

Habitat: The species is adapted to a wide range of environmental conditions. It occurs in open grasslands, shrubby areas, open forest and logged areas, roadsides, waste areas, and abandoned fields. In abandoned fields, sulfur cinquefoil occurs in the earliest stages of succession until woody cover is present; it also grows forest margins, but it cannot survive under a full forest canopy (Werner and Soule 1976).

History: Sulfur cinquefoil was brought to North America from Europe, sometime before 1900. The exact date and location of the original introduction is not known (Werner and Soule 1976). By 1950, the plant was well established in the eastern U.S. and Canada, and the Great Lakes region. The plant spread west, and, by 1976, it was reported from Washington, Oregon, British Columbia, Alberta.

Growth and Development: Sulfur cinquefoil is a perennial that regenerates annually via new shoots emerging from the edges of the root mass; the central core of this mass slowly disintegrates. Therefore, long-lived plants consist of a circle of upright stems surrounding a core of old stems and leaves. The species flowers from June through July (Hitchcock and Cronquist 1961). There is some evidence that suggests that sulfur cinquefoil has the potential to form a persistent seed bank (Baskin and Baskin 1990).

Reproduction: This species reproduces by seed, but it can be spread by roots if they are moved by tillage or on soil-moving equipment (Callihan et al. 1991).

Response to Herbicides: Tordon (picloram) and 2,4-D Ester both provide effective control of cinquefoil without harming grasses (if applied at recommended rates). Ally (metsulfuron) will also control cinquefoil but may cause grass injury. Sulfur cinquefoil will re-establish within three to four years of herbicide treatment, so repeated applications would be needed for long-term herbicide control (Rice et al. 1991).

Response to Mechanical Methods: In productive areas, cultivation with annual crops will control sulfur cinquefoil. Hand pulling or chopping is also effective if care is taken to remove the root crown. Because the massive, woody root system stores extensive food reserves, mowing is not an effective control measure; the roots send up new shoots after mowing (Rice et al. 1991).

Biocontrol Potentials: Forty-seven species of insects are associated with sulfur cinquefoil in the northeastern U.S. These insects need to be investigated for biocontrol potential. However, because of the close genetic relationship between cinquefoils and strawberries, there is concern with bioagents attacking non-target plants (Batra 1979).

References:

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**References available from the Washington State Noxious Weed Control Board office in Kent.*