Lane Community College

The Learning Garden

Weed Reference Guide





Weeds can be of value but are mostly considered an issue, especially in a garden where they may crowd out desirable plants. This reference guide is for identifying and learning about weeds in the LCC Learning Garden. While learning about what weeds are and look like, it is also important to note how to get rid of them. The Learning Garden does not use herbicides, preferring instead to remove the weeds by hand as well as preventing weeds by mulching or using a landscape fabric. The Learning Garden also practices crop rotation and some areas are planted with cover crops to help keep weeds at bay while building up the soil. Since not all weeds are harmful it is best to identify any plant before removing it from an area within the Learning Garden.

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Merriam Webster defines a weed, in part, as "a plant that is not valued where it is growing and is usually of vigorous growth; *especially*: one that tends to overgrow or choke out more desirable plants...". I have also heard people refer to weeds as wildflowers growing where they do not belong. It seems weeds are not wanted anywhere!

But weeds can be found almost everywhere. Weeds can get established in several ways. Some, such as dandelions, use the wind to spread their seeds. Blackberries use birds and animals to spread their seeds. Other plants, such as quack grass, send out rhizomes through a tap root. The rhizomes establish themselves and grow another plant, sometimes feet or even yards away from the original weed.



http://nwfarmsandfood.com/index.php/what-weeds-can-tell-about-the-soil



http://www.stanford.edu/~merigan/penny.html



http://www.gardensofthewildwildwest.com/index.php/2013/06/09/showy-milkweed-in-my-garden/

INTRODUCTION TO WEEDS

Weeds can do helpful things. They can be food for humans, birds and animals as well as providing cover from predators and material for wildlife homes. Weeds also help retain soil in areas around logging roads and are often indicators of new environments trying to get established, such as after a forest fire. Weeds often drop leaves and/or cover ground, keeping the area moist and providing rotting vegetative matter for soil building.

There are traits associated with weeds and their survival. Out of 250,000 plants on Earth about 8,000 behave as weeds. These behaviors include abundant seeds, seed dormancy, adaptation abilities, rapid establishment and the use of human traffic areas.

Weeds usually become a problem when they interfere with human endeavors, most often in agriculture. Weeds can limit the yield of crops, attract crop killing diseases and/or pests and may be toxic to the crop, animals or humans.

Non-native invasive weeds, such as English ivy, are an issue for the ecological health of local wild areas. As they rout out native plants these weeds are also making the habitat unlivable or even deadly for native insects and animals.

PROBLEM WEEDS

Problem weeds are those that are easily removed or prevented. The following pages provide a list, information and photos of problem weeds, however this list is not extensive. Please refer to the back pages of this guide for any samples that may have been collected.

- <u>Convolvulus arvensis</u> Bindweed Convolvulaceae Family
- *<u>Elytrigia repens</u>* Quack Grass Poaceae Family
- <u>Cirsium arvense</u> Thistle Asteraceae Family







BINDWEED – Commonly known as Morningglory. This weed uses rhizomes to spread. The white or pink flowers open in daylight hours during spring and summer. After flowering seeds form in capsules and remain dormant yet viable for up to 20 years. The leaves are dark green and waxy and alternate along the stem. Leaf shape is arrowhead with smooth edges. Bindweed will climb if allowed otherwise it spreads as ground cover.

<u>Benefits</u>: The flowers of bindweed attract bees and ladybugs. The roots contain minerals that are beneficial when composted.

<u>Issues</u>: Bindweed competes for water and nutrients and can even cover other plants pulling them to the ground as they overwhelm areas. Extremely hard to control once established.



QUACK GRASS – Quack grass spreads using rhizomes and seeds. However, quack grass rhizomes can grow up to 10 feet per year and create 14 more rhizomes. If cut into small pieces the rhizomes can still grow and produce a plant. The plant itself grows between two and three feet in height. The leaves are a blue green and grow from an auricle (wing-like protrusion at the base of the leaf). A seed head appears at the top of the plant that resembles ryegrass.

<u>Benefits</u>: Quack grass helps to control erosion with its many rhizomes. Quack grass also causes nerve damage to slugs. Chopped up quack grass can be used to repel slugs.

