

HUMUS AND ROOT HAIRS

Researched and Written by John Wear

Roots need abundant root hairs to be able to appropriately absorb nutrients and moisture from soil. The root hairs do the real work in providing an energy-maintaining diet and health to plants. By the process of osmosis, nutrients enter the root hairs and continue to move into the plant. This happens so long as soil moisture content and balanced nutrient energy are maintained.

Stable humus in soil makes it possible for the important process of osmosis to function efficiently. Adding high-quality humus to the topsoil profile, improves the soil's ability to serve the plant. High humus content compost will improve soil physics, soil chemical characteristics, and biological values will improve, causing the soil media to be alive with nutrients and abundant beneficial microorganisms.

The exudates of microorganisms, (nitrosomas, nitrobacter, arthrobotrys, actinomycetes), in well made compost, fix nutrients, providing highest quality plant stimulation. Mychorizae, a beneficial fungus, extends root-feeding capabilities. As we blend well made compost into soil, polyphenolic compounds, from composted plant material, are released to assure soil health. By employing wise compost application techniques, sure defenses develop.

When plant roots are healthy and strong, they are able to anchor plants substantially. Well-anchored plants are able to stand strong against many forces which can be damaging. Roots well-established in composted soil are much better able to absorb moisture and nutrients, even in drought conditions.

Composted high humus soil allows root structures, both the clump or bunched type and tap root types, to extend and to spread. With this enhanced ease of movement within the soil-mass, root hairs become prolific. Highly important root

hair development can continue to enable the plant feeding process of osmosis to energize the plants, so long as a healthy soil life is maintained.

Soils fed premium quality compost, high in humus content, and well-endowed with a balance of major nutrients and micro-nutrients (N, P, K, S, Ca, I, Cu, etc.) will not require chemical amendments or synthetic fertilizer fixes.

The stabilizing of humus in composted soils provides water and nutrient holding values. Humus has excellent water and nutrient maintaining capacity which assures that soil food will be available over rather long periods of time, to be used by plants. Humus gradually dissipates or gets used up. Season to season, high quality organic matter should be replaced with well made compost, to ensure humus stability and resulting abundant root hair development.