What Are My Weeds Telling Me?

Many gardeners view weeds as plants in the wrong place.

Veteran gardeners also observe that weeds favor specific soil conditions and write that these plants in the wrong place are trying to repair localized soil conditions.

By identifying the weeds in our gardens and the conditions they grow in, we gain valuable insights into our garden soils and what we need to do to improve them.

Table 1 lists growing conditions and weeds that inhabit them. **Table 2** lists these indicator weeds and conditions you find them in.

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Table 1. Compiled Table of Select Indicator Weeds for Growing Conditions

Growing Conditions	Indicator Weeds
Acidic Soil	bentgrass (*Agrostis spp.*), broadleaf plantain (*Plantago major*), silver cinquefoil (*Potentilla argentea*), hawkweed (*Hieracium spp.*), knapweed (*Centaurea spp.*), lady's thumb smartweed (*Polygonum maculosa*), prostrate knotweed (*Polygonum aviculare*), red (sheep) sorrel (*Rumex acetosella*), sowthistle (*Sonchus spp.*), broomsedge (*Andropogon virginicus*), moss (*Broyophytes*)
Low Soil Nitrogen	black medic (*Medicago lupulina*), broomsedge (*Andropogon virginicus),* clover (*Trifolium repens),* lespedeza (*Lespedeza striata*), red (sheep) sorrel (*Rumex acetosella*), vetch (*Vicia* spp.)
Compacted Soil	annual bluegrass (*Poa annua*), bindweed (*Convolvulus arvensis*), broadleaf plantain (*Plantago major*), Bermudagrass *(Cynodon dactylon)*, common chickweed (*Stellaria media*), chicory (*Cichorium intybus*), corn speedwell (*Veronica arvensis*), dandelion (*Taraxacum officinale*), goosegrass (*Eleusine indica*), moss (*Broyophytes*), mouse-ear chickweed (*Cerastium virgatum*), path rush (*Juncus tenuis*), prostrate knotweed (*Polygonum aviculare*), prostrate spurge (*Euphorbia humistrata*), speedwells (*Veronica* spp.), wild garlic (*Allium vineale*)
Low Fertility Soil	common mullein (*Verbascum thapsus*), mugwort (*Artemisia vulgaris*), plantain (*Plantago* spp.), red (sheep) sorrel (*Rumex acetosella*), clover (*Trifolium repens*)
Moist or Poorly Drained Soil	annual bluegrass (*Poa annua*), common chickweed (*Stellaria media*), curly dock (*Rumex crispus*), horsetail (*Equisetum arvense*), crabgrass (*Digitaria* spp.), goosegrass (*Eleusine indica*), ground Ivy (*Glechoma hederacea*), mouse-ear chickweed (*Cerastium vulgatum*), Pennsylvania smartweed (*Polygonum pensylvanicum*), speedwells (*Veronica* spp.), violets (*Viola* spp.), Virginia buttonweed (*Diodia virginiana*), yellow nutsedge (*Cyperus esculentus*)
Nematode Infestation	prostrate spurge (*Euphorbia humistrata*), Florida pusley (*Richardia scabra*), prostrate knotweed (*Polygonum aviculare*)
Shade	annual bluegrass (*Poa annua*), common chickweed (*Stellaria media*), ground ivy (*Glechoma hederacea*), Kyllinga (*Kyllinga brevifolia*), mouse-ear chickweed (*Cerastium vulgatum*), nimblewill (*Muhlenbergia schreberi),* pennywort (*Hydrocotyle* spp.), speedwells (*Veronica* spp.), violets (*Viola* spp.)
Low Mowing	annual bluegrass (*Poa annua*), common chickweed *(Stellaria media*), crabgrass (*Digitaria* spp.), pearlwort (*Sagina procumbens)*
Drought-Prone Soils	black medic (*Medicago lupulina*), crabgrass (*Digitaria* spp.), goosegrass (*Eleusine indica*), plantain (*Plantago* spp.), silver cinquefoil (*Potentilla argentea*), prostrate knotweed (*Polygonum aviculare*), red (sheep) sorrel (*Rumex acetosella*), spotted spurge (*Euphorbia maculata*), clover (*Trifolium repens*), Virginia pepperweed (*Lepidium virginicum*), wood sorrel (*Oxalis* sp.)

