Orchard Applications of Wormcastings & Wormcasting Tea

Fall Fertilization

Put down 1-2 tons per acre of wormcastings in the fall as top dressing on top of the fallen leaves and with the first spring rain. If bare soil, as in citrus, put directly on soil. In winter, make certain litter material is decomposing. If not, apply more wormcastings or wormcasting tea to help decomposition.

Spring Soil Drench

As a soil drench use 10-15 gallons of wormcasting tea per acre in spring & fall. Put the solution directly on top of compost/wormcastings in the fall. Apply mycorrhizal spores to cores to establish VAM [(see note 1)] on root systems.

Spring/Summer Foliar Sprays

For foliar sprays in the first year use 5 gallons of wormcasting tea per acre for every 6' of height (canopy) once a month mixed in the correct amount of water during the growing season starting at 2 weeks before bud break. Do not spray when bees are trying to pollinate. For citrus continue with sprays throughout the winter months.

Additional Nutrients Needed?

The first and possibly the second year may need additional nutrients while nutrient cycling is getting started, so add nutrients to the wormcasting tea or with the wormcastings according to requirements. For any nutrient deficiencies that show up, do a petiole analysis, add the nutrients lacking to the wormcasting tea, and apply. The organisms in the solution increase the ability of the plant to take up the nutrients faster.

Transplanting

For transplanting trees use 30-50% wormcastings with site soil. Gradually mix into site soil away from the plug so there are no sharp demarcations.

Bare Root Planting

For new bare root plantings use a slurry mixture of wormcastings with additional nutrients (if required) and wormcasting tea to dip the bare roots in to coat the roots. Fill holes with native soil and water with wormcasting tea.

Pesticides

If any pesticides are used, apply wormcasting tea 3-5 days after application and continue with prescribed program.

Cover Crops

Thyme or marjoram (perennials, ground-hugging, seeded variety available for your area) can be planted as an under-story crop. Citrus orchards can use wintergreen or thyme. These can be mowed before harvest, otherwise allow them to flower & seed to full maturity.

Between Rows

Grasses can be planted in strips between the tree rows, with a nitrogen fixer in the middle. These can be mowed before harvest, if necessary, otherwise allow them to flower and seed to full maturity.

Disease & Pests

When the extension service gives disease or pest warning alerts, apply the wormcasting tea (with an additional registered biocontrol agent in the wormcasting tea, if available) weekly until the alert stops. Then continue monthly until harvest. If a disease outbreak occurs, apply the wormcasting tea immediately, every 3-5 days until disease leaves.

Water Usage

Water usage will decrease as the soil microbiology rebuilds the soil health. Typically, in the first year a 30% decrease in water use has been seen, and by the second and third years, up to 50-60% total decrease in water use. Please remember to reduce water applications when using wormcasting teas.

Decrease Usage

After 4-5 years, and the trees are healthy, solution usage will decrease to seasonally.

Notes:

1. **VAM** (**V**ascular **A**rbuscular **M**ycorrhiza). An **arbuscular mycorrhiza** (plural *mycorrhizae* or *mycorrhizas*) is a type of mycorrihiza in which the fungus penetrates the cortical cells of the roots of a *vascular plant* (i.e. trees). AM fungi belong to *division Glomeromycota*. Arbuscular mycorrhizae are characterized by the formation of unique structures such as *vesicles* and *arbuscules* by the *arbuscular mycorrhizal* fungus (AMF or AM fungus). AMF help plants to capture *nutrients* such as *phophorus* and micronutrients from the soil. It is believed they had a crucial role to play when plants moved from sea to land millions of years ago.