CROWN POULTRY, DUNCAN'S FARM CASE STUDY

FARM BACKGROUND:

Duncan's Farm is a typical 1970's built chicken farm housing up to 104k broilers which are grown for the restaurant and retail market. Birds are housed in block built sheds using shavings as bedding, pan feeders and nipple drinker lines. Water is supplied from the mains, and prior to the Ximax installation it had been identified that the supplied water quality was good, but that bacterial pick up in the drinker lines was leading to poor bacterial counts in the water at the point of drinking. Prior to install the site suffered with poor FCRs poor bird health and low grading, poor litter leading to FPD and low weights; all issues associated with poor quality water.

FIG. 1: Installed System

EQUIPMENT INSTALLATION REPORT:

The installation was completed on the 26/5/2015 by Piers Maltby and Ryan Linley (Ximax Engineers). The DT200 system was installed in the main pump house controlled by a 4K Pulsed Water Meter fit onto the 1¼" UPVC pipe work, there was no requirement for backflow protection as there is a preinstalled non return valve on the head of the pump and the system is fed by a water tank with a type A-B Airgap.

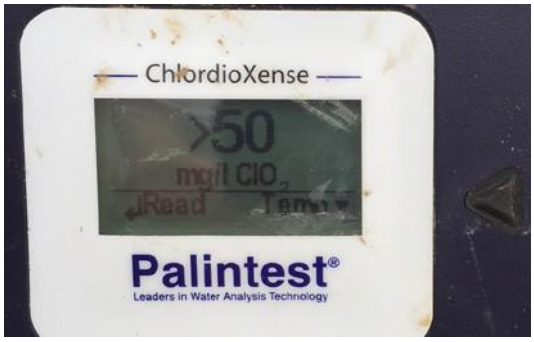

FIG 2: 50ppm Dosed In

FIG 3: 10ppm Flushed Out

The dosing system was adjusted to continuous mode and XzioX was injected into the water system for the whole site at a rate of >50ppm. This was held in the system under pressure for the period of 14 hours and released from the system the following day (27/5/15) when residual readings were taken of 10ppm. This process begins the breakdown of biofilm within the lines and creates a less attractive environment for further bacteria to thrive in. The loss of over 40ppm in a 14 hour period suggested that there was a very high bacterial count within the lines prior to the flush and that there was a very high amount of biofilm in the water system.

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FIG 4: Biofilm in Sight Glass

FIG 5: Biofilm Present in Flush

The high dose of XzioX was then flushed out of the system to gain a working residual value of 0.5ppm at the end of the lines throughout the site, and all sight glasses were mechanically cleaned to remove as much stubborn biofilm as possible. There are no filters on site to clean. Site was visited periodically throughout the next crop to ensure that residual levels were correct and to take bacterial samples in association with the site vets.

FIG 6: Cleaned Sight Glass

FIG 7: Flushed Water

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BACTERIAL RESULTS:

	INCOMING WATER SUPPLY LINE POST XZIOX	END OF LINE PRE XZIOX	END OF
COLIFORM	0	15	<10
E-COLI	0	15	<10
PSEUDONOMAS	0	0	<10
TVC 37°C	0	2,200	<10

Prior to installation the bacterial results were as expected- incoming water was found to be acceptable, with a high level of bacteria picked up in the drinker lines leading to poor quality water being made available to the broilers.

Post installation, with results taken after approx. 2 weeks of chicken growth the water samples all fall within acceptable levels as confirmed by Crowshall Vets analysis. TVC levels have reduced by 99.5%!!

CROP RESULTS

	PRE XZIOX	POST XZIOX	IMPROVEMENT
CHICKEN GRADE	Between 2 and 3	1	Crop Graded 1
WEIGHTS	Approx. 2 days behind Ross standard	3 days ahead of Ross standard, only 10%	5 day improvement in growth rate
USE OF ANTIBIOTICS	60 Tubs per cup	12 tubs used as a precaution thinned	48 fewer tubs £720.00 saved
MORTALITY	>9%	<3%	6% equating to an approximate increase in profits for the site of £14000.00

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CROP OBSERVATIONS:

In addition to the above results the site manager and vets made the following observations since the introduction of the Ximax system:

- NO HOCK MARKINGS IN THE CROP
- NO BREAST BURNING
- DRIER LITTER- SO DRY IN FACT THAT SITE MAY HAVE TO WET IT TO MAKE IT EASIER TO REMOVE

CONCLUSION:

In conclusion since the installation of the Ximax system the crops have benefitted from the following improvements:

- BIRD HEALTH HAS IMPROVED RESULTING IN BETTER GRADING.
- 80% LESS ANTIBIOTIC USE (SAVING £720) PER CROP
- SIGNIFICANTLY DRIER LITTER!
- IMPROVEMENTS IN BIRD WEIGHTS RESULTING IN LESS THINNING AND AN INCREASE IN PROFIT.
- NO FPD.
- NO HOCK MARKS.
- NO BREAST BURNING.
- 70% REDUCTION IN MORTALITY LEADING TO A £14K SAVING FOR THE CROP.
- XIMAX INSTALLATION COST £2050.00 INCLUDING THE FLUSH.
- XZIOX COST £525 FOR THE CROP.

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