



Compost Production Inoculation

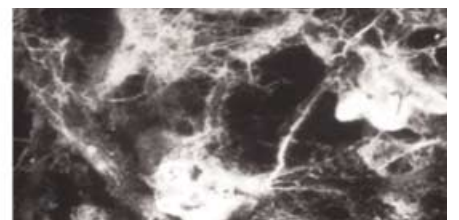
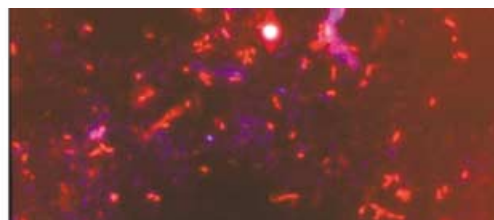
Composting is a microbially driven process that first breaks down organic matter, then builds that material into humus. Having the right microbes on the job at the right time is what makes high quality, high value compost. Midwest Bio-Systems, through its *Advanced Composting System (ACS)*, offers compost production inoculants formulated to optimize the composting process at each inoculation point in the breakdown, build-up, and stabilization phases of the composting process.

SYNCHRONIZATION is the part of the composting process where slower reacting materials are pre-treated so that when they are mixed with faster reacting materials, the breakdown of all materials in the windrow ends at approximately the same time.

BREAKDOWN is the portion of the composting process where organic matter is broken down by microbial processes and their resulting heat. Nitrogen is converted from ammonia (NH_3) to Nitrates (NO_3). Inoculation with ACS N-Converter provides the specific microbes best suited to efficiently and effectively break down the organic matter then convert the ammonia to nitrites, and then nitrates. Nitrogen conversion is the factor carrying the greatest weight in compost quality. ACS N-Converter also increases the overall microbial population and its diversity.

During **HUMUS BUILD-UP**, the simple compounds from breakdown are re-synthesized into short molecular chain humic substances. ACS Humifier provides the microbial species necessary to build up the broken down organic matter into humic substances while increasing the overall microbial population and its diversity.

In the **STABILIZATION** phase, short molecular chain humic substances extend to become long chain varieties. Volatile substances are stabilized and the microbial population expands. ACS Finisher provides the specific microbial species that continue the humification process, extending the humic substance chains, stabilizing any remaining volatile compounds and further adding to the microbial population and its diversity.



Aeromaster Compost Inoculation Process

Midwest Bio-Systems (MBS) has Identified **THREE INOCULATION POINTS** during the composting process:

1. **Breakdown Phase — Week 1 (use ACS N-Converter)**
2. **Humus Build-up Phase — Week 3 (use ACS Humifier)**
3. **Stabilization Phase — Week 5 (use ACS Finisher)**

For best results, MBS recommends that the inoculants be applied in **TWO SESSIONS**, two to three days apart for each of the three inoculation points.



ACS Humifier
2 1/2 Gallon Jug
Inoculates 500 cu. Yds.

For each inoculation session, the operator should calculate the amount of water to be applied in the turning process and the number of cubic yards of material that will be turned. The calculated amount of water should be aerated for 4-6 hours to increase the dissolved oxygen levels. Each container of ACS Inoculant is sufficient to treat 1,000 cubic yards of material, half used in the first session, the remaining half in the second session. After initial aeration of the water, add the appropriate amount of inoculant and continue aeration for an additional 12 hours to spur rapid growth of the microbial population. (Aeration times may vary depending on aerator capacity, volume of water aerated, water quality, and water temperature).

When inoculant preparation is complete, the compost turner watering system should be adjusted so that the calculated amount of water plus inoculant is applied in **TWO** passes through the compost windrow. This procedure makes dispersion of the inoculant consistent throughout the windrow. For each inoculation point, a second session, following the same procedure as used in the first session, should be scheduled 2-3 days after the first session.



ACS N-Converter
15 Gallon Barrel
Inoculates 1,000 cu. Yds.



ACS Finisher
9 lb. Pail
Inoculates 500 cu. Yds.

The **ACS INOCULANT COMBO PACK** is our most economical way to buy the inoculants necessary to produce high quality, high fertility impact compost. The ACS Inoculant Combo Pack contains enough ACS N-Converter, ACS Humifier, and ACS Finisher to treat 1,000 cubic yards of initial material which will produce 500 cubic yards of finished compost when used in conjunction with the Aeromaster Inoculant Aeration system.



Contact us today for pricing and availability.

