## CLOVER




clover - клевер ['klauvə]

berseem clover - [berseem 'klauvə]


## Alpine clover -

алыпийский клевер




## Clover



Clover or trefoil are common names for plants of the genus Trifolium, consisting of about 300 species of flowering plants in the legume or pea family Fabaceae originating in Europe. The genus has a cosmopolitan distribution with highest diversity in the temperate Northern Hemisphere, but many species also occur in South America and Africa, including at high altitudes on mountains in the tropics. They are small annual, biennial, or short-lived perennial herbaceous plants, typically growing up to 30 cm tall. The leaves are trifoliate (rarely quatrefoiled; see four-leaf clover), monofoil, bifoil, cinquefoil, hexafoil, septfoil, etcetera, with stipules adnate to the leaf-stalk, and heads or dense spikes of small red, purple, white, or yellow flowers; the small, few-seeded pods are enclosed in the calyx. Other closely related genera often called clovers include Melilotus (sweet clover) and Medicago (alfalfa or Calvary clover).

Several species of clover are extensively cultivated as fodder plants. The most widely cultivated clovers are white clover, Trifolium repens, and red clover, Trifolium pratense. Clover, either sown alone or in mixture with ryegrass, has for a long time formed a staple crop for silaging, for several reasons: it grows freely, shooting up again after repeated mowings; it produces an abundant crop; it is palatable to and nutritious for livestock; it fixes nitrogen, reducing the need for synthetic fertilizers; it grows in a great range of soils and climates; and it is appropriate for either pasturage or green composting.

In many areas, particularly on acidic soil, clover is short-lived because of a combination of insect pests, diseases and nutrient balance; this is known as "clover sickness". When crop rotations are managed so that clover does not recur at intervals shorter than eight years, it grows with much of its pristine vigor.

Clovers are most efficiently pollinated by bumblebees, which have declined as a result of agricultural intensification. Honeybees can also pollinate clover, and beekeepers are often in heavy demand from farmers with clover pastures. Farmers reap the benefits of increased reseeding that occurs with increased bee activity, which means that future clover yields remain abundant. Beekeepers benefit from the clover bloom, as clover is one of the main nectar sources for honeybees.

Berseem clover


Trifolium alexandrinum (Egyptian clover, berseem clover) is an annual clover cultivated mostly in irrigated sub-tropical regions, and used as leguminous crop. It is an important winter crop in Egypt, where it may have been cultivated since ancient times, and was introduced into northern India in the early nineteenth century. It is also grown in the United States and Europe.

The plant reaches 30 to 100 cm tall with erect or ascending stems. There are two types of berseem clover, single-cut and multi-cut. Single-cut varieties, like Balady, feature a high growing point and feature poor recovery once harvested. Multi-cut varieties, like Frosty, feature a lower growing point allowing for multiple harvests from a single sowing.

Berseem clover is generally frost-sensitive and should be planted only after potential for frost has passed. The exception is Frosty berseem clover which was developed by Grassland Oregon, Inc. and released in 2016. This variety is capable of surviving temperatures as low as 5 degrees Fahrenheit.

Clover is capable of producing up to 8 tons of forage in a single growing season. Berseem clover is similar in forage quality to that of alfalfa. It can also be used as a cover crop suppressing weeds or as a green manure crop providing nitrogen to following crops. As a green manure crop, berseem is capable of providing as much as 280 acre of nitrogen to following crops.

Alpine clover


Trifolium alpinum is a species of flowering plant in the legume family known by the common name alpine clover. It is native to the Alps.

This plant is a perennial herb with a large taproot which can be 1 metre long and 1 centimetre wide. The short stems bear ternate leaves divided into three leaflets each up to 5 cm long. The fragrant flowers are pink to light red, tinged with purple.

This plant grows at elevations between 1700 and 2500 m , sometimes up to 2800 m , in subalpine and alpine climates. It commonly grows on acidic soils.

In alpine regions this plant provides an important forage for livestock. It is also good for stabilizing sites of erosion at high elevations.

Showy Indian clover


Trifolium amoenum, known by the common names showy Indian clover and two-fork clover, is endemic to California, and is an endangered annual herb that subsists in grassland areas of the San Francisco Bay Area and the northern California Coast Ranges.

