

Plant Succession Indicator Weeds

Mapping domestic species along with understanding weed development and pedogenesis allows one to be aware of problems in their initial stages and enables one to rectify the problems without major expense. Plant succession is nature's way of revitalizing the soil, thus transmuted elements back and forth to achieve the optimum environment for the next species. A soil analysis with a tissue analysis of the weeds that are developing in an area will expand the list below as well as determine the other transmutation relationships. These are some common weeds and what they tell us about soil conditions.

Bindweed (*Convolvulus*) - crusted, tight soil, low humus;

Broomsedge (*Andropogon virginicus*) - depleted, oxidized soil, low in calcium and possibly magnesium; poor soil structure; possible overuse of salt fertilizers;

Foxtail barley (*Hordeum jubatum*) - wet soil, possibly high salts and low calcium, compacting, possibly acid, unavailable potassium and trace elements;

Common burdock (*Arctium minus*) - high iron, acid, low calcium; also grows on high gypsum soil or from excess use of dolomite lime or ammonium sulfate plus lime;

Cheat, Chess (*Bromus secalinus*) - wet, compacted, puddles (fine particles, no granular structure);

Chickweed (*Stellaria media*) - high organic matter at surface, low mineral content;

Chicory (*Cichorium intybus*) - fairly good soil, clay or heavy soil;

Cocklebur (*Xanthium pennsylvanicum*) - fairly good soil with high available phosphorus, but may have low available zinc;

Crabgrass (*Digitaria sanguinalis*) - tight, crusted soil, low calcium, inadequate decay of organic matter;

Dandelion (*Taraxacum officinale*) - low calcium, organic matter not decomposing;

Dock (*Rumex*) - wet, acid soils;

Fall panicum (*Panicum dichotomiflorum*) - anaerobic, compacted soil;

Foxtail, giant foxtail (*Setaria*) - tight, wet soil, possible high magnesium; seed germinates in anaerobic conditions (high carbon dioxide);



Breakthru Technology
For a healthy, sustainable world

Breakthru Seed Enhancement Corporation
CANADA: Suite 124-829 Northwest RD, Kingston, Ontario, Canada K7P 2N3
COLOMBIA: Carrera 27B #17-87, Torre 1, Of 06026 Edf. Tres Cantos, Medellin

1-2



Horsenettle (*Solanum dulcamara*) - crusted soil, low humus;

Jimsonweed (*Datura stramonium*) - improper decomposition of organic matter (fermentation);

Johnsongrass (*Sorghum halepense*) -depleted soil, low organic mater, low calcium, and possibly high iron;

Lamb's quarters (*Cheopodium album*) - rich, fertile soil; good decay or organic matter, high humus;

Common milkweed (*Asclepias syriaca*) - good soil, generally grows in fallow areas;

Mustard (wild mustard, yellow rocket, wild radish, peppergrass, etc.) (*Brassica*, *Raphanus*, *Lepidium*) - crust, hardpan, poor soil structure, poor drainage;

Nettles, stinging nettle (*Urtica*) - anaerobic, toxic soil, wrong decomposition of organic matter (fermentation);

Pigweed (*Amaranthus*), red root (rough pigweed) (*Amaranthus retroflexus*) good soil;

Purslane (*Portulaca oleracea*) - fairly good soil;

Quackgrass (*Agropyron repens*) - wet, anaerobic soil, high aluminum (toxic); in West, low calcium and high magnesium and sodium

Red sorrel, Sheep sorrel (*Rumex acetosell*) -acid soil, low calcium, low decomposition or organic matter;

Russian Thistle (*Salsola kali var. tenuifolia*) - salty soil (high sodium and potassium), low calcium and iron, low organic matter;

Smartweed (*Polygonum*) - wet, poorly drained soil;

Thistles (*Cirsium*) & sowthistle (*Sonchus oleraceus*) - fairly good soil;

Tumbleweed (*Amaranthus albus*) (Russian thistle is also called tumbleweed: see above) - dry soil, low humus;

Velvetleaf (button weed) (*Albutilon theophrasti*) - anaerobic soil, wrong decay of organic matter (fermentation);

