

SEEDS OF DIVERSITY



Iowa Department of Natural Resources Prairie Seed Harvest Team

September 2005

THE HARVEST SEASON

ONCE AGAIN, as the evenings begin to cool
The sun moves farther south
And the kids go back to school
The briskness of the morning
And the scents in the air
Tell us seeds are forming
In their cool, dry lair
The bugs have been busy
Pollinating fruit
Don't forget their importance
In this seed-producing loop
The combines are ready
For many trips across the field
And the dryers are waiting
For this year's bumper yield
When fall winds draw near
And seed begins to blow
It's time for this old cowboy
To get off his duff and go
HARVEST!!

By Eliot LaFollette



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IT'S HARVEST TIME AGAIN

Yes, it's harvest time again. Combine harvest, that is. Once again, one combine will be headed north to the Spirit Lake area. This machine will be used to harvest seed from state preserves and high quality remnants to return seed to areas adjacent to these sites. This harvest will require one to two weeks to complete, depending on weather and/or equipment malfunction. We will probably start around September 19th. From here, this machine will travel to Brushy Creek State Park where it will spend the rest of the harvest season combining North Zone Big bluestem, Indian grass, Canada wild rye, Side oats grama, and an amazingly diverse 80-acre field, frost-seeded in December of 2003. All of this seed will be distributed in North Zone..

The second machine has begun its season at Snake Creek Marsh. The Bays Branch Crew is assisting us with this harvest. In the spring of 2002, four, 7-acre fields of Central Zone seed were established. They contain Big bluestem, Little bluestem, Side oats grama, and Indian grass, respectively. In 2004, three more Central Zone fields, 8 acres each, were established containing Indian grass, Little bluestem, and Side oats grama, respectively. The 2002 fields were burned and fertilized this past spring. These fields appear to be heavy with seed. The Side oats grama is the first to go and the rest will soon follow.

Next the machine will travel to Dunbar Slough where it will combine Central Zone Indian grass and Virginia wild rye. Then it will travel to Bays Branch to pick up some additional Indian grass, and finally back to Snake Creek for Cave-in Rock Switchgrass. Except for Switchgrass, all of this seed will be for Central Zone distribution.

Later in September the Saylorville Crew will take over this machine, and harvest near Boone. Approximately 20 acres of South Zone Big bluestem and Indian grass will be harvested from the McCoy Wildlife area. All of this seed will be for South Zone distribution. A diverse planting in Ledges State Park will also be harvested for Central Zone distribution.

In the spring of 2005, approximately 40 acres of a short grass mix, harvested from the Ringgold Wildlife Area, was seeded at Brushy Creek. This should be producing seed for South Zone distribution as early as next year.

With just over 12 acres of garden under fabric and up to 75 forb species (depending on zone) in production, the garden harvest actually started in May with early bloomers. Each month as various species become ripe, they are harvested by hand, air dried and stored for air-screen cleaning later this fall and winter. However, the majority of these species are ripening right now as fall is approaching. Even with the use of inmate labor, and the cooperation of other government entities, as well as volunteers in some cases, it is very difficult to maximize production with Mother Nature as your rival, especially when hand-harvesting. Therefore in 2003, a plot combine was purchased that has been invaluable in harvesting species such as Gray-headed coneflower, Wild bergamot, Black-eyed Susans, Rattlesnake master, and Oxeye. These species are extremely time-consuming when picked by hand. This combine began its season on August 24th with Gray-headed coneflowers in the Adel Plot.

This is just a quick overview of this fall's harvest schedule. Everything seems to be happening a little bit early this year, but we are ready. Barring breakdowns and bad weather, we should have a great harvest. We'll catch you down the dusty trail.

Dodder—Friend or Foe?



Mark Wagner in Dodder at Jacob Krumm Nature Preserve, Jasper County, Iowa. Photograph by Katie Cantu.

Dodder, Genus *Cuscuta*, was in the Convolvulaceae (Morning Glory) family but has recently been placed in the Cuscutaceae (Dodder) family. It is an obligate, parasitic annual plant (completely dependent on a host plant for food, water, nutrients, and physical support) that grows on various other plant species including some of our natives. By putting roots (called haustoria) into the host plant stems, Dodder receives nearly all of its required energy and nutrients. Once it becomes attached, the roots are lost so there is no soil contact. An individual Dodder can parasitize several plants by growing and attaching to nearby suitable hosts.

Dodder seedlings have approximately 5-10 days in which to find a host plant; otherwise, they will die. Their stems are long and twining, yellow to orange, with an occasional tint of purple or red. They begin to grow counter clockwise intertwining in the host plants. Even though Dodder lacks leaves and chlorophyll, it is a flowering plant, with small flowers that vary in color from white to pink, and grow in clusters. In the United States there are 47 known species of *Cuscuta* with 8 native species in Iowa. Each *Cuscuta* species varies in the host plant it needs. Some of the host plants are *Salix* (willow), *Helianthus* (sunflower), *Solidago* (goldenrod), Aster, *Ribes* (gooseberry, current), and *Polygonum* (smartweeds). Dispersal of seeds can be by humans spreading the seed through soil movement, equipment, or mud attached to shoes and tires; livestock and wildlife; water, or seed mixed with other seed especially in a combined mix. (most likely)

It is seldom in the best interest for a parasitic plant to kill its host; therefore, even though Dodder infestation can be extensive, it usually only weakens the host plants. However, if Dodder makes many attachments to an individual host plant, that plant may die. Also, host plants can become more susceptible to disease and insect invasions with the presence of Dodder.

Although Dodder is usually referred to in the literature as a pest species, it is a natural component of prairie and can help limit some of the more aggressive species such as Saw-tooth sunflower, *Helianthus grosseserratus*. So if you see Dodder in your prairie planting, don't get rid of it; it belongs there.





Black Swallowtail, early instar



Black Swallowtail, preparing to shed its skin and expose pupa



Black Swallowtail pupa

Papilio polyxenes,
Black Swallowtail

This swallowtail is a butterfly of open areas, especially of disturbed habitats such as fields, meadows, even gardens and lawns. There are 2-3 broods per year flying April-October. Its larval food plants are members of the parsley family which includes many nonnative plants but also our native prairie plant, Golden Alexanders, *Zizia aurea*.



Black Swallowtail, female



Golden Alexanders, *Zizia Aurea*



2005-2006 PRAIRIE GRASS SEED UPDATE

WE'RE GROWING

<u>Brushy Creek Planting 2005</u>		<u>Ecotype</u>	<u>Harvest</u>
Prairie drop seed	2 acres	North	2006
Side oats	1 acre	North	2006
Little bluestem	38 acres	South	2006
Side oats	10 acres	Central	2006
Little bluestem	6 acres	Central	2006
Big bluestem	8 acres	Central	2006
June grass	1/2-1 acre	Central	2006

<u>Snake Creek Planting 2004</u>			<u>Harvest 1/2 Acres</u>
Side oats	10 acres	Central	2005
Little bluestem	10 acres	Central	2005
Indian grass	10 acres	Central	2005

Just to let you know our 2005 grass plantings were based even more on wildlife manager's needs. We're listening! We are trying to meet your needs for more short grasses in your native seed mixes with little bluestem and June grass slated to be planted next year.