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Fact Sheet-03-44

Managing Common Crupina

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Common Crupina (*Crupina vulgaris*), native to the Mediterranean region of Europe, has invaded more than 63,000 acres of range and disturbed non-crop lands in California, Idaho, Oregon, and Washington. How it was first introduced into the United States is unknown, but it is now growing in a wide range of conditions and environments. Common crupina poses a threat to rangelands, native plant populations, agricultural livelihoods, and wildlife.

Identification

Common Crupina is an herbaceous annual in the sunflower (Asteraceae) family. The seedling's first two fleshy leaves (cotyledons) have a red or purple midrib (Fig. 1). Young basal leaves are egg-shaped, being broader near the tip, with edges that may or may not be slightly toothed. Older basal leaves and stem leaves are pinnately to bipinnately lobed, i.e., they have multiple leaflets on either side of the midvein. The short, stiff spines on the margins of lobes give the leaves a rough texture. Stem



Figure 1. Common crupina seedling with the red or purple midrib showing.

leaves are alternate, sessile (stalkless), and increasingly smaller toward the top of the stem (Fig. 2).



Figure 2. Mature common crupina plant.

A mature plant grows from one to three feet tall. It produces one main flowering stem that branches near the top into five to fifteen branches (Fig. 2). At the end of each

branch there are one to five flower heads produced. The slender flower heads are ½ inch long and have pink, lavender, or purple flowers (Fig. 3). The cone-shaped, black or silvery beige seeds are tapered to a blunt point and covered with fine hairs. The seed resembles a dry fly for fishing as it has a distinct ring of dark, stiff bristles that surround its wide end.



Figure 3. Mature common crupina flower head with purple petals.

Habitat

Common crupina can inhabit many moisture and temperature regimes and soil types. Thus, it becomes established across a wide range of habitats. In Idaho, Washington, California, and Oregon, common crupina is found in range and disturbed non-crop lands. It prefers well-drained, sandy or loamy soils and southern slopes on steep canyon grasslands. Also, it commonly grows along field edges, and in improved pastures, hayfields, and grass seed fields. It frequently infests gravel pits, roadsides, railroad embankments, and other rights-of-way.

Threat

Common crupina is expected to continue invading previously uninfested, disturbed areas throughout the western United States because it adapts well to a wide range of habitats. When it invades hay and grass seed fields, it contaminates the products from both, thus reducing their value and salability. It forms solid stands that can decrease forage productivity and livestock carrying capacity, as well as compete with native species. It is not toxic to livestock, but

animals tend to avoid it because the stems and leaves develop spines when they mature. Therefore, it is only palatable in the rosette and early stages of growth.

Wind may spread common crupina seeds up to five feet from the plant, rodents can carry seeds at least 50 feet away, and cattle and deer carry seeds on hooves and hair to even greater distances. Streams, rivers, and vehicles, especially recreational vehicles, also spread the seeds. Common crupina seeds can endure passage through the digestive system of cows, horses, upland game birds, and deer, but not sheep. It is not known whether or not seed passed by goats is viable. Livestock may transport seeds great distances before excreting them. The seeds remain viable in soil for at least 25 to 32 months, so transporting soil from infested to uninfested areas can spread this weed.

Weed Management Options

Prevention: Preventing the spread of common crupina into uninfested areas is the most important management goal for this species. It only reproduces by seed, so the possibility of eradication is higher than other noxious weeds that reproduce vegetatively from roots or stems. Knowing how its seed moves from site to site is essential to preventing new infestations. Long-distance spread is almost always connected to human activities, such as farming and ranching operations and recreational uses. However, seed dispersal by livestock and wildlife is very common over shorter distances. Horses and cattle should be removed from infested areas to avoid overgrazing of desirable species and potential seed distribution. If this is not possible, supplementing with weed-free feed until the animals can be moved may be necessary to avoid overgrazing. Use certified weed-free hay and quarantine animals associated with any infestation for four to five days to effectively prevent the spread of common crupina.

Mechanical Control: Hand-pulling, hoeing, or other tillage is not recommended

for large-scale infestations. These controls work best for small infestations. Tillage and hand pulling should be done repeatedly before the plant flowers. This requires that the area be checked every two to four weeks all spring and summer for at least three years following the last year the seed is produced. This prevents new plants from producing seed and extending the time required to control the infestation. Dispose of plants in a covered landfill or burn them so that mature seeds are not dispersed.

