

Cultural Controls

Cultural controls seek to control weed problems by establishing desired plant species. Cultural techniques manipulate the plant community through cultivating (cutting through and turning over the soil), re-seeding, fertilizing and irrigating.



Cultural controls are most useful for ...

- Large restoration projects. Cultivating is often necessary to reduce the number of weed seeds in the soil before planting desirable plant species. Cultivating for a year prior to reseeded kills weeds that have sprouted since the last cultivation and progressively reduces the bank of weed seeds. *Cultivation is not usually appropriate for natural areas because cultivation causes major disruption of established plant communities, and renders them susceptible to weed infestation.*
- Re-establishing native plant communities on disturbed or depleted areas so desirable plants can prevent or reduce weed infestation. *Disturbances such as pipelines, temporary roads, and construction sites need to be re-seeded immediately once the work is completed.* The *Native Plant Revegetation Guide for Colorado* (Colorado Natural Areas Program 1998) discusses this subject in great detail and provides practical advice to landowners and land managers. Copies are available from the Colorado Natural Areas Program.



Cultural controls have limitations such as...

- Cultivating is not normally suitable for natural communities.
- Cultivating is appropriate only for restoration of drastically disturbed sites.
- Lack of seeds from locally adapted plants.
- Lack of seeds of certain native species, especially forbs and shrubs.

Pitfalls of cultural controls include:

- Seed mixes may be contaminated with weed seeds.
- Cultivation may result in wholesale germination and establishment of weed species if there is not adequate follow-up weed control.
- Temporary cover crops such as wheat, rye or barley used to reduce soil erosion must be mowed or grazed to eliminate their seed production.
- Promoting weed growth by adding unneeded nitrogen fertilizers. Native plant species are generally adapted to low-nitrogen conditions, while weed species are adapted to high-nitrogen conditions. Only add nitrogen fertilizer if tests show that soil nitrogen levels are insufficient to support native species.
- Common components of commercial seed mixes such as yellow sweetclover, smooth brome, and Kentucky bluegrass are often considered weeds in the context of natural lands and natural areas.
- Importing weed seeds on borrowed or rented equipment. You can reduce this risk by inspecting equipment before it enters your property or you can insist that the equipment must be cleaned first.

Cost of cultural controls:

- A typical cost of contracting out the cultivation of a 10-acre restoration area can range from about \$40 - \$100/acre, and may include a base fee for mobilizing equipment of something on the order of \$1000, assuming the equipment is available for hire locally.
- The cost of reseeded a construction site should be included in the cost of the project.
- The cost of seed is highly variable depending on species and availability. Common native perennial grasses commonly cost between \$3 - \$10 per pound. The cost of seed alone for reseeded an acre of land could vary from \$10 - \$50 per acre.
- A low-cost alternative to seeding is to use native (weed free) hay as a mulch and seed source.