

Banking on Beetles: A Snapshot View of Creating a Beetle Bank



Raising the Bank

Vince and Mary Alonis of Whistling Duck Farm in the Applegate Valley are committed to exchanging knowledge and experience of ecological farming, so it was no surprise when they decided to create an experimental beetle bank on their September 2005 Farmscaping for Beneficials Project (FSB) Farm Walk.

Ten participants representing four neighboring farms and one chef/community food educator came out to help raise the bed. To prepare the ground before breaking it Vince had irrigated and tilled the plot prior to the walk. On the far left you see Vince beginning his two directional plowing to raise the bed. He uses his one blade plow to make a row then carefully plows against that first row on his way back to make a raised bank that is approximately 18 inches by 195 feet and raised about one foot (middle picture). On the right Vince is running a rake over the bed to level and prepare the bank for seeding.



Grass Establishment

Whistling Duck's Beetle Bank was broken into three 65 foot beds, so that two different grass types and a mix could be tested. The picture on the left shows hand broadcasting the seeds at approximately 30 pounds an acre. Soil was raked over the seeds (middle photo). Next all the beds were mulched with ground wood chips (right photograph). The plots consisted of the following grasses:

-  Plot one: *Elymus trachycaulus* (slender wheatgrass)
-  Plot two: *E. trachycaulus* (slender wheat grass) and *E. glaucus* (blue wild rye)
-  Plot Three: *Elymus glaucus* (blue wild rye)

Farmers and FSB are selecting native bunch grasses to test from sustainably grown seed sources (see the table below). These have characteristics of quick establishment, good winter cover and tussock formation. None of the selected species will be invasive or aggressive weeds.

Common Name	Latin Name	Seeding Rate	Properties
CA Oat Grass	<i>Danthonia californicus</i>	plugs	Makes very good matted crowns in 2 nd -3 rd year-1 st year growth sparse. Can be difficult to establish. Has double or triple dormancy including a physical (dehulling) as well as physiological dormancy. Is a major component of upland prairies. Best to start as plug.
Blue Wild Rye	<i>Elymus glaucus</i>	15-30 #/A Or 90-120 plants/sq/ft	Grows fast, establishes well, 6' tall, stems upright, large crowns, shade tolerant.
Roemers Fescue	<i>Festuca roemerii</i>	15 - 30 #/A	Makes nice matted crowns, not long-lived. Prone to rust and slow to establish. Slight dormancy (cold stress) Found in hillslides and sunny areas of Oak Savannah.
Water Foxtail	<i>Alopecurus geniculatus</i>	15-30 #/A	Takes standing water, short plant (1-2 ft) barley-like compact head, creates lots of organic matter on crowns, will grow in drier areas.
Slender Wild Rye Slender Wheatgrass	<i>Elymus trachycaulus</i>	15-30#/A Or 90-120 plants/sq ft	Can tolerate summer drought, establishes quickly, forms good mats needs full sun.



Testing Bank Establishment

A major challenge to grass establishment of beetle banks in organic systems is weed management. Weed management methods being tested include:

-  hand cultivation
-  weed flaming
-  physical weed barriers
-  organic mulches
-  transplanting grass plugs in spring

The banks in the left photos will employ all the above methods. Here you see wheat straw mulch applied at 1.5-2 inches thick in the fall. The photo on the right is the first year's growth on a beetle bank of *Alopecurus geniculatus* (water foxtail) which was flamed in the spring and hand cultivated in the early summer. The beetle bank is on Persephone Farm in Lebanon, Oregon.



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