

white clover

Trifolium repens L.

Synonyms: *Trifolium repens* L. var. *atropurpureum* hort.

Other common names: ladino clover, Dutch clover

Family: Fabaceae

Invasiveness Rank: 59 The invasiveness rank is calculated based on a species' ecological impacts, biological attributes, distribution, and response to control measures. The ranks are scaled from 0 to 100, with 0 representing a plant that poses no threat to native ecosystems and 100 representing a plant that poses a major threat to native ecosystems.

Description

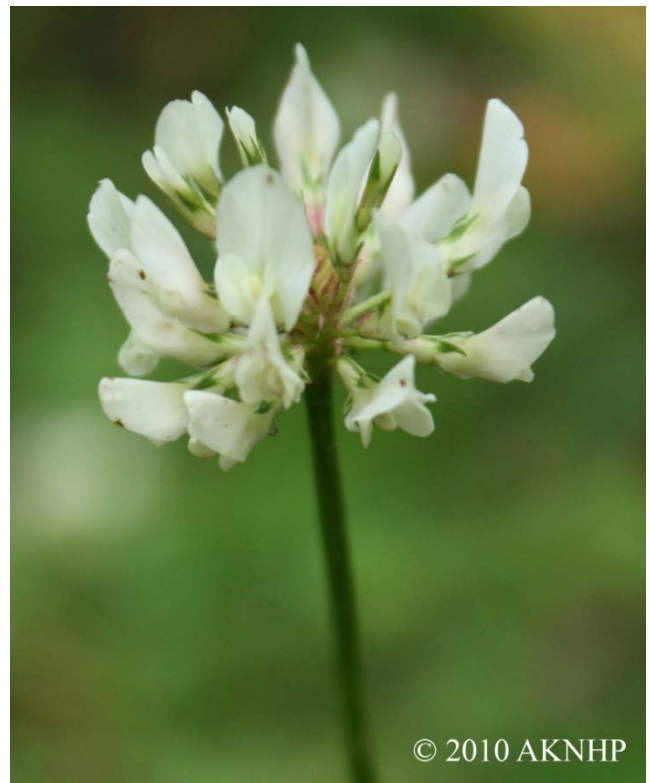
White clover is a glabrous, perennial plant with decumbent stems that grow up to 61 cm long and root at the nodes. Leaves are alternate and palmately trifoliate with long petioles and ovate leaflets. Flowers are white to pink-white and are borne in spherical, terminal clusters of 20 to 50. Flower heads have long stalks. Seeds are round and very small (Welsh 1974, USDA 2003).

Lupine clover can be distinguished from white clover by the presence of five leaflets per leaf and blue-purple flowers. Unlike white clover, whitetip clover has purple flowers with white tips and flower heads that are less than 1 cm in diameter. Smallhead clover can be distinguished from white clover by the presence of hairs on the stems and foliage and flower heads that are less than 1 cm in diameter (Hultén 1968).



Trifolium repens L.

Similar species: White clover can be confused with eight other *Trifolium* species that are known or suspected to occur as non-native species in Alaska: golden clover (*Trifolium aureum*), field clover (*T. campestre*), suckling clover (*T. dubium*), alsike clover (*T. hybridum*), lupine clover (*T. lupinaster*), smallhead clover (*T. microcephalum*), red clover (*T. pratense*), and whitetip clover (*T. variegatum*). Unlike white clover, golden clover, field clover, and suckling clover have yellow flowers. Alsike clover can be distinguished from white clover by its primarily erect stems that do not root at the nodes. Red clover can be distinguished from white clover by the presence of primarily red flowers, hairs on the stems, foliage, and calyxes, and sessile flower heads that are subtended by pairs of leaves.



Flowers of *Trifolium repens* L.

Ecological Impact

Impact on community composition, structure, and interactions: White clover can rapidly invade and dominate vegetated and bare areas (Thorhallsdottir 1990). This species may delay the establishment of native species in disturbed areas. It is reported to be poisonous to cattle. It is an alternate host for alfalfa mosaic and pea mottle viruses (Royer and Dickinson 1999).

Impact on ecosystem processes: White clover alters soil conditions by fixing nitrogen (USDA 2002).

Biology and Invasive Potential

Reproductive potential: White clover reproduces sexually by seeds and vegetatively by creeping stems that root at the nodes. It is self-incompatible and is cross pollinated by insects. Plants produce a large number of seeds. Seeds can remain viable for 30 years.

Role of disturbance in establishment: In Alaska, white clover grows in recently disturbed areas (Densmore et al. 2001).

Potential for long-distance dispersal: Seeds lack specific adaptations for long-distance dispersal but are likely to be spread by the movement of animals.

Potential to be spread by human activity: White clover is often planted because of its ability to fix nitrogen and quickly stabilize soil.

Germination requirements: Seeds do not require cold-stratification to germinate. They germinate at temperatures of 10°C and above.

Growth requirements: White clover is adapted to fine- and medium-textured soils with pH levels from 6 to 7.5. It is shade intolerant. This species can withstand temperatures as low as -39.4°C. It requires 150 frost-free days to grow and reproduce successfully (USDA 2002).

Congeneric weeds: Eight other *Trifolium* species are known or suspected to occur as non-native species in Alaska: golden clover (*Trifolium aureum*), field clover (*T. campestre*), suckling clover (*T. dubium*), alsike clover (*T. hybridum*), lupine clover (*T. lupinaster*), smallhead clover (*T. microcephalum*), red clover (*T. pratense*), and whitetip clover (*T. variegatum*) (AKEPIC 2010). No *Trifolium* species are considered noxious weeds in the U.S. or Canada (USDA, NRCS 2006, Invaders 2010).

Legal Listings

Has not been declared noxious

References:

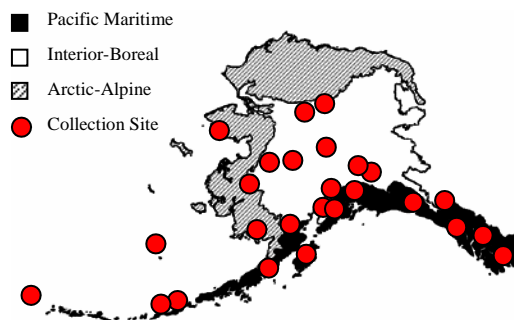
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- Listed noxious in Alaska
- Listed noxious by other states
- Federal noxious weed
- Listed noxious in Canada or other countries

Distribution and Abundance

White clover was commonly cultivated as a forage crop in Canada prior to 1749 (Royer and Dickinson 1999). It is a weed of waste areas, lawns, and ditches. It also grows in moist meadows in the yellow pine and spruce fir ranges of Arizona (Parker 1990).

Native and current distribution: White clover is native to Europe and Asia. Many populations have been found north of the Arctic Circle. This species has been introduced to Africa, North America, South America, New Zealand, Australia, Tasmania, and India (Hultén 1968). It is common throughout the U.S. and Canada. White clover has been documented from all three ecogeographic regions of Alaska (Hultén 1968, AKEPIC 2010, UAM 2010).



Distribution of white clover in Alaska

Management

Populations in Alaska are widespread and dense. Plants should be prevented from establishing in recently disturbed sites if possible. Several herbicides can be used to control white clover.

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