

after the fire



Seeding

CAUTION: After a fire many trees are weakened from burning around the base of the trunk. The trees can fall over or blow down without warning. Shallow-rooted trees can also fall. Therefore be extremely alert when around burned trees.

Why seed after a wildfire?

Loss of vegetation leaves land vulnerable to increased runoff, erosion, and sedimentation. It also encourages weeds; degrades habitat; and impairs forest regeneration. Re-establishment of permanent vegetation provides long-term erosion control, may restore lost habitat values, and may help suppress noxious weed invasion after a wildfire.

However it takes time and favorable climatic conditions to establish vegetation from seeding operations. Therefore it may be six months or a year before the full benefits of seeding are realized. Seeding must be combined with other land treatments, such as mulching, to provide an immediate erosion control benefit, and to assure the seed remains in place until it can germinate.

When is the right time to seed after a fire?

Seed grasses and forbs in late fall or winter (even if there are a few inches of snow). To improve the probability for a successful seeding, use a national or local weather services to time your seeding within 30 days of precipitation. The prime time to seed is immediately prior to the ground freezing. Trees or shrubs should be planted in the fall or early spring when plants are dormant.



What areas need to be seeded?

Severely burned sites should be seeded to decrease the likelihood of erosion and sediment movement down slopes, to discourage weed invasion, or to fulfill management objectives. The area to be seeded should have adequate soil to support vegetation. Seeding slopes steeper than 60 percent is difficult, and not especially effective for reestablishing permanent vegetation. These steep slopes may need the use of erosion control mats to keep soil and seed in place. These mats are expensive so use only on critical areas.

Vegetation in areas of light and moderate burn severity will recover on its own after a wildfire, and seeding perennial species is usually not necessary. Seeding a temporary species may provide some ground cover or reduce intrusion of weeds until the permanent vegetation can reestablish.

How should the seeding be done?

Most seeding are done by hand, use of self-propelled ground equipment, or by aircraft. Landowners can seed small areas using a hand-crank seed broadcaster. If there is access to the site and the slope is less than about 30 percent it is usually easier and more cost effective to seed areas larger than about 1-2 acres with broadcast seeders mounted on all terrain vehicles or tractors. Large contiguous areas lend themselves to aerial seeding, which can also be used on slopes that are too steep or otherwise inaccessible for use of ground equipment. Seeding included with a hydromulching operation should be considered when re-vegetation is essential to protecting high value properties immediately downstream of the area being treated. If fire seals or rain smooths soil surface, then it may be helpful for small areas to rake by hand and for larger areas to roughen up the surface mechanically (see *Mechanical Scarification*) prior to broadcast seeding, for improved success.

What variety of seeds should be used?

Perennial grasses and forbs are slower to establish, but provide long-term cover for reseeded sites. For example, slender wheatgrass is a native grass that establishes quickly and is moderately long-lived. Over time, as the slender wheatgrass begins to die out, other native species begin to fill in the site.

Small grains are useful when quick establishment is key; however, they only provide one year of protection. Revegetate with annual species where perennial grasses will recover naturally, including moderately burned sites with slopes greater than 15 percent. For severely burned areas it would be appropriate to include perennial species with the small annual grains. You should use certified seed of a known variety to get the best results. If a specified variety is not available, be sure the original seed (germplasm) source is within 200 miles north/south; 500 miles east/west; and 3,000 feet elevation of your property. Be sure seed does not contain any noxious weeds.

Most seeding recommendations are seed drilling rates expressed in terms of pounds of pure live seed (PLS) per acre ($PLS = \%Purity \times \%Germination$). Broadcast rates for burned areas should be at least double the drilling rates.



What variety of seeds should be used?

Contact the local NRCS, Extension Service, or conservation district office for recommended varieties and seeding rates.

What should be done along with the seeding?

Mulching will stabilize the soil surface to prevent movement of soil particles and loss of seed. Use straw or grass hay mulch. Apply mulch at 70 lbs/1,000 sq. ft. (about 43 bales per acre). Use weed free material. Do not fertilize the first year. Use netting to keep the mulch in place on small areas of steep slopes or erosion mats that act as mulch. Hydromulching and seeding is very expensive, but it can be accomplished in one operation. Maintain seeded areas by repairing any spots of failure with new seed and mulch if possible.