

BIO CLEANING SOLUTIONS

Bio Tech GTX Chicken Housing Cleaning & Sanitising

Introduction

Green Worx Bio Tech Probiotic products provide poultry facilities with a proven, highly effective solution for lowering the risk of infections, while reducing or eliminating the need for antibiotics. Further, Green Worx Bio Tech Probiotic products decrease the feed to weight ratio resulting in major cost savings. They do this while increasing the general health of each flock and, importantly, in less time. An additional major benefit to the poultry industry is that the use of Green Worx Bio Tech Probiotic products significantly reduces odors by up to over 80%.

Used around Africa, all Green Worx Bio Tech Probiotic products provide live beneficial bacteria that provide poultry facilities a way of controlling their environment by colonizing all surfaces with a stable, healthy microflora, eliminating biofilm, and providing true on-going protection second by second for days after each application.

Green Worx Bio Tech Probiotic cleaning products, such as its Bio Tech POULTRY HOUSING CLEANER and Bio Tech Bio Tech Probiotic Hand Soap also contain surfactants and enzymes that break down and help Green Worx Bio Tech Probiotic bacteria destroy biofilm, ensuring that there is no place for pathogenic bacteria to hide. Once the biofilm is gone, the Green Worx bacteria continue to protect against biofilm production and, importantly, competitively exclude harmful organisms from growing (once likened to how a healthy lawn gives no room for weeds to grow). In a healthy environment, there is a balance that does not let one organism can take over - and with Green Worx you have proven and economical control.

The proprietary bacterial strains used in Green Worx Bio Tech Probiotic products are all natural strains and have not been subject to gene splicing or recombinant technologies (NO GMO). They are beneficial and classified as Type 1 (harmless organisms).

Extensive research in farms in Africa has dramatically shown that Green Worx Bio Tech Probiotic products control pathogenic bacteria, while maintaining a healthy environment without using harmful and caustic chemicals. It should be noted that the same Green Worx Bio Tech Probiotic products are also used in hospital and medical institution where they have provided a major reduction in infections; thus proving that they are beneficial for humans as well as for poultry and other farm animals.

Preliminary Housing Cleaning

Step 1-

Remove solid animal waste and use a hose with a spray nozzle to rinse all the floor and walls.

Step 2-

Bio Tech GTX 10 FF Probiotic Housing Cleaner & Sanitiser

Apply Bio Tech GTX 10 FF Probiotic Housing Cleaner & Sanitiser in a dilution of 1:19 (one part product into 9 parts water - using foaming equipment to spray on and cover all walls, floors and all open areas.

NOTE - Always shake the BIO TECH PROBIOTIC concentrate well before mixing.

Dilutions: Normally dilute the Bio Tech GTX 10 FF concentrate in a ratio of 1 part to 19 parts water. This diluted mix is best applied by using foaming equipment, with the foam covering all of the surface areas of the walls and flooring of the barn. Experience has shown that it is best by using a foamer application. The most important thing is that the foam should cover everything (which means the beneficial bacteria have been introduced everywhere). This includes foaming all floors, walls, ceilings, barriers - and all fixed equipment. Working from bottom to top ensures complete coverage. After letting this solution set for about 10-15 minutes (up to 20 minutes is acceptable, but not usually required), rinse with a high pressure water system.

Water Rinse Temperature: Note that the rinse water can be at ambient temperature or between 40°C and 60°C not warmer for ideal application.

Higher Dilutions: Note that if the cleaning of the poultry house is performed twice per year, then a 1:20 ratio is recommended. However, if cleaning is performed at the start of each cycle, then only a 1:30 ratio need be used.

Equipment Cleaning: Remember that all water trays, feed trays and other equipment should be washed in a solution of Bio Tech GTX, using the same concentration as is used for cleaning the poultry housing facility.

Allow to air-dry.

Step 3-

BIO TECH GTX 20 NF - PROBIOTIC Water Plus – a Cleaning and Maintenance system

This step ensures that pathogenic organisms are kept under control in feed water systems is by including BIO TECH 20 X NF PROBIOTIC WATER PLUS in their feed water. This helps remove biofilm from water tanks and supply lines.

