



MICROBE-LIFT® Technology Provides Easier & Faster Manure Composting for Poultry Farmer in Central America

Location: Poultry Farm, Central America

Background:

One of the major functions of a poultry farm is the handling of manure and composting it to be utilized as fertilizer. In Central America, stabilized manure is a source of revenue as it is sold as fertilizer.

Many barns designed for laying chickens in Central America are up to 150 meters long and 14 meters wide. They are approximately 2,100 square meters in area with barn floors built 3 meters above the ground, making them accessible for front-loaders and manual labor.



Manure piles collect underneath each barn often building to a depth of 40 to 50 centimeters (1.5 feet). The chicken manure is allowed to create a solid heap underneath the barns.

The manure creates a tremendous odor problem and the compost is slow to stabilize (degrade). The piles are typically not turned for aeration. Therefore they are removed and dried for fertilizer about every 12 to 16 months.

Objective:

- This farm wanted to reduce odor, as they had numerous complaints from adjacent properties.
- They also wanted to speed up the composting process and (as a side benefit) improve the fertilizer value of the composted manure.

Treatment

MICROBE-LIFT® technology made by Ecological Laboratories, typically reduces the time required to stabilize a compost pile by up to 40 or 50%. Fertilizer value will also be improved as demonstrated by up to 30 to 50% increased crop yields. Generally, **MICROBE-LIFT®** formulation is diluted 1:50 with water and sprayed at the rate of 1 gallon diluted mixture for every 20 sq. ft. of surface area to a moisture level of approximately one inch.

The best way to determine that the manure is stabilized is the odor. Poultry manure has very high nitrogen content that leads to ammonia creation. **MICROBE-LIFT®** treatment will produce an odor that is more earthy, not repugnant or putrid, and the ammonia odor will be reduced and eventually eliminated.

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A critical step is to achieve a temperature of 60° to 75°C (140 to 175°F) indicating good biological activity. The volume is reduced as organics degrade and gas is evolved. As the harder-to-degrade organics are oxidized, the compost is stabilized and ready to apply as fertilizer.

Different methods of composting affect the time of stabilization. The heap or pile method can take many months, even up to a year depending on the composition. If the pile is bulked up with coarse material such as wood chips to allow for air circulation, the reaction will be faster. The windrow method takes only 45-90 days depending on the composition of the pile and how often the piles are turned.

For best results, treat barns that have had their piles removed and spray the MICROBE-LIFT® dilution on the piles as they build up. Odor changes help determine when the piles are ready to be dried and sold. This process will be accomplished in less time, often a 50 to 60 percent shorter time frame when treated with MICROBE-LIFT® technology.

For existing piles, turn the manure and apply the MICROBE-LIFT® dilution as the piles are turned. Once this process has been completed, spray the outer surface as it builds up.

Results Achieved

This trial validated the efficacy of MICROBE-LIFT® technology. Manure was removed and composted demonstrating faster stabilization. Once the manure was removed, the barns treated new manure periodically significantly reducing odors and quickly stabilizing the manure for use as fertilizer.



For more information on MICROBE-LIFT® Technology contact
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