<u>Issues</u>: Once established, quack grass is almost impossible to eradicate completely. This weed requires almost constant attacks to control.



THISTLE – This is another weed that spreads through rhizomes and seeds. Seeds are spread in the wind. The roots can extend up to 17 feet across and 20 feet deep. The leaves are elliptical with spiky edges and end with a spine. The leaf is dark green with a lighter green underside. Flowering occurs throughout the summer into early fall. Most flowers are a rosy purple color but may also be white or pale blue.

<u>Benefits</u>: Thistle attracts bees and other pollinators. The deep roots break up the soil and bring up iron.

Issues: Seeds can float for long distances. Plants easily become huge.

INVASIVE WEEDS

Invasive weeds are usually non-native plants that interrupt native habitats and can effect entire local ecologies. Invasive weeds are also known as "noxious" and threaten biological diversity by dominating areas where they are found.

- <u>Rubus armeniacus</u> Himalayan Blackberry Rosaceae Family
- <u>Toxicodendron diversilobum</u> Pacific Poison Oak Anacardiaceae Family
- <u>Conium maculatum L.</u> Poison Hemlock Apiaceae Family
- <u>Cytisus scoparius</u> Scotch Broom Fabaceae Family
- *Dipsacus sylvestris* Teasel Dipsacaceae Family





HIMALAYAN BLACKBERRY -**Originally from Europe Himalayan** blackberry was planted for the fruit the Himalayan blackberry is now crowding out native trees in the Pacific Northwest. Thickets blackberry can grow as tall as 15 feet with a single cane growing up to 40 feet long. The stems are covered in spines. Leaves sprout in groups of five, are rounded and toothed. The flowers are white or sometimes pink with five petals and show up in spring. The fruit arrives in August. Seeds are spread by animals and birds but the plants' canes can also create daughter plants when they touch the ground.

<u>Benefits</u>: Berries are edible. Thickets provide cover for smaller animals.

<u>Issues</u>: Thickets create huge barriers to water access for animals and humans. Thickets also prevent growth of native trees.



PACIFIC POISON OAK – Native to California, this plant is not technically poisonous, it is allergenic. The notched oblong leaves come in three, are very shiny, green in the summer and turn to red in the fall. The flowers are yellow green and bloom in spring. The fruit of poison oak is a white berry-like sphere. The plant grows in bushes up to 10 feet tall or in vines crawling up a tree. New plants original from seed and rhizomes.

Benefits: Edible to birds and animals.

<u>Issues</u>: Irritating rash for those who are allergic, especially if plant is burned.



POISON HEMLOCK – This plant is EXTREMELY TOXIC to humans and animals. Eating it is the highest danger but it can also cause skin and respiratory problems. Poison hemlock looks very similar to Queen Anne's lace or other members of the parsley family. The flowers come in late spring, are white and umbrella shaped. The plant can grow as tall as eight feet. (Queen Anne's lace has one flower cluster with a generally purple flower in the center and grows to only three feet tall.) Originally from Europe, Asia and North Africa the plant was brought to the U.S. as an ornamental.

<u>Benefits</u>: Once used for the treatment of gout, tumors and ulcers.

<u>Issues</u>: Extreme toxicity with fast acting results. Acute degradation of the nervous system; symptoms include trembling, loss of motor skills, pupil dilation, coldness of the extremities and heart weakness.

POISON CONTROL: 800-222-1222



SCOTCH BROOM – This hardy plant blooms in the spring with many small yellow flowers. The leaves are oval shaped with dark green above and much paler green below. Originally from Britain and Western Europe, Scotch broom was brought to America for ornamental purposes and erosion control. The bush can grow up to 10 feet in height. New plants are created from seed disbursed in the wind.

Benefits: A good soil binder. Useful cover for some wildlife.

<u>Issues</u>: Takes over habitat from native plant species, destroys native wildlife habitat.



TEASEL – Originally from Europe, teasel begins with prickly leaves growing in a rosette pattern at ground level. The second year the stalk of the plant will grow. The leaves of the plant are bright green and resemble romaine lettuce. Leaves grow opposite each other in pairs and the upper leaf surface has spines. Teasel can grow up to six feet high and propagates by seed. Small purple flowers bloom in early summer starting in the middle of the teasel cone.

