



COOPERATIVE EXTENSION

Bringing the University to You

Fact Sheet: 99-79

Nevada's War on Weeds Steps to Success Step 5 –Avoid Exploding Weed Populations with Prevention and Early Detection

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Prevention is the least expensive and often the most practical method for controlling invasive weeds. If they never become established, you will not incur the tremendous economic and environmental costs of eradicating or containing an established infestation.

Prevention is to implement practices which keep invasive plant reproductive parts from being carried into an area and establishing.

Early detection is identifying and documenting the newly introduced invasive weed species in an area.

Eradication is employing appropriate management methods to totally remove infestations, including all reproductive potential, of an invasive weed species in an area.

To successfully prevent these initial establishments, we must understand how seed and/or plant parts are moved from location to location. We can then address methods of seed dispersal, the movement of plant parts and plant establishment, so we can interrupt these processes.

Does your program include provisions for prevention and early detection with immediate eradication from the following vectors:

1. Contaminated seed, feed grain, hay, erosion control materials such as straw or mulch?
2. Movement of uncleaned equipment or machinery from an invasive weed-contaminated area to a non-contaminated area? This includes equipment or machinery used for or by construction, recreation, agriculture, forestry, mining, tourism, fire crews, and oil and gas exploration and production, including all utility companies, contractors, and subcontractors.
3. Animals (domestic and wildlife) that have viable weed seed present in their digestive tract or attached to their hair or wool?
4. People who scatter wild birdseed contaminated with invasive weed seed, weed plant parts with viable seed, or who plant invasive weeds or seed for ornamentals?
5. Invasive weeds that produce seed along waterways?
6. Reclamation projects not clean of invasive weed plant parts and introduced invasive weed seed?
7. Gravel, sand for winter roads, roadfill, or topsoil contaminated with invasive weed seed or vegetative reproductive plant parts?

In addition prevention by avoiding seed distribution, strong competition from existing vegetation can prevent the establishment of a newly germinated weed seedling, therefore increasing the challenge to emigrant invasive weed seeds. While this action may not stop weed invasions, it certainly can help to slow their introduction and spread. Are areas disturbed (especially in or near rights-of-way or travel corridors) reclaimed with competitive vegetation to minimize the size and frequency of safe sites available for the establishment of weeds?

Every successful weed management program develops early detection methods and eradication plans for new invaders. This includes education and awareness programs where visitors and users of an area assist in locating and identifying new invading weed species.

One of the most important components of prevention is the detection of individual plants or small groups of plants after seed germination. The second is eradication before they produce seed or develop an established root system. During initial stages of infestation, the plants are all essentially "annuals". They are easiest to control at this stage. During future years, they grow deeper root systems and reproduce. With seed production comes the problem of controlling the infestation until the seed source and seed reserve in the soil is expended. That is the beginning of a long process since many seeds are viable for years.

In addition, progressive programs provide follow-up inspections to verify reports of new invading weed species. Furthermore, they initiate an eradication program upon confirmation of new invaders.

Specific Recommendations

The following specific recommendations for the prevention and early detection of the spread of invasive weed seed and plant parts are not comprehensive. You may come up with many other ideas. More stringent guidelines may be necessary in certain parts of a weed management area or for particular highly invasive weeds.

A. Ensure that seed, feed grains, hay, straw, and mulch are free of weed seeds and other reproductive plant parts.

Seed

- All seed should be certified and tested for noxious weed seed at a state seed laboratory.
- Develop clauses for disturbed site revegetation plans that include re-seeding only with weed free seed.

Mulches

- Develop contract clauses that do not allow any weed seed or reproductive plant parts in mulch.
- Certify mulch samples to meet standards prior to any placement of the mulch in the area.
- Use only certified weed-free hay or processed feeds for livestock.
- Require the use of processed or certified weed-free feeds on all public lands.
- Develop stipulations that will prevent weed-contaminated hay or processed feeds from being imported to or transported through the weed management area.
- Develop certification standards or quarantine programs to ensure the production and use of weed-free hay and other agronomic crops.

Feeds

- If animals are used in or are trailed through the weed management area, recommend the use of feed grains, hay, or straw processed into pellets prior to and during their stay in the weed management area. This process may inhibit the germination of weed seed or kill the vegetative plant parts. Feeding bagged, cubed, or pelleted feed also reduces waste, lowering the potential spread of weed-contaminated feed.
- Hold animals in a small weed-free feed environment, such as a corral, a minimum of three days prior to moving them into the weed management area. This allows the animals to clean their digestive tracts of weed seeds.
- Manage weed seed infested manure to avoid spread to clean areas.

B. Ensure that equipment and vehicles are free of weed seed and other reproductive plant parts prior to movement into the weed management area.

- Develop standards and follow proper guidelines to prevent the introduction of weeds by equipment and machinery used for or by:
 - Agriculture –Farming and ranching.
 - Construction, both commercial and private.
 - Fire Suppression.
 - Geothermal Exploration/Production.
 - Irrigation Ditch Companies.
 - Mining, especially Quarries.
 - Oil and Gas Exploration/Production.
 - Range and Wildlife Improvement Projects.
 - Recreation, Tourism, Hunting, and Fishing.
 - Right-of-way Construction and Maintenance.
 - Timbering and Forestry.
 - Utility Construction, Inspection, and Maintenance.
 - Fencing and other construction contractors

- Develop cooperative weed-prevention programs with the suppliers of sand, gravel, topsoil, and other construction materials to ensure that these materials are free of weed seed or reproductive plant parts before quarrying, mining, and/or transporting within or into the weed management area
- Develop stipulations in contracts that do not allow any weed seed to be present in the gravel or other material.
- Develop stipulations in timber sales contracts that do not allow any weed seed to be present in the revegetation mulch, seed, etc.
- Provide steam cleaning stations and offer to clean the above equipment or require that it be certified before movement from a weed infested site to another use area or from outside to inside the weed management area.

C. Educate people in the wide variety of seed transport methods. Explain that by picking and transporting plants or parts of plants, such as flowers, people may spread noxious weed seeds. Also make people aware that weed seed may stick to their clothing when walking through weed infested areas.

D. Work with city and county planning and zoning committees to include consideration for invasive weed management when developing or approving subdivision plans, special use permits, rights-of-way easements, or new leases. They can also help with the development of weed management on vacant lots.

E. Develop a weed management program whereby all landowners within the weed management area are working in a cooperative program that prevents weeds from producing seed.

F. Develop weed-awareness programs for local residents, fishing and hunting license holders, the visiting public, and staff members of the different county, state, and federal agencies.

G. Develop cooperative agreements with enforcement/inspection agencies to assist in the prevention of introduction of weed species into the area.

Weed-free Certification Programs

A weed-free certification program helps to ensure potential livestock feed purchasers that the hay and grains that they are purchasing are free of reproductive portions of invasive weed species. Usually the state Department of Agriculture of the state where the feed originated administers these programs. Occasionally other recognized groups or agencies have administered programs.

In some states such certification is conducted as a voluntary program. It is even used as part of a theft prevention program in some areas. The feed source is inspected as some point prior to processing where it can be determined by the inspecting individual that the feed is free of invasive weeds, root propagates, or other reproductive parts.

Nevada has no program of this type at present, but it is planned for the future as a voluntary program. California hay producers have requested assurance that Nevada hay is free of invasive weeds.