If Green Worx Probiotics have not been used before and this is a primary introduction of Green Worx products into an existing facility, it is recommended that a mandatory first step should be the purging and cleaning of the water lines with a 1:30 dilution of Odorite Ultra Deep Clean Enzymatic 30 X. It has been found that, even with strong disinfectants, there is often a significant buildup of biofilm and biomat in farm water systems. The enzymatic cleaning will breakdown the biofilm matrix exposing harmful pathogens to the eradicated by disinfection methods.

Preliminary/Inter-cycle system cleaning: Use of a concentration of 1 part Bio Tech GTX 20 NF - Water Plus to 1000 parts water, and re-circulating the water for a minimum of 2 days between cycles, should result in effective cleaning of the lines. Very dirty water lines may require a longer period of time to clean. In such cases use the protocol in the next section. Failure to complete this first step will taint the results because of the harmful effect of the harmful pathogens in the biofilm.

Water systems with extensive bio-fouling: An alternative method for systems that are heavily bio-fouled is to re-circulate with a 1:100 dilution of BIO TECH GTX 10 FF PROBIOTIC Poultry Housing Cleaner to clear blocked nozzles and water lines, then flush with clean water until there is no evidence of dirt or biofilm. Repeat if necessary.

Before filling the lines for use by animals, always flush the lines once more in order to get rid of any pathogens that might have built up, and more importantly to double check that the lines have been flushed properly of the cleaner. Then follow up with BIO TECH GTX 20 NF PROBIOTIC Water Plus at **Normal Usage concentrations.**

IT IS VERY IMPORTANT NEVER TO ALLOW ANIMALS TO DRINK FROM THE MIXTURE OF PROBIOTICS AND BIOFILM.

Clean water systems: If the Green Worx protocols have been in use for at least one cycle, or the broiler has been recently cleaned with BIO TECH GTX 10 FF PROBIOTIC Housing Cleaner / Sanitiser (and/or a strong sterilant) and there is confidence that the Bio Tech Probiotic does has removed extensive biofilm present, then dosing of Bio Tech GTX 20 NF Water Plus at Normal Usage concentrations is indicated.

Normal Usage: The normal dilution of BIO TECH GTX 20 NF PROBIOTIC WATER PLUS for poultry is

10,000 parts water to one part BIO TECH GTX 20 NF PROBIOTIC Water Plus.

Graduated Usage: Providing a stronger mix of Bio Tech GTX 20 NF Probiotic Water Plus to the new chicks may provide additional protection and overall better health through the growing cycle; and if this option is selected, the following usage schedule is indicated:

Week 1- 2000:1	Weeks 2 & 3- 4000:1	Week5 & onward- 10,000:1
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Note: This assumes a stable water system with previous use of BIO TECH GTX 20 NF Probiotic Water Plus:

Outbreak Usage: If there are disease problems at a particular point in the life cycle, then BIO TECH GTX 20 NF PROBIOTIC Water Plus concentrations may be changed and lowered down to 1:3000 to 1:5000 for 3 to 5 days, or longer if required. There have been cases of Coccidiosis that have lasted up to ten days, but with the use of Green Worx Bio Tech GTX 20 NF Probiotic Water Plus, fatalities were kept to a minimum. Green Worx products do not cure coccidiosis, however healthier birds have a greater chance of surviving the infection.

Monitoring of pH: The pH of the water should be kept in a range of pH 5.0 to pH 9.0; excessive acidity or alkalinity can hinder the action of the Green Worx Probiotics.

Calculating the Amount of Water Plus when used with a Fixed Pump 128:1 Mediator: Many farms use a 128:1 mediator for delivering antibiotics, nutrients, and other products in to the feed water. Please use the table below to calculate how much Bio Tech GTX 20 NF Probiotic Water Plus concentrate is mixed with water to create the stock solution. Create only enough stock solution to go through the mediator in about 3 days. This will ensure that the Green Worx Probiotics are at their best.