This wildflower has an erect growth habit and is typically found on heavy soils at elevations less than 100 meters. The flower head is somewhat spherical with a diameter of about 2.5 centimeters. The petals are purple gradating to white tips.

## Fiveleaf clover



Trifolium andersonii is a species of clover known by the common names fiveleaf clover and Anderson's clover. It is native to the western United States, particularly the Great Basin and adjacent high mountain ranges, including the Sierra Nevada. It was named after Charles Lewis Anderson by Asa Gray.

It grows in forests, mountain meadows, and talus. It has been noted to be the dominant species in dry areas on the alpine grassland steppe in the White Mountains of California.

Trifolium andersonii is a perennial herb growing in a tuft or low cushion, and lacking a stem. The long-haired or woolly, silvery-gray leaves have 3 to 7 leaflets each up to 2 centimeters long. The inflorescence is a head of flowers measuring 1.5 to 2.5 centimeters wide. Each flower has a calyx of sepals with narrow, densely hairy lobes. Within the calyx is the flower corolla, which is pinkish purple or bicolored.

Various subtaxa are usually recognized by authors as varieties or subspecies.

## Hare's-foot clover



Trifolium arvense, commonly known as the hare's-foot clover, rabbitfoot clover, stone clover or oldfield clover, is a flowering plant in the bean family Fabaceae. This species of clover is native to most of Europe, excluding the Arctic zone, and western Asia, in plain or mid-mountain habitats up to 1,600 metres altitude. It grows in dry sandy soils, both acidic and alkaline, soil with dry-mesic conditions and is typically found at the edge of fields, in wastelands, at the side of roads, on sand dunes, and opportunistically in vineyards and orchards when they are not irrigated.

Trifolium arvense is a small erect herbaceous annual or biennial plant, growing to $10-40 \mathrm{~cm}$ tall. Like all clovers, its leaves are trifoliate, divided into three slender, sessile leaflets $\mathbf{1 - 2} \mathbf{~ c m}$ long and $3-5 \mathrm{~mm}$ broad, sometimes edged with small hairs and finely serrated. The leaves have a pair of stipules at the base, often tipped in red. The flowers are grouped in a dense inflorescence $2-3 \mathrm{~cm}$ long and $1-1.5 \mathrm{~cm}$ broad; each flower is $\mathbf{4 - 5} \mathbf{~ m m}$ long, rosy white in colour, and especially characterised by the many silky white hairs which tip the five sepals, which are much larger than the petals. These hairs, along with the more or less oblong form of the inflorescence, are the inspiration for the common name. Pollination is carried out by bees, or via autogamy, since the plant is hermaphroditic, and the flowering season is from mid-spring to late summer. The fruit is a small pod containing a single seed.

Trifolium arvense is native to Europe and has been introduced to North America where it now appears throughout the eastern United States, southern Canada, and the western part of the U.S. along the Pacific Coast. The plant has also been recorded in some parts of Hawaii.

Narrowleaf crimson clover


Trifolium angustifolium is a species of clover known by the common names narrowleaf crimson clover, narrow clover and narrow-leaved clover.

It is native to Europe, Asia, and North Africa. Trifolium angustifolium occurs in many types of habitat, including disturbed areas.

It can be found elsewhere as an introduced species, including an invasive species in parts of North America, such as California.

Trifolium angustifolium is an annual herb growing erect in form. The leaves are divided into narrow leaflets which are linear to lance-shaped and measure up to 4.5 centimeters long. The leaves have stipules tipped with bristles. The herbage is hairy in texture.

The inflorescence is a cylindrical spike of flowers measuring $\mathbf{1}$ to 5 centimeters long. Each flower has a calyx of sepals with long, hairy, needle-like lobes that harden into bristles as the plant dries. Within each calyx is a pink corolla about a centimeter long.

## Golden clover



Trifolium aureum, known by the various common names large hop trefoil, large trefoil, large hop clover, golden clover or hop clover, is a species of flowering plant native to much of Eurasia.

