

LIMESTONE HAWKSBEARD

Crepis intermedia A. Gray

Plant Symbol = CRIN4

Contributed by: USDA NRCS Idaho Plant Materials Program



Limestone Hawksbeard. Photo by Mrs. W.D. Bransford, Lady Bird Johnson Wildflower Center.

Alternate Names

Common Alternate Names: *small-flower hawksbeard*, *grey hawksbeard*, *gray hawksbeard*

Uses

Wildlife: Hawksbeard leaves are consumed by pre-laying sage grouse hens and make up a large portion of their diet (Barnett and Crawford, 1994). Sage grouse chicks also feed on hawksbeard leaves in addition to insects attracted by the flowers (Drut, et al., 1994).

Although pollinators are not required for limestone hawksbeard to set seed, hawksbeard species attract both generalist bees as well as those that specialize on the

composite family. Moth larvae (*Sparganothis tunicana*) have been recorded feeding on limestone hawksbeard (Gilligan and Epstein, 2012).

All species of hawksbeard are favored by sheep (USDA, 1937). Ogle and Brazeel (2009) rate tapertip hawksbeard (*Crepis acuminata*) as preferred spring and summer forage for sheep and desirable spring and summer forage for cattle, horses, elk, deer and antelope. Because the two species of tapertip are closely related, limestone tapertip probably has nearly identical attributes for forage preference. There is no published information on forage quality of limestone hawksbeard, however, tapertip hawksbeard leaves contain approximately 30% crude protein, 0.78% calcium and 0.5% phosphorus (Barnett and Crawford, 1994).

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: Sunflower family (Asteraceae). Limestone hawksbeard is a native perennial forb with one or two stems arising from a taproot. Plants are 30-70cm tall and basal leaves are 10-40 cm long, pinnatifid, with a fairly broad, undivided midstrip and entire or dentate segments. Plants are densely or sparsely gray-tomentulose. There are 10-60 heads per plant that are 7-12 flowered. The involucre is 10-12 mm high, tomentulose-puberulent, and the outer bracts are less than half as long as the mostly 7 or 8 outer ones. The corollas are yellow, 14-30 mm long and the achenes are 5.5-9 mm long, mostly yellow or brownish with dusky white hairs 7-10 mm long. Limestone hawksbeard is wholly apomictic and polyploid. Chromosome number is $2n=33, 44, 55, 88$ which reflects the existence of polyploidy races within the species (Cronquist, et al., 1994; Flora of North America).

Limestone hawksbeard mostly reflects past hybridization with tapertip hawksbeard and largeflower hawksbeard (*C. occidentalis*) (Cronquist, et al., 1994).

Distribution: Limestone hawksbeard occurs in all western states from California, Oregon and Washington east to Montana, Wyoming, Colorado and New Mexico. For current distribution, please consult the Plant Profile page for this species on the PLANTS Web site.

Habitat: Limestone hawksbeard is found on open rocky ridges, dry slopes and open forests (Flora of North

America). There is no other published information regarding the site characteristics of limestone hawksbeard habitat.

Adaptation

Limestone hawksbeard is adapted to elevations ranging from 2,600-12,800 feet (Flora of North America). There is no other published information on adaptation for limestone hawksbeard but adaptation is probably similar as for tapertip hawksbeard. Tapertip hawksbeard grows on medium to coarse textured soils with a pH range of 6.0-7.8 and in annual precipitation zones of 8-20 inches (Tilley, et al., 2012).

Establishment

Information on establishment of limestone hawksbeard is limited. Shock, et al. (2011) reports there are 186.3 seeds per gram (84,580 seeds per pound) measured from a single seed collection. Seed weights for tapertip hawksbeard range from 100,000-261,000 seeds per pound (Tilley et al., 2012).

Based on the only published data on seed weight for limestone hawksbeard, the full seeding rate for 25 seeds per square foot is 13 pounds Pure Live Seed (PLS) per acre. When planted in a mixture, the seeding rate should be adjusted according to the desired proportion of the mix. Rangeland seeding should take place in the fall to allow the seed to overwinter. The seeding depth for tapertip hawksbeard is 0.25-0.50 inches (Tilley, et al., 2012) and is probably the same as for limestone hawksbeard.

Management

Limestone hawksbeard should be used as a minor component of seed mixtures. Management 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

There is no published information on pests and potential problems for limestone hawksbeard. Tapertip hawksbeard achenes are frequently found containing insect larvae and insect damage can significantly reduce seed yields (Tilley, et al., 2012) and is probably similar with limestone hawksbeard.

Environmental Concerns

Limestone hawksbeard is native to western North America. It is a natural component of the native flora and poses no environmental concerns.

Seed and Plant Production

The use of sand as a narrow band over seed planted in rows and the use of plastic row cover may be beneficial for stand establishment of limestone hawksbeard for seed production (Shock, et al., 2011). There is no other published information on seed and plant production of

limestone hawksbeard. Since it is similar to tapertip hawksbeard, the following information on tapertip hawksbeard probably pertains to limestone hawksbeard as well (Tilley, et al., 2012). Wildland stands of tapertip hawksbeard ripen from mid-June to mid-July. The presence of the fluffy dusky white pappus appears to be a good indication of seed ripeness. Harvesting seed prior to pappus expression dramatically increases the amount of non-viable seed. Seed can be harvested by hand-stripping and with racquets and hoppers.

Seed requires a substantial cold stratification for high germination rates. Non-stratified seed yielded 0 to 11 percent germination in trials conducted by the Aberdeen Plant Materials Center. In an unpublished study, highest germination rates (approximately 75 %) were obtained from 8 months of cold stratification at 1 ° C in moist peat moss. Seed can be sown into greenhouse flats at 0.65 to 1.3 cm (0.25 to 0.50 in) deep. Transplant success with both bare root and container stock is variable. The plants produce a long delicate tap root which is easily damaged during transplanting. Years to seed production from container stock is unknown (Tilley et al., 2012).

Tapertip hawksbeard poses numerous problems which prevent it from being commercially pursued by the native seed industry. Field establishment is difficult. It takes several years for established plants to produce seed and the species is prone to substantial seed damage from insects. Furthermore, tapertip hawksbeard flowers and ripens indeterminately, requiring multiple harvests for maximum seed yield (Tilley, et al., 2012). Limestone hawksbeard poses these same problems.

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

There are currently no releases of limestone hawksbeard and wildland collections are not available from commercial sources. Contract seed collection for small quantities is possible.

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