<u>Benefits</u>: Teasel is used in the textile industry. The dried heads of teasel are used to fluff up wool fibers without tearing them. When mixed with alum the leaves and flower heads produce a yellow dye for cotton or wool.

<u>Issues</u>: One teasel plant can create 2,000 seeds.

NON-INVASIVE WEEDS

Non-invasive weeds are generally native plants. These plants do not invade entire areas but allow native plant and animal species to thrive. Non-invasive weeds are hardy enough to propagate and give more benefits than problem or invasive weeds. Note that previous plant lists are done alphabetically by common name. This list is alphabetical by family and was done to show the similarities of plants within the families.

- *Daucus* Queen Anne's Lace Apiaceae
- Asclepias speciosa Showy Milkweed Asclepiadaceae
- <u>Taraxacum</u> Dandelion Asteraceae
- <u>Nothocalais</u> False Dandelion Asteraceae
- <u>Helianthus</u> Sunflower Asteraceae
- <u>Achillea</u> Yarrow Asteraceae
- <u>Symphytum officinale</u> Comfrey Boraginaceae
- <u>Brassica kaber</u> Wild Mustard Brassicaceae
- Trifolium pretense Red Clover Fabaceae
- <u>Vicia</u> Vetch Fabaceae
- Mentha pulegium Pennyroyal Lamiaceae
- <u>Oxalis</u> Wood Sorrel Oxalidaceae
- Mimulus guttatus Monkeyflower Scrophulariaceae
- Verbascum Mullein Scrophulariaceae
- Eschscholzia californica California Poppy Papaveraceae
- <u>Rumex crispus</u> Yellowdock Polygonaceae
- <u>Claytonia perfoliata</u> Miner's Lettuce Polygonaceae
- <u>Portulaca</u> Purslane Portulacaceae





QUEEN ANNE'S LACE – Queen Anne's lace grows a low rosette in the first year, with the flower stem and leaves growing in the second year. Also known as wild carrot, Queen Anne's lace is originally from Europe and Asia and is often confused with poison hemlock. The leaves are dark green, growing twice as long as they are wide and resemble garden carrots. The plant grows up to five feet tall. The entire flower head contains many small white flowers with a red or purple center flower and blooms spring through fall. The blooms go to seed in fall and are spread by wind.

<u>Benefits</u>: roots are edible as are first year leaves. The entire plant can be boiled with alum to make a yellow dye. Oil from the seeds is used in making perfume. Some wild birds eat the seeds.

<u>Issues</u>: leaves accumulate high levels of nitrates and may sicken livestock. Some people can be allergic to the leaves which may cause an irritating rash.



SHOWY MILKWEED – This is the least toxic milkweed. All parts of the plant are toxic when raw. The leaves are oval, waxy and dark green. Flowering occurs during spring and summer with the pinkish blooms clustering at the top of the plant. Seeds and rhizomes spread the plant with the rhizomes creating large clumps of showy milkweed in one spot. The plant can grow up to five feet tall.

<u>Benefits</u>: attracts butterflies, bees and other pollinators. The dried stems can be used to make rope. When properly cooked parts of the plant are edible for humans however only showy milkweed has this property, making identification of the plant a must for *cooked* ingestion.

<u>Issues</u>: milkweed sap is a heart poison causing vomiting in low doses and death in high doses. It is also poisonous to livestock.



DANDELION – A member of the daisy family, dandelion leaves grow in a rosette pattern. The leaves are green, elongated and toothed. The yellow flower head blooms in spring and summer and can contain up to 300 petals. As the plant matures the flower head goes to seed that are spread in the wind. The plant can also re-grow from broken tap roots. A resident of Eurasia the plant was brought to the Americas for food and medical purposes. The stems are hollow.

<u>Benefits</u>: Dandelion leaves are rich in vitamins and minerals and used in salads. The flowers are used to make wine. Teas made from the leaves are used as digestive aids, laxatives and diuretics. Tea made from the root can be used to treat heartburn.

