

Field Planting Considerations

4.1 Microsites

Microsites are spots on your planting area where conditions favor seedling survival and growth. Good microsites include the north and east sides of downed logs, stumps, or large rocks. Slight soil depressions or where logging debris provides some shade are also good planting spots. Avoid planting in ruts left by logging equipment, as well as skid trails and landings.

4.2 Proper Planting Techniques

Seedlings can be planted in either spring or fall. Fall-planted seedlings should go into the ground when enough soil moisture is available to support them, provided seedlings will have 6 to 8 weeks or so to grow roots before winter weather begins. Root growth makes them less likely to frost-heave and suffer from winter desiccation. Fall-planted seedlings have an extra advantage of beginning root growth in spring before you could typically plant. This extension of the growing season improves first year survival and growth.

In spring, seedlings should be planted when the ground has dried

enough. If the soil is too wet you may cause serious soil compaction and restrict seedling root growth. Here's an easy way to see if your soil is too wet: dig a hole, then shovel the soil back into the hole—if the soil doesn't fit back into the hole, it's too wet. If your seedlings were properly hardened, lifted, and stored, they will withstand frosts and snow after planting. The earlier you can plant, the better; early spring planting allows seedlings to take full advantage of the growing season and available water. See Figure 4.1 for proper planting techniques.

It's best to keep seedlings cool, shaded, and out of the wind right up until the moment you plant them. Remove only as many trees as you can plant in an hour or two. On the planting site, temporarily store seedlings in a snow bank or at least in deep shade. Don't set them in full sun and don't throw a tarp over them for shade. A tarp lying right on top of seedling boxes will actually make them warmer than being in direct sunlight. If you use a tarp, suspend it above the seedlings at least 3 feet, so air will circulate between the tarp and the seedlings. Proper on-site storage will help seedlings conserve carbohydrates necessary for vigorous growth in the field.

4.3 Controlling Weeds

Seedlings grow better when weeds are controlled because weeds out-compete seedlings for water and nutrients. When planting on recently-harvested sites, weeds generally aren't a major problem, although resprouting brush can limit seedling survival and growth. Converting former agricultural land to forest land is probably the worst-case scenario for weeds. Maintain at least a 3 feet by 3 feet weed-free square around your seedlings for at least the first 2 to 3 years; the longer the better. Weed-free zones can be accomplished with hand-weeding, herbicides, or fabric weed-barriers. Providing shade and mulches may also increase seedling survival and growth (Figure 4.2).

Several herbicides are registered for conifer seedlings. Before you use any, contact your local state forester, university county extension agent, or Natural Resources Conservation Service (NRCS) representative for information on the products currently available for your species. Always follow label directions to protect yourself, others, and the environment.

4.4 Controlling Animal Damage

Many critters eat seedlings. Small rodents like montane voles (meadow mice) and pocket gophers can quickly do serious and widespread damage to recently planting seedlings. Deer, elk, rabbits, and porcupines can also be troublesome on young seedlings and in young plantations. The best way to

protect seedlings from small rodents is with a solid barrier, either a plastic tube or a mesh-wire ring (Figures 4.2 & 4.3). Vole populations can also be reduced by natural predators like hawks and owls. Placing some wooden fence posts or larger “snags” around the planting site offers predatory birds a place to sit and hunt. Rodenticides are also available, but great care should be taken not to

accidentally poison non-target species like dogs, cats, hawks, and owls. Fencing also works well for deer and elk, but can be extremely expensive. A good discussion on fencing can be found in *Hardwood Plantations for the Inland Northwest*, available for \$3 from the University of Idaho, Idaho Forest, Wildlife and Range Experiment Station, Moscow, ID 83844-1130.