After the weed has begun producing seeds, do not use mowing as a control strategy because of an increased chance of seed dissemination.

Cultural Control: Competitive grasses can suppress common crupina and effectively resist invasion. The best grasses to use are those adapted to the target site. Maintaining a healthy, competitive grass stand is the best deterrent to invasion by this weed.

Biological Control: There are currently no insect or pathogenic biocontrol agents available for biological control of common crupina, but several potential species are being studied. Common crupina is rarely used for grazing, and is generally unpalatable to livestock. Overgrazing may increase common crupina infestations, so managing land to give desirable, competitive forage the upper hand is important.

Chemical Control: Control of common crupina in most infested sites has depended mainly on use of herbicides. Effective herbicides include clopyralid, 2,4-D, dicamba, and picloram. Treatment timing and application rate are important for effective control. Both pre- and post-emergent herbicides are available. Read and follow the label to successfully control common crupina.

Conclusion

Common crupina is adapted to a variety of conditions and capable of establishing solid stands. It reproduces by seeds that are

spread naturally and through human activities. Common crupina will continue to invade uninfested land throughout the western United States if efforts to prevent its spread and eradicate it where it is found are not made.

A combination of proper grazing management, selective use of selected herbicides, and revegetation with desirable, highly competitive species will provide the best long-term control of common crupina compared to any single methods of management practiced independently. Prevention is always the first course of action, and the spread of common crupina can be avoided by using land management practices that prevent its introduction.

References

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Photographs courtesy of *Weeds of the West*.

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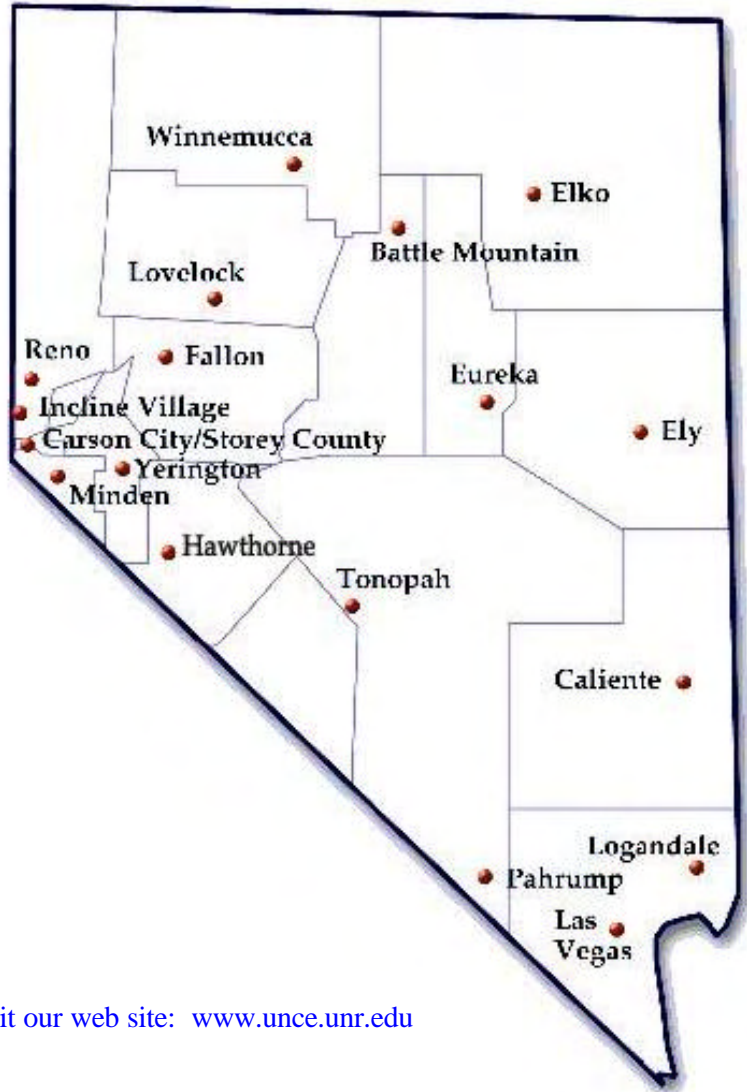
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