<u>Issues</u>: the plant absorbs three times as much iron as a garden plant along with high amounts of copper and other nutrients.



FALSE DANDELION – Native to Europe false dandelion is often mistaken for dandelion. The stems of this plant are not hollow and the leaves are lobe shaped and hairy. Growing up to two feet high, false dandelion is taller than dandelion. The yellow flowers bloom in spring and summer with several bloom stems per plant. The flowers go to seed in the fall and spread by wind.

Benefits: the leaves and roots are edible.

Issues: over grazing on false dandelion may cause leg issues in horses.



SUNFLOWER – There are many kinds of sunflowers that can grow quite tall. Wild sunflowers usually grow up to three feet. The flowers have yellow petals radiating from the center flower head. Blooms appear in summer with the central flower head turning to seed to propagate on the wind and by birds and animals. The leaves are grayish green covered with white wool. This plant is native to America.

<u>Benefits</u>: yellow dye can be made from the flowers, black or blue dye can be made from the sunflower seed. Seeds can be used to make sunflower oil for cooking.

<u>Issues</u>: may attract pests and fungi to a garden.



YARROW – Native to the northern hemisphere, the leaves are similar to ferns and woolly. Flowering in the spring and summer, it grows up to 10 inches tall. Flowers vary in color between white, yellow and pinkish red. It grows up to 10 inches. Seeds are spread by wind in the fall.

<u>Benefits</u>: used in lotions an astringent additive. Attracts beneficial insects and may help nearby plants resist disease. Dried yarrow is often used in flower arrangements.

<u>Issues</u>: some people can be allergic.



COMFREY – Long and widely used for creams and lotions this plant is native to Europe and Asia. Comfrey can grow up to three feet tall and likes damp areas. The lower leaves are large, oval and hairy. The top leaves are also hairy but decrease in size up the stem. The flowers are similar to forget-menots who belong to the same family.

<u>Benefits</u>: helps build new skin! Often used for treating burns and muscle strain.

<u>Issues</u>: taken internally it damages the liver and can cause death. Creams can be used only for a short time. Leaf hair can irritate skin.



WILD MUSTARD – Originally from Eurasia wild mustard grows almost everywhere in the world, including the Arctic Circle but not deserts. The plant can grow up to three feet tall. Yellow blossoms occur in winter then go to seed for propagation.

<u>Benefits</u>: all of the plant is edible. Attracts pollinators. Oil from seeds can be used to make soap and as a lubricant.

<u>Issues</u>: can reduce crop yields. Attracts insect and fungus pests. Seeds can be toxic to livestock.



RED CLOVER - The leaves of this plant are distinctive for their pale green crescents on a dark green background. The flower head is made up of many dark pink flowers and appears at the top of the stem. Red clover is native to Europe and can grow up to 20 inches tall. The plant goes to seed that spread in the wind.

<u>Benefits</u>: nitrogen fixing as well as protecting soil from erosion. Popular for livestock grazing. Also used as a cover crop to enhance the soil. Can be used to make tea. Food source for wildlife.

<u>Issues</u>: can attract a fungus that is toxic to livestock. Ingesting large amounts can cause headaches, rashes, muscle ache, nausea and slow blood clotting.



VETCH – This plant trails or climbs with stems that grow up to five feet. The leaves are woolly and fern like. The flowers are purple and white, blooming in summer. Seeds grow in pods and are spread by wind. Vetch is original to Europe and western Asia.

<u>Benefits</u>: nitrogen fixing and controls soil erosion. Forage for livestock.

<u>Issues</u>: difficult to fully remove once no longer wanted. Can smother other vegetation.



<u>Benefits</u>: used in vinegars and teas. Oil from crushed leaves may provide an insect repellant when applied to the skin.

Issues: can spread aggressively.



WOOD SORREL – Wood sorrel is native to the U.S. and can grow to 15 inches in height. Its green leaves resemble a clover leaf and come in threes. The flowers are small and come in yellow or white. Blooms occur from spring through fall. Wood sorrel has rhizomes but mostly propagates by seed.