Large hop trefoil is a small erect herbaceous biennial plant growing to $10-30 \mathrm{~cm}$ tall. Like all clovers, it has leaves divided into three sessile leaflets, each leaflet $15-25 \mathrm{~mm}$ long and $6-9 \mathrm{~mm}$ broad. Its yellow flowers are arranged into small, elongated round inflorescences $\mathbf{1 2 - 2 0 ~ m m ~ d i a m e t e r , ~ l o c a t e d ~ a t ~ t h e ~ e n d ~ o f ~ t h e ~ s t e m . ~ E a c h ~ i n d i v i d u a l ~}$ flower is decumbent. As they age, the flowers become brown and paper-like. The fruit is a pod usually containing two seeds.

The closely related Trifolium campestre (hop trefoil) is a similar, but shorter, spreading, species with smaller leaves and flowers. The middle leaflet of its leaves also has a short rachis.

Trifolium aureum is native throughout Europe (in Russia this includes non-European Ciscaucasia and western Siberia; in Spain only in the north-east; and in the European portion of the Ukraine this includes Crimea); western and northern Asia and the Middle East (in Armenia; Azerbaijan; Georgia; northern Iran; Lebanon; and Turkey); and Africa (limited to the Canary Islands).

## Bearded clover



Trifolium barbigerum is a species of clover known by the common name bearded clover.

The plant is native to central coastal and Northern California and Oregon, below 700 metres in elevation. Areas it is found include on the northern Channel Islands of California, the California Coast Ranges, and around the San Francisco Bay Area.

It grows in many types of habitat, including coastal prairie, mixed evergreen forest, closed-cone pine forest, and wetland-riparian areas. It is also found in disturbed and cultivated areas.

Trifolium barbigerum is an annual herb growing decumbent to erect in form and hairy to hairless in texture. The leaves are divided into oval leaflets up to 2.5 centimeters long, sometimes having notches at the tips. The stipules on the leaves are large and variable in shape.

The inflorescence is a head of flowers up to 2.5 centimeters wide. The flowers are held in a bowl-shaped involucre of bracts with toothed edges. Each flower has a calyx of sepals narrowing into one or more bristles which are coated with long hairs. Within each calyx is the flower corolla which may be pinkish purple, white, or bicolored purple and white.

The bloom period is April to July.


Trifolium fragiferum, the strawberry clover, is a herbaceous perennial plant species in the bean family Fabaceae. It is native to Europe, Asia, and parts of Africa. It is present in other places, such as sections of North America, as an introduced species. It is also cultivated as a cover crop and for hay and silage, as green manure, and as a bee plant.

This is a perennial herb that spreads via stolons to form mats or clumps of herbage. The leaves are compound, each with three serrated oval leaflets up to 2 to 2.5 centimeters long. The inflorescence is a head of flowers around a centimeter long when first flowering. It increases in size to two centimeters as the fruits develop, the sepals becoming thin and inflated, fuzzy and pinkish in color, to resemble a strawberry or raspberry.

Largehead clover


Trifolium macrocephalum is a species of clover known by the common name largehead clover.

It is native to the Great Basin region of the western United States, from Washington to northern California, and Nevada to Idaho. It occurs in several types of habitat, including sagebrush scrub, juniper woodland, yellow pine forest, and mountain woodlands.

Trifolium macrocephalum is a rhizomatous perennial herb taking an upright form. The herbage is hairy. The leaves are made up of 5 to 9 thick oval leaflets each measuring up to 2.5 centimeters in length.

The inflorescence is crowded, egg-shaped and up to 5 or 6 centimeters long. Each flower has a calyx of sepals with lobes narrowing into bristles which are coated in long woolly hairs. The flower corolla may be nearly 3 centimeters in length and is pink in color, or sometimes bicolored.

## Whitetip clover



Trifolium variegatum is a species of clover known by the common name whitetip clover. It is native to western North America from southern Alaska and British Columbia to Baja California, where it occurs in many types of habitat.

Trifolium variegatum is a variable plant, taking many forms. It is an annual or possibly sometimes perennial herb growing prostrate to upright in form, thin to fleshy and usually hairless in texture. The leaves are made up of usually three variously-shaped leaflets with serrated edges.

The inflorescence is a headlike cluster containing a single flower or many flowers in a cluster over 2 centimeters wide. At its base is a fused involucre of bracts. Each flower has a calyx of sepals narrowing to bristle-like tips. The flower corolla is generally purplish in color and usually has a white tip.

