

## Category A—High

# Sulphur cinquefoil (*Potentilla recta* L.)

## Navajo Name

Azee tsoxíí

Chil di tsoxíí

## Origin

Native to the Mediterranean region and Eurasia

## Description

Sulphur cinquefoil is a perennial forb that grows to 3 feet tall. It has pale yellow flowers with heart-shaped petals and 5 enclosed sepals. Leaves are palmate with narrow oblong to lanceolate leaflets and serrate margins. Lower leaves have longer petioles, while upper leaves have short or no petiole and become less dense. The stems and undersides of the leaves have long stiff hairs. Plants have a woody taproot that rots at its core as the plant develops new shoots around the root perimeter. It starts as a rosette before flowering stems develop.

## Biology

Sulphur cinquefoil can reproduce by seed or from the formation of new root shoots. A single plant can produce 1,500 seeds, which disperse near the parent plant. Seed longevity varies, with seeds remaining viable for 2 to 4 years in soil. While young plants do have a taproot, its root shoots allow the plant to spread vegetatively. However, they do not form rhizomes. It prefers disturbed sites but can occur where healthy plant cover is present. It is mainly found in pastures, rangeland, and wildlands.

## Locations

No known populations have been detected on the Navajo Nation.

## Ecological Threat and Management Concerns

Sulphur cinquefoil is a prolific seeder and is not grazed by livestock as it has a high concentration of tannins (DiTomaso et al. 2013). It is also able to germinate and expand in areas where healthy native plant cover already exists. It can reduce forage and grazing capacity on rangelands and wildlife habitat.



Photo credit: R. Flogaus-Faust



Photo credit: S. Dewey, USU



Photo Credit: J.M. DiTomaso

## Key ID Tips

- Palmate leaves with serrate margins and thin leaflets.
- Stiff hairs under the leaves and along the stem.
- Pale yellow flowers with 5 heart-shaped petals.



Photo credit: USDA ARS

## Sulphur cinquefoil (*Potentilla rect. L*)

Additional safety measures and limitations may apply to each method. Refer to the [Navajo Nation Integrated Weed Management Plan](#) for more information.

### Mechanical/Manual Removal

Manual removal is feasible for small and scattered populations. Treatments should remove the entire root crown to prevent resprouting. Mowing is not effective as it can stimulate lateral root branching and regrowth. Plowing and tilling are not recommended as it can stimulate regrowth.

### Biological

No biological control organisms are available for use on the Navajo Nation.

### Cultural Control

Grazing is not recommended as most livestock do not find it palatable. There is also limited information on its response to fire and prescribed burning. Isolated studies indicate burning may not increase mortality and may increase regrowth. Since sulphur cinquefoil is not shade tolerant, restoration of overstory native plant communities can prevent establishment and reduce some populations.

### Chemical

Use of herbicides can be effective. Refer to the product labels for application rates, timing, and approved application methods.

Recommended herbicides include:

- 2,4-D
- Aminopyralid
- Picloram\*

\*Restricted Use by U.S. EPA

### References

DiTomaso, J.M., G.B. Kyser et al. 2013. *Weed Control in Natural Areas in the Western United States*. Weed Research and Information Center. University of California. 544 pp.

USDA, NRCS. 2023. PLANTS Database. Available at <https://plants.sc.egov.usda.gov/>. National Plant Data Team, Greensboro, NC 27401-4901 USA



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