

ANNUAL AGOSERIS

Agoseris heterophylla (Nutt.) Greene

Plant Symbol = AGHE2

Contributed by: USDA NRCS Idaho Plant Materials Center



Annual agoseris. Photo by Mrs. W.D. Bransford, Lady Bird Johnson Wildflower Center.

Alternate Names
None known.

Uses
Information on the use of annual agoseris is limited. It is used by sage grouse (Pyle, 1992) and a native bee (*Andrena cressonii cressonii*) has been documented as visiting annual agoseris (Stubbs and others, 1992). Perennial species of *Agoseris* (also referred to as

mountain dandelion) are known to be slightly or moderately grazed by cattle, horses and sheep (Forest Service, 1937).

Status

Please consult the PLANTS Web site and your State Department of Natural Resources for this plant's current status (e.g., threatened or endangered species, state noxious status, and wetland indicator values).

Description

General: Composite Family (Asteraceae). Annual agoseris is a native, tap-rooted, annual forb with milky juice. Stems are erect, 5-40 cm (1.97-15.75 in) tall. Leaves are mostly erect, margins glabrous or ciliate, usually oblanceolate to spatulate, 1-25 cm (0.39-9.84 in) long in a basal cluster. Leaf margins are entire or lobed and may be glabrous or densely hairy. Flower stalks elongate to 60 cm (24 in) after flowering and are glabrous or glabrate, or basally puberulent and apically hairy to tomentose, sometimes stipitate-glandular. Flowers are yellow. The seed is an achene with pappus bristles 4-9 mm (0.16-0.35 in) long (Flora of North America, Online). Chromosome number is $2n=18, 36$ (Jepson Manual, Online). *Agoseris* species are sometimes confused with closely related genera, notably the dandelion (*Taraxacum*) and smaller species of hawkbeard (*Crepis*) (Forest Service, 1937).

Distribution: Annual agoseris is found from New Mexico north to Montana (but not in Wyoming) and westward to the Pacific Coast states and British Columbia. For current distribution, please consult the Plant Profile page for this species on the PLANTS Web site.

Habitat: Annual agoseris is found on dry open lowlands and foothills with sagebrush/grass plant communities and mountain brush plant communities up to 7545 feet (2300 m) elevation (Jensen, 2007).

Adaptation

No general information on adaptation could be found. Annual agoseris is adapted to serpentine soils (parent material serpentinite) found in California which has a mottled, greenish-gray color with a waxy feel to it. These soils are lacking in nitrogen, phosphorus, and potassium; have low calcium to magnesium ratio; and often have high concentrations of heavy metals. No information could be found on minimum/maximum precipitation requirements, pH, etc. for annual agoseris.

Establishment

The competitive ability of annual agoseris may be limited since it has small seeds, germinates slowly, and is

relatively rare in the plant community. Early rains, followed by drought and then later rain may favor its germination as well as dispersal of seed by wind (Gulmon, 1992).

Management

Annual agoseris could be used as a minor component of restoration seed mixtures. Management strategies should be based on the key species in the established plant community. Grazing should be deferred on seeded lands for at least two growing seasons to allow for full stand establishment.

Pests and Potential Problems

Harvester ant (*Veromessor andrei*) and gopher activity may have a large impact on annual agoseris on California serpentine soils by their soil disturbance activities (Hobbs, 1985; Gulmon, 1992).

Environmental Concerns

Annual agoseris is a native forb that has limited competitive ability and does not pose any environmental concern to native plant communities.

Seed and Plant Production

There are approximately 1,297,000 seeds per pound (35 mg/100 seed) according to Gulmon (1992). Seed is harvested mid-June to first of July. Because the seed is naturally wind-dispersed and indeterminate, timing of harvest is critical. Achenes are mature when seedhead opens, requiring multiple harvests to maximize seed yield. Plants typically occur at low densities requiring hand collection. Larger chaff is removed by hand and seed is lightly rolled or rubbed between two boards to remove pappus. Final processing can be accomplished with a variety of air column or air screen seed cleaners (Jensen, 2007; Skinner, 2006).

Pre-planting treatments may vary based on ecotype and age of seed. Seed harvested from Nevada and stored for 2 ½ years was cold stratified (no details on temperature settings) for 3 weeks resulting in excellent germination and seed from same collection area stored for about 1 ½ years without cold treatment also resulted in excellent germination (Jensen, 2007). Seed harvested near Pullman, WA had best germination with 30 days cold stratification. Approximately 12 percent germination occurred without stratification (Skinner, 2006). Baskin and Baskin (2002) reported seed germination to be enhanced by the presence of charred wood or aqueous extracts of it. Seed is usually surface planted into soil-filled containers prior to cold treatment but can be stratified prior to planting (Skinner, 2006).

Germination occurs 3-6 days after plant containers are moved from cold treatment to greenhouse growing conditions. The active growing phase takes 2-3 months. Skinner (2006) indicated that viable seed will not be produced under greenhouse conditions and suggested that a pollinator is needed. Jensen (2007) was able to produce

18 grams of seed from plants on 30 square feet of greenhouse bench.

Because of the indeterminate seed head and fluffy characteristics of the achene, field-scale seed production is not practical with currently used production practices.

Cultivars, Improved, and Selected Materials (and area of origin)

There are no released materials of annual agoseris.

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