

direct seeding black cherry: Some Recommendations for the Allegheny Plateau

Reliable methods of direct seeding black cherry are needed to provide artificial regeneration on areas that do not restock naturally. Some suggested techniques are discussed in this article.

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Although much is yet to be learned, our studies show that direct seeded black cherry will attain heights of 8 feet or more in 4 years under favorable conditions. Proper seed handling, covering the seed with soil to about 1 1/2 inches, control of weed and grass competition, and protection from damage by deer are critical requirements for good establishment and growth.

Where to Sow

Direct seeding of black cherry is most successful in cutover forest areas of the mixed hardwood type. It is not always required after cutting. Many stands will regenerate naturally, especially those that have abundant advanced seedling regeneration established on the area before cutting. But in areas where advanced regeneration is lacking or sparse, natural regeneration may prove inadequate. If so, direct seeding of fast growing and valuable black cherry may be desirable.

Old abandoned fields or large forest openings that have grown up to grass and weeds should be avoided in direct seeding. Black cherry seedlings can be established on these sites, but will grow very slowly unless intensive measures are taken during the first several years to control grass and other forbs. Black cherry seedlings established in an old plowed field near Warren, Pa., in 1960 averaged only 18 inches in height after 7 growing seasons. Competition with weeds, plus a small amount of deer browsing on these unfenced plots, severely limited height growth. Under these old-field conditions, many years will be required to grow a pole-size stand of trees.

When to Sow

Either fall or spring sowing will result in good germination, if seed is sown early-late September to October 1, or late March to April 15. Any delay beyond these dates will result in reduced germination on the Allegheny Plateau.

Seed can be sown either before or after timber harvesting. Sowing before cutting saves time and effort, since no slash interferes with the operations. And seedlings

become established before grass and forbs have invaded the area.

What to Sow

Fresh seed, collected in September, should be cleaned of pulp and, for easier handling, surface dried. For fall planting, the seed should be sown immediately, because excessive drying will cause secondary dormancy and loss of viability.

For spring sowing, the cleaned and surface-dried seed should be placed immediately in sealed polyethylene bags and stored for 2 to 4 weeks at room temperature before storage in a refrigerator. The seed will need stratification in moist peat in early December to be prepared for sowing in late March or early April.

Fresh seed, cleaned of pulp, may be stored in a refrigerator for up to 3 years, thus making it possible to collect seed during good seed years for use later when seed crops may be poor.

How to Sow

Our studies have shown that seedbed cultivation is not necessary, but covering the seed with 1 1/2 inches of soil is necessary for good germination. Seed germination and seedling growth on unprepared seed spots have been equal to germination and growth made on spots rototilled or spaded to a 6-inch depth before sowing. Any method of sowing that will cover the seed with 1 1/2 inches of soil can be used, but the key to successful germination is sowing the seed *early* in the season.

A Panama seeder can be adapted for sowing black cherry seed spots. The seeder works best for fall sowing of surface-dry seeds. The moist seeds that have broken dormancy in spring after

stratification do not pass through the seeder as easily as do fall sown surface-dried seeds.

How Much to Sow

A minimum of four seeds per 1-foot diameter spot will provide adequate stocking. Seed spots sown in clusters, spaced 4 by 4 feet, will develop a closed canopy and will shade out most of the ground cover in about 4 years. The dominant seedling at each seed spot may average over eight feet after four growing seasons on good forest sites. The height growth of the dominant seedling will be equal to that of single seedlings spaced 4- by 4-feet, and its stem form usually will be better.

Another sowing technique is to use larger spots about 2 feet in diameter containing 9 to 12 seeds each, with very wide spacing between spots. Between-spot spacing of 15- by 15-feet will provide about 200 spots per acre-enough for a fully stocked stand. The large clusters of cherry in each spot tend to restrict grass development in the cluster and maintain good stem form without reducing growth of the dominant cherry appreciably. Natural regeneration between spots will help to maintain good stem form during the sapling stage. This method has the advantage of being faster and less expensive than normal seed-spot spacings.

How to Control Weeds

Because growth of black cherry seedlings is affected by grass and other forbs, competition from these plants should be kept to a minimum for 2 to 3 years. Weed competition can be controlled by cultivation, by using a mulch, or by using herbicides.

A mixture of Amizine and Dow

pon used as a direct spray around black cherry seedlings has given good weed control for one growing season. Seven pounds of Amizine and 4 pounds of Dowpon (active ingredients) per acre applied in June did not harm black cherry seedlings that germinated in late April. Treated seedlings grew higher than those untreated. For 100-percent weed control, the herbicide may need to be applied twice during the growing season.

A 4-inch sawdust mulch is also effective in controlling weeds around black cherry seedlings, but care must be taken to keep the mulch from touching young seedling stems. Tight contact of the mulch with young stems will often cause ground level lesions which are sometimes fatal to newly germinated seedlings.

How to Protect From Animals

On direct-seeding studies in clearcut regeneration areas, the loss of seed and seedlings to rodents has been minor. However, the black cherry seedlings must be protected from deer by fencing. On the Allegheny Plateau, deer will browse nearly all seedlings several times during the first growing season; and very few black cherry seedlings will grow above the deer browsing height-unless they are protected by fencing. The fence need only be temporary-protected cherry seedlings will grow above the reach of deer in about 5 years.

The only seedlings that escape browsing the first growing season are those that grow under dense tops of trees cut for harvesting. But this protection is only temporary, because most hardwood tops will disintegrate before the seedling terminals grow above the reach of deer.