

PLANTING TEMPORARY COVER CROPS

TECHNICAL GUIDANCE DOCUMENT

Document No.: WRG 5A-3

Publication Date: 10/4/2012

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INTRODUCTION

Temporary cover crops give flexibility in dealing with vegetation management issues and allow time for the soils and hydrology of the site to stabilize. Another use for temporary mixes is to provide short-term stabilization on sites where there has been disturbance but it is expected that the permanent vegetation will re-establish from the seedbank. This is more likely to be successful in the northern part of the state and in the central Anoka sand plain area where agriculture has not been as intensive and the seedbank is more likely intact. Temporary covers can also be used to stabilize areas that later will be inundated after hydrology is restored.

Temporary cover crops can replace the need for mulch before planting by stabilizing soils and providing thatch. Because temporary cover crops are rooted into the ground, they pose less risk of floating with rising water levels than mulches. There are added costs with the seeding of temporary cover crops, though these costs may be compensated by decreased future maintenance and mulching costs. Also, the cover crop can be harvested as part of the process.

It is common to plant a single cover crop such as oats, winter wheat, or other cereal crops, particularly if the crop will be harvested. There may be advantages to planting multiple species at once to ensure that a dense cover will establish even if there are varying soil and moisture conditions. Planting multiple species can also increase soil organic material by presenting a variety of root systems. The State of Minnesota has cover crop mixes that have been designed to provide temporary stabilization of projects.

APPLICATION

Cover crops are seeded with seed drills or by broadcast seeding followed by packing. The seedbed needs to be sufficiently prepared to ensure good seed-to-soil contact during planting. Temporary mixes can be seeded



Slough Grass, a common wetland cover crop

almost any time of the growing season; they perform poorly if seeded outside of the growing season. Winter wheat is an exception that is planted, and can germinate, in early fall and continue growing into late fall. If species such as oats are seeded in late fall, a low percentage of the seed will be viable in the spring. It is common to harvest temporary cover crops both to prevent seed production and to decrease plant height, which aids the use of seeding equipment. Additional mowing may be needed to reduce the height of stubble prior to seeding. In some cases stubble is disked into the soil to act as mulch, particularly when microhabitats are desired. It is important that a disk is used that will incorporate the mulch and not flip the soil, burying the cover crop stems.

Some perennial cover crops such as fowl bluegrass can be planted if a site will need to be stabilized for an extended period of time. Herbicide application and prescribed fire may be needed to decrease competition and thatch prior to seeding natives. Warm and cool season prairie grasses can be planted as cover in upland areas, particularly in sites where heavy broad-leaf weed competition is expected. Forbs can be added later following prescribed fire or, in some cases, minimal herbicide application to decrease grass competition and aid establishment .

OTHER CONSIDERATIONS

Temporary cover crops provide time to see if problematic species have been adequately controlled, allowing for additional site preparation before seeding. It is common to harvest cover species before the permanent native seed mixes are planted to prevent seed dispersal. Perennial temporary covers need herbicide treatment or disking to reduce competition with permanent mixes.

COSTS

The cost of planting temporary cover crops ranges from \$10 to \$50 per acre for installation and another \$5 to \$30 per acre for seed.

ADDITIONAL REFERENCES

State of Minnesota Seed Mixes: http://www.bwsr.state.mn.us/native_vegetation/index.html