

SHEPHERD'S PURSE

(Capsella bursa-pastoris)

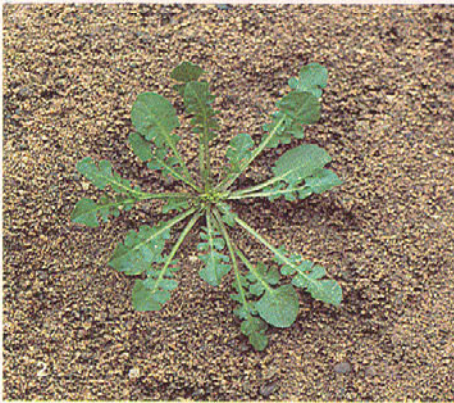
SEEDLING DESCRIPTION

The stem below the seed leaves (hypocotyl) is smooth and green, and often tinged with purple. The two light green seed leaves (cotyledons) are smooth, oval, about 1/8 inch (3 mm) wide, and may be slightly indented at the tip.

The first two or four true leaves develop oppositely, are oval-shaped, and

generally have smooth margins. The rest of the leaves are alternately arranged, but this pattern is difficult to see because they grow close together and form a rosette, or round flat cluster. Leaf margins are usually slightly toothed or wavy. Older leaves are deeply indented more than halfway to the midvein. The seedlings taste slightly peppery.

1. Young seedlings are about the size of a dime.
2. Older rosette leaves become deeply indented.
3. A flower stalk emerges the second year.
4. Some plants become branched and bushy.
5. Flowers bloom from spring until late autumn.
6. Seed pods are a good identification characteristic.



BIOLOGY

Shepherd's purse, a member of the Mustard family, is a winter annual or biennial plant that reproduces by seed.

Germination occurs when soil temperatures are below 60° F (15° C), in the fall or early spring. Seeds require a cold period to break dormancy. They may germinate the first year or may rest for many years in the soil before sprouting.

The first growth of shepherd's purse is in the form of a rosette. Basal leaves are 3 to 6 inches (7.5 to 15 cm) long, about 1½ inch (4 cm) wide, and usually deeply lobed or coarsely toothed, similar to dandelion. However, leaf shape varies greatly from plant to plant, and some leaves may have smooth margins. The lower leaf surface has scattered hairs.

The rosette overwinters, resuming growth in spring. Then, from the center of the leaf cluster, a slender stalk emerges, continually bearing flowers from spring until late autumn. The flower stalk, called a raceme, may be simple or slightly branched, and it grows 6 to 18 inches (15 to 45 cm) tall. It has mature seed pods on the lower portion and clusters of new flowers at the tip. Individual flowers have four white petals and are less than ¼ inch across.

The leaves on the flower stalk grow 1 or 2 inches (2.5 to 5 cm) long, about one-third the length of the basal leaves. They are shaped like slender arrowheads and have slightly toothed margins and two basal lobes that clasp the stem.

The flat, heart-shaped seed pods are about ¼ inch (6 mm) long, with a broad, notched tip and a pointed base. A slender stem about ½ inch (12 mm) long attaches each seed pod to the raceme. Seed pods are attached at a right angle, one every ¼ to ½ inch. The pods are green at first, then dry to a pale tan and become semitransparent, revealing two rows of tiny yellow-orange seeds.

Each plant produces about 50,000 seeds. Only ⅓ inch (less than 1 mm) long, seeds are easily scattered by wind when the pods crack open or when the whole seed stalk breaks loose and blows across the ground.

SIMILAR SPECIES

Three common weeds resemble shepherd's purse in appearance and behavior. Virginia pepperweed (*Lepidium virginicum*), field pepperweed (*L. campestre*), and field pennycress (*Thlaspi arvense*) are

all winter annuals with similarly shaped leaves and erect seed stalks bearing rows of small flattened seed pods.

However, Virginia pepperweed lacks a rosette and bears all of its leaves alternately on tall stalks. Field pepperweed has an overwintering rosette that produces up to six flower stalks in early spring. Its flower stalks are unbranched at the base but terminate in a half dozen seed stalks, each of which bears many flat, oval seed pods.

The seed pods of shepherd's purse are the weed's most distinguishing feature. They are uniquely heart-shaped, flat, and contain up to two dozen tiny yellow seeds. The other three weeds have flat, oval, slightly lobed pods. Virginia pepperweed seeds are yellow-orange, but each pod has only two seeds. Both field pepperweed and field pennycress have dark brown or black seeds.

NATURAL HISTORY

Shepherd's purse is one of the most common flowering plants. A native of Europe, it now grows throughout the world. Shepherd's purse does especially well in the temperate zone, but it also thrives in the tropics at higher elevations. It is a common weed in cereal crops, pastures, cultivated lands, roadsides, gardens, and lawns.

Shepherd's purse is rich in vitamins C and K and in sodium (Na) and sulfur (S). The plant has a zesty, peppery taste, much like watercress. Fresh leaves may be used in green salads, and the seeds and young pods make a good seasoning for soup.

In southern Europe and southwestern Asia, shepherd's purse has been prized since ancient times for its medicinal value. A tea made from the dried crushed leaves has long been used to stop internal hemorrhages, especially of the stomach, lungs, uterus, and kidneys. Shepherd's purse was used for this purpose during World War I.

Many of our vegetable crops — cabbage, broccoli, cauliflower, turnips, and other *Brassic*s — belong to the Mustard family. Shepherd's purse, itself a mustard, is an alternate host for diseases that attack these vegetables. The weed also harbors several crop viruses, including aster yellows, tobacco mosaic, and potato yellow dwarf virus.

The common name is a literal translation of the species name, *bursa-pastoris*, referring to the shape of the seed pods. They resemble the pouches carried by

early European peasants. Worn at the waist, these purses were packed with enough food to last the day when shepherds tended their flocks far from home.

Shepherd's purse has many other descriptive names, including lady's purse, witch's pouches, rattle pouches, pick-purse, mother's heart, case-weed, clapped-pouch, St. James' weed, joy wort, shepherd's heart, pepper plant, and pickpocket.

CONTROL

Shepherd's purse is primarily a weed in cereal crops and hay fields. The best way to control weeds in these crops is to establish a healthy stand through sound cultural practices:

- choosing appropriate varieties of weed-free seed,
- planting and cultivating at the proper times and, if necessary,
- fertilizing for fast early crop growth and shading of weeds.

In cereals and grass forages, several pre- and postemergence herbicides are effective on shepherd's purse. The best choice depends on what other weeds are present and what cropping system is used.

For control in legume forages, several chemicals are labeled for application while the crop is dormant or in the seedling stage, either in late fall or early spring.

For specific recommendations, consult your county extension agent or the most recent *Weed Control Manual and Herbicide Guide*, available through Meister Publishing Company, 37841 Euclid Avenue, Willoughby, Ohio 44094. Follow label instructions for all herbicides and observe restrictions on grazing and harvesting procedures.

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Where trade names appear, no discrimination is intended, and no endorsement by the Cooperative Extension Service is implied.

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