



Weeds are Indicators of Soil Problems

Plants voluntarily grow in locations where they are well suited. Forests develop in fertile soil and overtime the plants growing in the forest change. This is because the plants are adding and subtracting from the soil and making the conditions different, changing the group of plants that can be successful within that environment. A location that was once suited for an Aspen or a Cottonwood will someday be home to an Oak because of these changes. Scientists can often tell the condition of a forest by the plants that are thriving there. The same is true with a lawn.

We can tell the health of a soil below a lawn by the weeds that are successfully competing for space. Weeds are often defined as “plants out of place”. They are advantageous plants growing in locations where they are well suited. Weeds in a lawn are a problem because they are not as effective as grass in achieving the outcomes that are desired from maintaining a lawn. Numerous benefits such as erosion control, water purification, water infiltration, atmospheric carbon reduction and other environmental advantages provided by lawn grasses are reduced by most weeds.

The best defense against weeds is a healthy lawn, because grass can easily out-compete weeds when conditions are maintained in favor of the grass. Nutrient deficiencies, nutrient excesses, soil compaction, acidic soils, excessive shade, wet soils and many other problems can be detected by what plants are successfully infiltrating a lawn.

Below is a list of some of the common names of indicator weeds (scientific name in parenthesis) that can help determine what issues are making your lawn less than perfect. Correct the problem that creates a competitive advantage for the weed and you will have an easier time getting the lawn results you desire.

Weeds Associated with Different Soil Problems

Acid soil: sorrel (*Rumex* species), sow thistle (*Sonchus* species), prostrate knotweed (*Polygonum aviculare*), lady's-thumb (*Polygonum persicaria*), wild strawberries (*Fragaria* species), plantain (*Plantago major*), rough cinquefoil (*Potentilla monspeliensis*), silvery cinquefoil (*Potentilla argentea*), hawkweeds (*Hieracium aurantiacum* and *pratense*), knapweeds (*Centaurea* species), bentgrasses (*Agrostis* species)

Alkaline soil: field peppergrass (*Lepidium virginicum*), goosefoot (*Chenopodium* species), gromwell (*Lithospermum officinale*), true chamomile (*Anthemis nobilis*), bladder campion (*Silene latifolia*)

Wet or poorly drained soil: horsetail (*Equisetum arvense*), sedges (*Carex* species), lady's-thumb (*Polygonum persicaria*), joe-pye weed (*Eupatorium purpureum*), silvery cinquefoil (*Potentilla argentea*), curly dock (*Rumex crispus*), mosses, Pennsylvania smartweed (*Polygonum pennsylvanicum*), tall buttercup (*Ranunculus acris*), creeping buttercup (*Ranunculus repens*), sheep sorrel (*Rumex acetosella*), Canada goldenrod (*Solidago canadensis*), lance-leaved goldenrod (*Solidago graminifolia*), meadow pink (*Lychnis flos-cuculi*), jewelweed (*Impatiens pallida*), coltsfoot (*Tussilago farfara*), sweet flag (*Acorus calamus*), ground nut (*Apios americana*), annual bluegrass (*Poa annua*), common chickweed (*Stellaria media*), crabgrass (*Digitaria* species), goosegrass (*Elusine* species), ground ivy (*Glechoma hederacea*), mouse-ear chickweed (*Cerastium vulgatum*), violets (*Viola* species), yellow nutsedge (*Cyperus esculentus*)

Dry soil: Virginia pepperweed (*Lepidium virginicum*), rough cinquefoil (*Potentilla monspeliensis*), potato vine (*Ipomoea pandurata*), yarrow (*Achillea millefolium*), black medic (*Medicago lupulina*), red sorrel (*Rumex acetosella*)

Compacted or heavy soil: wild garlic (*Allium vineale*), dandelion (*Taraxacum officinale*), broadleaf dock (*Rumex obtusifolius*), creeping buttercup (*Ranunculus repens*), plantain (*Plantago major*), annual bluegrass (*Poa annua*), common chickweed (*Stellaria media*), goosegrass (*Elusine indica*), knotweed (*Polygonum aviculare*), mouse-ear chickweed (*Cerastium vulgatum*), prostrate spurge (*Euphorbia supina*)

Soil with a hardpan or hard crust: horse nettle (*Solanum carolinense*), pennycress (*Thiaspi arvense*), quack grass (*Agropyron repens*), field mustard (*Brassica nigra*), morning-glory (*Ipomoea purpurea*), pineapple weed (*Matricaria suaveolens*)

Previously cultivated soil: Lamb's-quarters (*Chenopodium album*), plantain (several species), ragweed (*Ambrosia artemisiifolia*), purslane (*Portulaca oleracea*), dandelion (*Taraxacum officinale*), chickweed (*Stellaria media*), pigweeds (family *Amaranth*), carpetweed (*Mollugo verticillata*)

High fertility soil: chicory (*Cichorium intybus*), pigweeds (family *Amaranth*), purslane (*Portulaca oleracea*), dandelion (*Taraxacum officinale*), lamb's-quarters (*Chenopodium album*), burdock (*Arctium minus*), pokeweed (*Phytolacca americana*), butter print (*Abutilon theophrasti*), Queen Anne's lace (*Daucus carota*), annual bluegrass (*Poa annua*), bentgrasses (*Agrostis* species), Henbit (*Lamium amplexicaule*), yellow woodsorrel (*Oxalis stricta*), crabgrass (*Digitaria* species), mallow (*Malva neglecta*), purslane (*Portulaca oleracea*)

Low fertility soil: plantains (*Plantago* species), red sorrel (*Rumex acetosella*), white clover (*Trifolium repens*)

Shaded soil: annual Bluegrass (*Poa annua*), common chickweed (*Stellaria media*), ground ivy (*Glechoma hederacea*), mouse-ear chickweed (*Cerastium vulgatum*), nimblewill (*Muhlenbergia shreberi*), violets (*Viola* species)

###