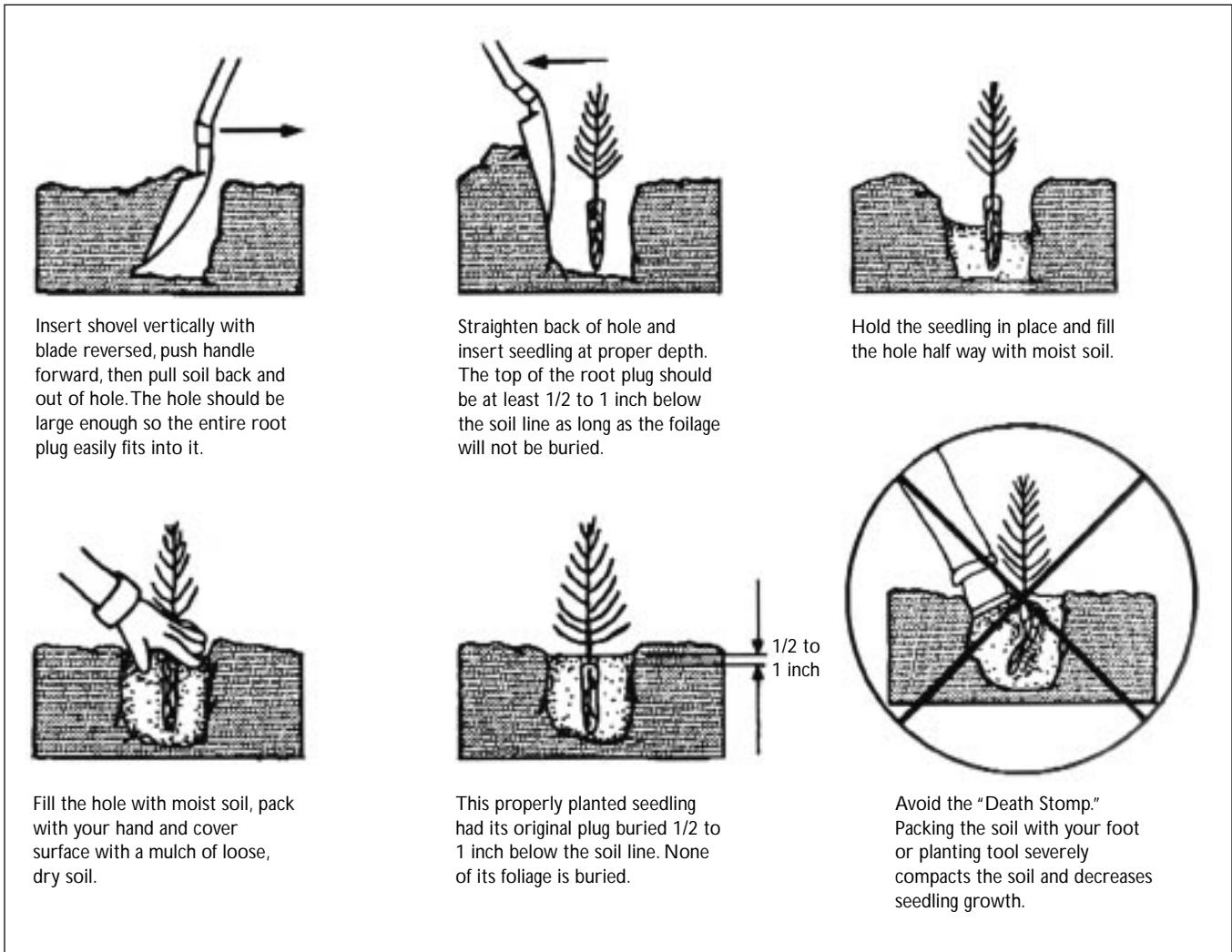


FIGURE 4.1

Proper planting technique.

Source: Dumroese, R.K.; Wenny, D.L.; Mahoney, R.L.: 1990. *Plant your container-grown seedlings right*. Moscow, Idaho: University of Idaho Cooperative Agricultural Extension Service, Current Information Series, No. 528. 4 p.

“Acts of creation are ordinarily reserved for gods and poets, but humbler folk may circumvent this restriction if they know how. To plant a pine, for example, one need be neither god nor poet; one need only own a shovel. By virtue of this curious loophole in the rules, any clodhopper may say: Let there be a tree—and there is one. If his back be strong and his shovel sharp, there may eventually be ten thousand. And in the seventh year he may lean upon his shovel, and look upon his trees, and find them good.”

Why is the shovel regarded as a symbol of drudgery? Perhaps because most shovels are dull. Certainly all drudges have dull shovels, but I am uncertain which of these two facts is cause and which effect. I only know that a good file, vigorously wielded, makes my shovel sing as it slices the mellow loam. I am told there is music in the sharp plane, the sharp chisel, and the sharp scalpel, but I hear it best in my shovel; it hums in my wrist as I plant a pine... ..It is well that the planting season comes only in spring, for moderation is best in all things, even shovels.”

Aldo Leopold, 1949

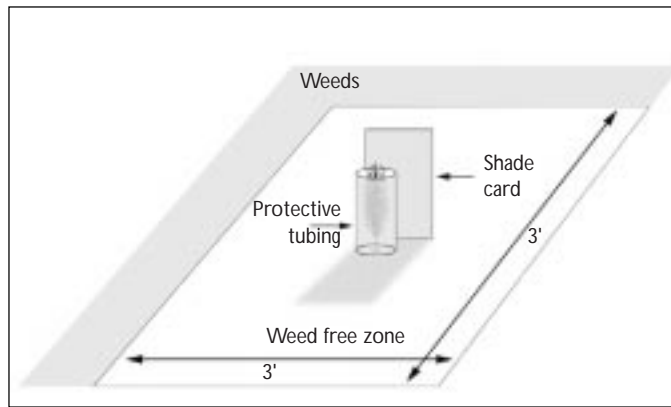


FIGURE 4.2

A properly planted seedling. Weeds are controlled with cultivation, herbicides, weed barriers, and/or mulches. A plastic tube prevents rodent damage. On very hot, south-facing planting sites, a shade card placed on the south and west sides of the seedling will provide shade and help conserve soil moisture. A good mulch will also help conserve soil moisture.



FIGURE 4.3

This 12-inch-tall plastic tree tube will prevent small rodents from eating this seedling, help prevent the foliage from drying out (especially on a windy site), and make a great barrier against sprayed herbicides or a string trimmer. Plus the seedling is easier to find when fitted with a tube.

