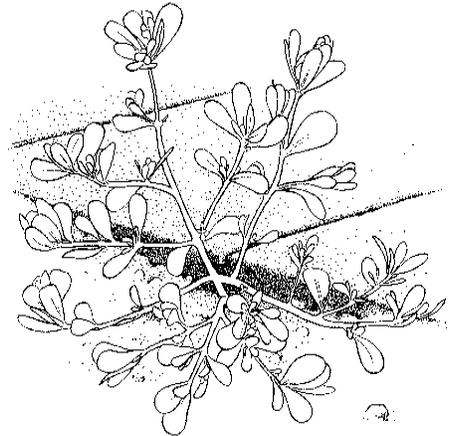


Weeds Can Tell You a Lot About Soil Quality

The notion that weeds may have some good, even desirable, qualities is hard to accept because we have been socialized to think that weeds are bad, that their presence in the garden indicates that one is lazy. Isn't it time to recognize weeds for what they are? highly adaptable plants, colonizers of disturbed ground, their virulent growth protects soil and provides a home for insects. They are the earth's way of looking after itself.

One of the more interesting attributes of weeds is what they can reveal about the condition of your soil? whether it's acid or alkaline, how well it is drained, how fertile it is. Whole colonies of weeds indicate a severe soil problem. Deep-rooted weeds such as mullein, Queen Anne's lace and dandelions thrive where soil fertility is poor. Shallow-rooted weeds, chickweed, chicory, common groundsel, common horehound and lamb's quarters are found in fertile soil. After improving soil fertility with compost or manure you should notice a change in weed composition.

Silvery cinquefoil, hop and rabbit foot clover, coltsfoot, dock, knapweed, mullein, horehound, sorrel, wild radishes and strawberries are found in soil with a pH of six or less. Weeds that prefer an alkaline soil (pH of eight or more) include mustard, thistles, chamomile, wild carrot, goldenrod, saltbush and creeping bellflower. You can change the pH of your garden by adding lots of humus. Organic matter neutralizes the pH. Most plants prefer a neutral soil with a pH of seven.



Weeds can also indicate soil composition. For example, goldenrod and bindweed are more often found in sandy soils, while plantain, chicory, chamomile and horse nettle grow in the hardpan of clay. Lots of leguminous weeds such as clover and vetch indicate that the soil is low in nitrogen. The presence of sedge indicates a salty soil. Marsh nettles, perennial sow thistle and dock grow in soggy soil where drainage is inadequate. Chamomile, pennycress and peppergrass prefer soil with high limestone content. Communities of weeds rather than lone specimens are the best indicators of soil condition. To correct conditions, prodigious amounts of compost and manure will not only give substance to sandy soils but also help to lighten clay and hardpan soil.

The long taproots of dandelions and docks not only break up hardpan but bring nutrients up to the soil surface. Clover adds nitrogen to the soil, chickweed is rich in copper, couch grass contains potassium, and lamb's quarters have a lot of iron. The last are all good plants to add to a compost pile. In general the presence of weeds indicates declining soil fertility. Many weeds thrive only when soil conditions are not optimum? mineral content is unbalanced, there's too much of one nutrient or another, or the texture is too thick (clay) or too thin (sand).

Well maintained garden soil is rich, crumbly and dark, reminiscent of the best chocolate cake! After a rain it does not form clods or pack together. Plants grow better, their root systems crowd out those weeds, their abundant vegetative growth casts a deep shade, suppressing weed growth and weed seed germination. A soil rich in organic matter has a thriving bacterial population. Weed seeds lose their viability quicker and tend to rot.

Next time you go out to weed your garden, rejoice in the knowledge that all the chickweed indicates that the soil is rich and fertile.

Melanie Watts (reprinted from *Horticulture Review*)