Reforestation: Direct Seeding of Oak Acorns

Direct seeding is a low cost alternative for sites not practical for planting seedlings. For large acreages, purchasing of acorns from a reputable vendor is more desirable as acorns have already been tested for germination. Otherwise, collect acorns from parent trees with desirable physical characteristics such as straight and limb-free lower boles. Usually the first acorns to drop are defective. A few acorns from each parent tree should be cut and inspected in the field to determine if they are rotten, infested with insects or under-developed.

Inspection and Storage:

Immediately store collected and/or purchased acorns in a four-mill thick, polyethylene bag ("freezer" bags) at approximately 35 degrees. If they cannot be refrigerated immediately, it is best to transport them in paper bags to help prevent early sprouting. Maintain moisture of 40 - 45%, preferably in a humidified cooler. If cold storage is not available, bury bags 12” deep in the ground. Never leave acorns in a warm dry environment such as a heated building.

After a few days of storage, acorns should be put in water and "float-tested." Acorns with the highest risk of being defective will float. Since very small acorns -even good ones - sometimes float, a small sample of floaters should be cut and inspected. Unless inspected floaters prove to be non-defective, discard all floaters. If the acorns are then stored for any considerable length of time, re-bag them and include 1/4 teaspoon of a fungicidal powder such as Captan to deter molds or fungi. Properly stored acorns may remain viable for up to three years.

Site Selection:

To reduce animal predation on planted acorns, choose planting areas larger than two acres and preferably not surrounded by forest. Sites should be well-drained and free of heavy clay soils. See a professional forester for specific site requirements for each oak species.

Method and Equipment:

Sow acorns by hand or with modified agricultural planters. Sow three inches deep at approximately 1,500 acorns per acre. A spacing of about 3 x 10 feet should produce an adequate stand with space for between row weed control if needed.

Evaluation:

Expect 35% germination or about 500 seedlings per acre from direct seeding of oak. The initial growth rate is slower for this type reforestation. Determining success of germination may take 2-3 years.

Precaution:

These seedlings cannot tolerate strong herbicide rates for early weed control.