

Repair Plants: Dynamic Accumulators

Here is some info and an activity on wild plants, commonly called weeds, more usefully termed 'soil repair plants'. These species are often maligned and misunderstood and yet they are vital for the well-being of ecosystems. They colonise every available space for a reason. As humans, we depend on ecosystems and so wild plants deserve our recognition and understanding.

Soil repair plants quickly cover any bare patch of ground to protect and enrich the soil. The plants below are known as dynamic accumulators, as it appears they actively accumulate minerals in their bodies, making them available for the soil and other plants. This process unlocks nutrient pathways, repairing soil structure and replenishing fertility, which in turn permits more complex interactions and larger species to return to the land, eventually becoming forest, our climax ecosystem.

Many of the repair plants are edible and/or medicinal; supporting a plethora of insects and subsequent processes of mitigating pests and disease; food for birds and frogs; pollination and more. By allowing areas for repair plants to flourish, we create a biodiversity and nutrient bank that benefits our place and beyond. We can also actively harvest these plants to boost our compost heap or to make liquid tonics to address mineral deficiencies in the soil.

SOME EXAMPLES OF COMMON PLANTS AND THE MINERALS THEY HARVEST

N NITROGEN: alfalfa clover beans vetch comfrey kelp licorice root leaves nettles

K POTASSIUM: bracken borage carrot leaves chamomile chickweed chicory clover dock comfrey eyebright fennel fat hen nettles mullein oak bark parsley peppermint plantains silverweed sow thistle watercress yarrow

P PHOSPHORUS: barley buckwheat caraway chickweed clovers dandelion docks garlic fat hen lemon balm licorice root leaves lupine marigold meadowsweet mustards purslane savoy sorrel vetches watercress yarrow

Mg MAGNESIUM: bladderwrack coltsfoot comfrey dandelion devils bit horsetails kelp meadowsweet mistletoe mullein parsley peppermint primrose sow thistle watercress willow bark

Mn MANGANESE: chickweed eastern bracken fat hen

S SULPHUR: coltsfoot eyebright fennel garlic meadowsweet mullein mustards nettles plantains shepherds purse watercress

I IODINE: sasparilla bladderwrack devils bit dulse kelp

Cu COPPER: coltsfoot eastern bracken nettles plantains silverweed sow thistle valerian yarrow

Co COBALT: eastern bracken horsetails vetches

182 **Si** SILICON: oat straw plantains valerian borage comfrey dandelion

YOUR LUCKY SEVEN

Select 7 plants from the list. Choose species you have heard of; would like to grow; or find to be growing at your place or nearby. See if you can cover most of the minerals listed with your Lucky 7. Encourage them in your wild edges, herb area or under fruit trees to be a backbone of biodiversity at your place.

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NUTRIENTS IN SOIL AND THEIR FUNCTIONS

NITROGEN: essential for growth of leaves and stems

POTASSIUM: increases disease resistance and quality of fruits and grains

PHOSPHORUS: improves yields, promotes early maturity

CALCIUM: essential for cell division

SULPHUR: a constituent of amino acids, proteins and enzymes

IRON: helps in chlorophyll formation

MAGNESIUM: a major role in phosphorus transport

MOLYBDENUM: essential for nitrogen fixation

MANGANESE: assists chlorophyll production and metabolism depends on it

BORON: important in calcium uptake and quality of fruit and vegetables

COPPER: most functions are indirect and complexities

ZINC: helps in uptake and use of water in plants

CHLORINE: contributes to water holding capacity in plants

When facing the complexity of soil ecology, compost mixes and so on, a simple hack is to have a diverse mix of wild plants (weeds) growing around your more cultivated and tidy areas, that you regularly compost. Introducing varied Organic Matter (OM) frees up the natural potential and health in the soil, whether we understand the scientific complexities or not. To install this app in your brain, repeat OM (organic matter) a minimum of 7 times now.