Table 2. Compiled Table of Select Weeds and What They Indicate

Indicator Weeds	Growing Conditions
Annual bluegrass (*Poa annua*)	• *compacted soil* • *moist or poorly drained soil* • *shade* • *low mowing*
Bentgrass (*Agrostis spp.*)	• *acidic soil*
Bermudagrass (*Cynodon dactylon*)	• *compacted soil*
Bindweed (*Convolvulus arvensis*)	• *compacted soil*
Black medic (*Medicago lupulina*)	• *low soil nitrogen* • *drought-prone soils*
Broadleaf plantain (*Plantago major*)	• *acidic soil* • *compacted soil*
Broomsedge (*Andropogon virginicus*)	• *acidic soil* • *low soil nitrogen*
Chicory (*Cichorium intybus*)	• *compacted soil*
Clover (*Trifolium repens*)	• *low soil nitrogen* • *low fertility soil* • *drought-prone soils*
Common chickweed (*Stellaria media*)	• *compacted soil* • *moist or poorly drained soil* • *shade* • *low mowing*
Corn speedwell (*Veronica arvensis*)	• *compacted soil*
Crabgrass (*Digitaria spp.*)	• *moist or poorly drained soil* • *low mowing* • *drought-prone soils*
Curly dock (*Rumex crispus*)	• *moist or poorly drained soil*
Dandelion (*Taraxacum officinale*)	• *compacted soil*
Florida pusley (*Richardia scabra*)	• *nematode infestation*
Goosegrass (*Eleusine indica*)	• *compacted soil* • *moist or poorly drained soil* • *drought-prone soils*
Ground Ivy (*Glechoma hederacea*)	• *moist or poorly drained soil* • *shade*
Hawkweed (*Hieracium spp.*)	• *acidic soil*
Horsetail (*Equisetum arvense*)	• *moist or poorly drained soil*
Knapweed (*Centaurea spp.*)	• *acidic soil*
Kyllinga (*Kyllinga brevifolia*)	• *shade*
Lady's thumb smartweed (*Polygonum maculosa*)	• *acidic soil*
Lespedeza (*Lespedeza striata*)	• *low soil nitrogen*
Moss (*Broyophytes*)	• *acidic soil* • *compacted soil*
Mouse-ear chickweed (*Cerastium virgatum*)	• *compacted soil* • *moist or poorly drained soil* • *shade*
Mugwort (*Artemisia vulgaris*)	• *low fertility soil*
Common mullein (*Verbascum thapsus*)	• *low fertility soil*
Nimblewill (*Muhlenbergia schreberi)*	• *shade*
Path rush (*Juncus tenuis*)	• *compacted soil*
Pearlwort (*Sagina procumbens)*	• *low mowing*
Pennsylvania smartweed (*Polygonum pensylvanicum*)	• *moist or poorly drained soil*
Pennywort (*Hydrocotyle* spp.)	• *shade*
Plantain (*Plantago spp.*)	• *low fertility soil* • *drought-prone soils*
Prostrate knotweed (*Polygonum aviculare*)	• *acidic soil* • *compacted soil* • *nematode infestation* • *drought-prone soils* • *nematode infestation*
Prostrate spurge (*Euphorbia humistrata*)	• *nematode infestation*
Red (sheep) sorrel (*Rumex acetosella*)	• *acidic soil* • *low soil nitrogen* • *low fertility soil* • *drought-prone soils*
Silver cinquefoil (*Potentilla argentea*)	• *acidic soil* • *drought-prone soils*
Sowthistle (*Sonchus spp*)	• *acidic soil*
Speedwells (*Veronica spp.*)	• *compacted soil* • *moist or poorly drained soil* • *shade*
Spotted spurge (*Euphorbia maculata*)	• *drought-prone soils*
Vetch (*Vicia spp.*)	• *low soil nitrogen*
Violets (*Viola spp.*)	• *moist or poorly drained soil* • *shade*
Virginia buttonweed (*Diodia virginiana*)	• *moist or poorly drained soil*
Virginia pepperweed (*Lepidium virginicum*)	• *drought-prone soils*
Wild garlic (*Allium vineale*)	• *compacted soil*
Wood sorrel (*Oxalis* sp.)	• *drought-prone soils*
Yellow nutsedge (*Cyperus esculentus*)	• *moist or poorly drained soil*

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Many gardeners view "weeds" as plants in the wrong place. Veteran gardeners also observe that weeds favor specific soil conditions and write that plants in the wrong place are trying to repair localized soil conditions. By identifying the weeds in our gardens and the conditions they grow in, we gain valuable insights in to our garden soils and how we can improve them to Thus, the weeds in our yards can be used as diagnostic tools to help us understand the our soil and what we need to do to improve growing conditions for the plants we are trying to grow.

- **Cover the ground.** This includes plants covering bare, disturbed soils with weeds acting as colonizers, first out of the ground pioneers, or plants defending the soil by growing over poor groundcover plants. These defenders include plants with slow growing thick-walled plants, plants with very tough leaves and stalks and plants with thorns and spikes.
- **Raise the successional order to build soil and its quality.** These plants either act to build topsoil because of compaction, mineral depletion and poor soil structure or to regulate nitrogen. Plants in this group include ones with tap roots, deep roots, underground storage, fine roots or roots that fix nitrogen.
- **Regulate excess nutrients to rebalance the soil.** This group has two subgroups: plants that regulate nitrogen with their

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