<u>Benefits</u>: rich in vitamin C, it was used to treat fevers, scurvy and infections. Can be used in salads or to make tea.

<u>Issues</u>: large quantities restrict the absorption of calcium. Difficult to remove, resistant to weed control.



MONKEY FLOWER – Monkey flower leaves are small and round. In contrast, the flower is large and bright yellow with red spots. Blooms occur in ummer. Monkey flower can grow up to two feet tall. This plant is a native of the western United States and loves water. Seeds are spread by wind and water.

<u>Benefits</u>: leaves can be eaten raw or cooked. Attracts bees and hummingbirds.

Issues: can clog drainage ditches. May overgrow livestock watering areas.



MULLEIN – Mullein begins with a low growing rosette in the first year. The second year brings a tall flowering stem. Originally from Europe the plant was introduced by Puritans for its medicinal uses. Mullein can grow to be six feet tall. The yellow blooms occur through summer then reduce to seed. The leaves are hairy and oval.

<u>Benefits</u>: some birds eat mullein seed. Attracts pollinators, provides nest building material and is a winter home to some insects.

<u>Issues</u>: one plant can have 100,000 seeds. Grows faster than native plants and can crowd them out.



CALIFORNIA POPPY – Native to California and the Southwest United States. Blooms are orange or yellow and occur during the spring and summer. The plant reseeds itself and grows up to 18 inches high. California poppy leaves are bluish green and round.

<u>Benefits</u>: seeds can be used in cooking. Smoking California poppy extract can act as a sedative. Attracts bees.

Issues: some people can be sensitive to ingesting the plant. Attracts aphids.



YELLOWDOCK – Also known as curly dock, this plant prefers moist areas. The leaves are narrow and tend to curl. Yellowdock flowers do not have petals and appear as green spheres. The plant turns reddish brown as it ages. A native to Europe and Asia, yellowdock seeds attach to animal fur and clothing to spread.

Benefits: all parts of the plant are edible.

<u>Issues</u>: may be poisonous to livestock. Once seeds drop they can germinate for years to come. Ingesting large quantities of the leaves can irritate the urinary tract.



MINER'S LETTUCE – A native plant, miner's lettuce likes it to be cool and wet. It begins life a small rosette with narrow leaves. The mature plant has bright green triangular or diamond shaped leaves. Flowering in late winter and early spring the blooms are small and white or pink. The plant itself grows up to eight inches and reproduces by seed.

Benefits: can be eaten as salad greens. Good for erosion control.

<u>Issues</u>: eating too much can be toxic. The narrow early leaves can be labor intensive to harvest.



PURSLANE – Purslane has thick red stems and thick oval leaves. It grows throughout the world but was first noted in the U.S. in 1672. The stems radiate out from a central root and can grow to 12 inches, creating huge mats of purslane. The flowers are small and yellow, blooming in late spring and summer.

<u>Benefits</u>: leaves are used in salads. Poultices of the plant helps burns. Drinking the tea can ease headaches.

Issues: seeds can germinate for years. Plants have 240,000 seeds each.



Glossary

<u>Auricle</u> – an angular or ear-shaped lobe, process, or appendage

<u>Family</u> – a group of related plants or animals forming a category ranking above a genus and below an order and usually comprising several to many genera

<u>Herbicide</u> – a chemical used to destroy plants or stop plant growth

Invasive - tending to infringe

<u>Native</u> – living or growing naturally in a particular region

<u>Nitrogen fixing</u> – conversion of atmospheric nitrogen by soil microorganisms and its release for plant use by nitrification in the soil on the death of the microorganisms

<u>Non-invasive</u> - not tending to spread

<u>Non-native</u> – not living or growing naturally in a particular region

Propagate - to produce (a new plant)

<u>Rhizome</u> – a thick plant stem that grows underground and has shoots and roots growing from it

<u>Tap root</u> – a primary root that grows vertically downward and gives off small lateral roots

All definitions were obtained at http://www.merriam-webster.com/

References:

http://agsci.psu.edu/

http://plants.usda.gov/core/profile?symbol=esca2

http://www.wildflower.org/plants/result.php?id_plant=ASSP