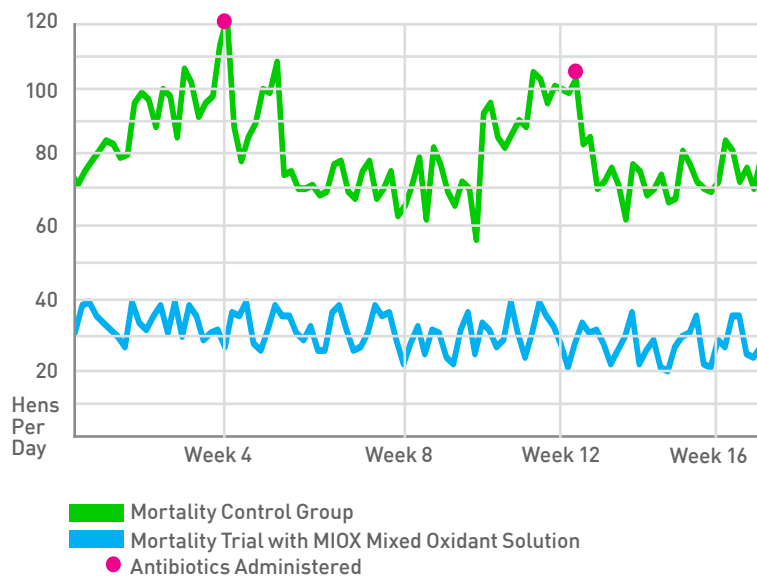
CONCLUSION

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.



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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

