



DIRECT SEEDING OF SHRUBS

Forestry Technical Note No. 16

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WHAT IS DIRECT SEEDING?

Direct seeding is a method to establish woody shrub vegetation by planting shrub seed by hand or by mechanical methods. This technical note is intended to establish shrubby woody vegetation on agricultural land to improve wildlife habitat. To direct seed tree species consult FOTG Standard 996, Woodland Direct Seeding.

SPECIES SELECTION

Species selected will be adapted to the soil-site conditions and will be suitable for the planned purpose. Only viable, high quality seed will be used. It is recommended that the seed source be located within a 100 mile latitude of the planting site.

The following species may be used for direct seeding:

Common Name	Scientific Name	Soil ¹ Drainage	Seeds/oz. (Ave.)
Black Chokeberry	<i>Aronia melanocara</i>	SPD – WD	17250
Elderberry	<i>Sambucus canadensis</i>	VPD – WD	14500
Flowering Dogwood	<i>Cornus florida</i>	MWD - WD	281
Redbud	<i>Cercis canadensis</i>	MWD - WD	762
Red-osier Dogwood	<i>Cornus stolonifera</i>	VPD - WD	1160
Silky Dogwood	<i>Cornus amomum</i>	VPD - WD	762
Smooth Sumac	<i>Rhus glabra</i>	MWD – ED	3060

¹ VPD – very poorly drained, PD – poorly drained, SPD – somewhat poorly drained, MWD – moderately well drained, WD – well drained, ED – excessively drained

(Source: USDA Handbook No. 18, Soil Survey Manual October 1993.)

SEEDBED PREPARATION

Before seeding all competing vegetation should be eliminated using conventional tillage or systemic herbicides. Follow all local, state and federal guidelines and labels related to the use of pesticides. Consult the landowner or operator for potential herbicide carryover before direct seeding as soil applied herbicides may prevent seed germination. Cultipacking the tilled soil to firm the seedbed before and after the seeding is recommended. A no-till drill suitable for the species selected may also be used.

SEEDING HANDLING, SEED STORAGE AND SEEDING METHODS

Seed should be sown in the fall between September 15th and December 1st or stratified seed may be sown in the spring before May 15th. All seed will be planted under favorable soil site specific conditions. It is recommended that only clean seed be purchased. Store seed under refrigeration in plastic bags keeping the seed moist between seed purchase and planting or as directed by seller. If the seeding cannot be completed in the fall proper seed storage is critical to keep the seed viable for a spring seeding. For long term storage (more than 1 week) store seed moist under refrigeration between 34° and 40° F. Before planting allow seed to air dry.

Seed may be broadcast using a hand seeder, or planted using a drill. Seed should be carefully sown to insure that the proper rate is being used. If the seed is hand sown it should be covered using a cultipacker with care not to cover too deep. **In general seed should be planted no deeper than 1/4 inch. Black Chokeberry and Elderberry should be planted no deeper than 1/8 inch deep.**

SEEDING RATES

In most instances it is advisable to use a mixture of shrub species for a direct seeding. A mixture will enhance wildlife habitat by providing a variety of food types that will fruit at different times of the year. A mixture also has a better chance for success due to the variability of seed germination of the different species.

All direct seedings should have a nurse crop of wheat sown to help prevent frost heaving and for weed suppression. Before seeding the proper equipment must be selected as the larger seed may not go thru some drills. However, some newer drills with multiple seed boxes may be satisfactory. In addition a soybean drill or corn planter may work for the larger seeded species. When using a corn planter or soybean drill the small seeded species would need to be planted separately with a drill able to handle the smaller seeds.

For a mixed stand seed the following:

Common Name	Scientific Name	Seeding Rate oz./acre
Silky Dogwood	<i>Cornus amomum</i>	2
Black chokeberry	<i>Aronia melanocarpa</i>	0.5
*Elderberry	<i>Sambucus canadensis</i>	1
Winter wheat should be seeded for a nurse crop using 1 bushel/acre		
*Smooth Sumac (<i>Rhus glabra</i>) may be substituted on MWD – ED soils using 1 oz./acres		
*Flowering Dogwood (<i>Cornus florida</i>) may be substituted on MWD – WD soils using 5 oz./acre		

For a pure stand seed one of the following:

Common Name	Scientific Name	Seeding Rate oz./acre
Black Chokeberry	<i>Aronia melanocarpa</i>	2
Redbud	<i>Cercis canadensis</i>	3
Red-osier dogwood	<i>Cornus stolonifera</i>	3
Silky Dogwood	<i>Cornus amomum</i>	4
Winter wheat should be seeded for a nurse crop using 1 bushel/acre		

MAINTENANCE

To control weedy vegetation during shrub establishment mow high so newly emerged seedlings are not damaged. Spot treatment of herbicides or a rope wick applicator may also be used to control noxious weeds. Follow all local, state and federal guidelines and labels related to the use of pesticides.

REFERENCES

Schopmeyer, C. S., 1974. Seeds of Woody Plants in the United States, Agricultural Handbook No. 450.