Calculating Water Plus Dilutions with a 128:1 Mediator
Final Dilution- Metric Units

Calculating Bio Tech GTX 20 NF Probiotic Water Plus								
Final Dilution- Metric Units								
		1000:1	2000:1	5000:1	10,000:1	25,000:1	50,000:1	100,000:1
Amount of Stock Water Required	1 litre	128	64	26	13	5	3	2
	2 litre	256	128	51	26	10	5	3
	4 litre	512	256	102	51	21	10	5
	5 litre	640	320	128	64	26	13	7
	10 litre	1280	640	256	128	51	26	13
	20 litre	2560	1280	512	256	102	51	26

All values are in ml.

Step 4 –

Preparation of bedding – Lay down bedding on the floor i.e. Sunflower Seed Husks – once done add / sprinkle a light dusting of Microzyme D60 in a thin layer covering the husk bedding approximately 50 gram per square meter (50g/m²)

Step 5-

Bio Tech Probiotic Environmental Control

The Green Worx Bio Tech GTX 20 NF Probiotic - ENVIRONMENTAL CONTROL - Bio Tech Probiotic suspension establishes a healthy and stable microbial community in poultry facilities resulting in the total environment being protected by Green Worx Bio Tech GTX Probiotic bacteria. This product is applied by means of a simple and economic micro spraying method.

Lightly mist the walls and floors of the barn at least once every three days (it is NOT necessary to avoid animal contact with this product). The surface should not be soaked with this product; simply mist from 1.5 to 2 meters above the ground.

There are several methods of achieving coverage. For smaller barns, or those without an internal misting system, a back pack sprayer with a mist nozzle does a great job. At a concentration of 1:0.5 to 1:3 - one litre of BIO TECH GTX 20 NF PROBIOTIC in 0.5 to 3 liters of water will cover approximately 450 square meters.

- However the rate of application may vary according to location. Our consultants can help you with your situation.

Our experience has shown that it takes about 10 to 20 minutes to spray a 1600m² barn. The variables include the type of sprayer, and the age and density of the birds in the barn.

For those barns that use internal misters for humidity or heat control, probiotics can be applied through the misting system. For this style of application, higher dilutions are used to ensure coverage throughout the barn. This method of application has the added advantage of keeping the misters clear of biofilm buildup.

If the poultry barn has a dirt floor it is particularly important not to soak the bedding or the floor. In the case of a dirt floor, using a less diluted product and a very light spray is better.

Step 6-

General control of contamination

In order to minimize contamination by outside sources it is important to isolate the poultry house as much as possible from outside sources of infection.

It is recommended to:

- Regularly test the water source(s) for mineral, bacterial, and chemical contamination.
- When entering and leaving each poultry house, workers and visitors must wash and sanitize their hands and boots with Green Worx Bio Tech GTX Probiotic Surface Sanitiser.

The use of Bio Tech GTX Probiotic Hand Soap (Gel) is excellent for hand washing as a coating of Bio Tech Probiotic bacteria remains on the hands to prevent bacteria surviving in the creases and pores of the skin.

Also note that Green Worx can provide door solutions to step in for entrance ways.

Step 7-

Testing and disease management protocols

Review your protocols for bacteriological testing and handling/treating sick or dead birds with regards to the nature and use of Green Worx Bio Tech Probiotic products. Generally levels of Bio Tech Probiotic bacteria will be high after cleaning, so Probiotic pathogen testing must be used.

If these steps are followed, the benefits should include...

- A significant reduction in the use of antibiotics.
- A major reduction in harmful bacterial load (Salmonella, Staphylococcus, Clostridium, Coliforms, etc.) as can be measured directly by microbiological testing
- A reduction in morbidity and mortality of birds at all stages of the life cycle.
- An improvement in growth rates and in the feed to weight conversion ratio. This is an economic factor in using Green Worx Bio Tech Probiotic in addition to all the other benefits.
- An improvement in the quality of the meat, plumper birds with less broken veins and improvement with stronger bones.
- A reduction in odors, both in the poultry house, and in settling and outflow ponds. This is a significant environmental factor with local communities.

Green Worx products do not cost large amounts of money; they improve Return on Investment by reducing disease, morbidity, and mortality - and by improving growth rate and feed conversion.

Green Worx provides consulting services to assist with you with the planning and implementation of BIO TECH PROBIOTIC Cleaning and Sanitising Systems.

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