Nursery News January 2014

## HERBICIDE FOCUS: FUSILADE DX

**A Post Emergent Herbicide for Grass Control in Tree Plantings**

*Jim Storandt, Griffith State Nursery Manager*

Grass competition can inhibit a young tree's growth by robbing the seedling of nutrients and soil moisture. Grass cover also provides habitat for rodents that may eventually girdle and severely damage young trees. It is recommended that grass competition in tree plantings be controlled for at least the first 2-4 years after planting. Grass competition can be controlled using a combination of several management tools including planting cover crops, mowing, applying pre- and post-emergent herbicides, to name a few. This article will discuss the use of Fusilade DX as a post emergent herbicide for controlling grasses in young tree plantings.

### Post Emergent Herbicide

Fusilade DX is a post emergent herbicide that will effectively control grass in planted trees. This chemical is most effective on grasses less than 6" in height and can be applied over the top of seedlings throughout the growing season. The grasses should be actively growing and not under any form of stress. We have been using this product in the nursery for many years and have never observed any damage on young seedlings. Band applying over the seedling rows will help reduce the amount of chemical used and save on chemical costs. Be patient because the chemical affects will not be observed for 8-10 days after the application.

Figure 1 Band application of Fusilade herbicide

Leaving the rows between the trees unsprayed will provide soil protection and help reduce erosion. The grass and other weed growth between the tree rows can be kept down with mowing. Mowing the alleys will reduce rodent habitat and make it easier for predators to locate the little critters.

Controlling grass in your planting will increase initial growth and result in the site being captured in fewer years. Always read and follow product labels and calibrate equipment when using pesticides. If your land was planted under the Conservation Reserve Program make sure you review the limitations on mowing during certain times of the growing season. Specific dates need to be avoided for mowing in order to protect ground nesting birds.

To review the product label visit
http://www.cdms.net/LDat/ld5UU008.pdf.
For the Material Safety Data Sheet (MSDS) click on
http://www.cdms.net/LDat/mp5UU039.pdf.

## SPECIES FOCUS: COMMON HACKBERRY

*Joe VandeHey, Wilson State Nursery Manager*

Common Hackberry, *Celtis occidentalis,* in the Elm family (*Ulmaceae),* is found throughout the eastern two thirds of the United States, as far west as Montana and Utah, and up into the eastern half of Canada. It is found throughout all of Wisconsin.


Figure 2 Common hackberry leaves and fruit

Common hackberry grows on a wide range of soil and topography. Although it grows best in moist soils near stream banks and on flood plains, it will grow on dry, less fertile soils. Common hackberry is moderate to fast growing depending on the site and is a relatively long lived species. It is a valuable species for wildlife communities providing shelter and fruit which persist throughout the winter. Hackberry supports a wide range of wildlife including deer, turkey, grouse, and a number of songbirds. Common hackberry is used for firewood, but is not usually valuable as a timber species. It is occasionally used for furniture with wood qualities similar to elm.

Figure 3 Hackberry bark

Common hackberry is a good species to include in floodplain and stream bank plantings. It will add diversity to the planting and be beneficial for wildlife. Although they are less tolerant of sites with high water tables, they do tolerate seasonal flooding and with a deep

root system provide excellent erosion control, especially on disturbed sites. The seedlings are relatively easy to establish in a tree planting as they tolerate heavy shading. Deer will browse the leaves when more desirable food sources are not available.

The state nursery program (http://dnr.wi.gov/topic/TreePlanting/) sells high quality common hackberry bare-root seedlings of seed sources adaptable to Wisconsin along with a variety of other species and age classes for reforestation and conservation purpose to serve Wisconsin landowner's planting needs and to create a woods of their own.

Contact the Wilson Nursery at 608-375-4123 if you are interested in purchasing common hackberry from the State Nursery Program.

For a USDA fact sheet, visit http://plants.usda.gov/core/profile?symbol=CEOC.


## FOREST HEALTH UPDATE: DIPLODIA

*Kyoko Scanlon, Forest Health Pathologist and Kristin Peterson, Forest Health LTE*

Since 2006, Forest Health staff has been testing asymptomatic red pine seedlings from the state nurseries to monitor Diplodia shoot blight caused by the fungus *Diplodia pinea*. The 2013 results again indicate asymptomatic infection rates continue to be consistently lower than the 10% threshold tolerance level established for management purposes.

Figure 4 (left) Phyllis Ziehr, forest health staff, cuts each red pine seedling into a two-inch segment for processing.

Figure 5 (right) Liz Wood, forest health staff, places the stem segments on media-containing culture plates under a sterile hood.

## EXPERIMENTAL ASPEN PROPAGATION A SUCCESS

*Roger Bohringer, Asst. Nursery Manager, Wilson State Nursery*

For years, demand for aspen seedlings has outpaced the nursery industry's ability to reliably produce them. Wisconsin's state nursery program had occasional successful plantings of aspen seed, but more often than not, the crop failed to germinate or the tiny seedlings were lost to the harsh sun immediately after germinating. "Weed" aspen often would appear in existing conifer and oak beds, where growing stock provided partial shade and a degree of mulch for the delicate aspen seedlings. These "weed" aspen would sometimes outnumber the intended seedling crop so the beds would be lifted and sold as aspen instead. This provided some stock to our customers, but not enough and inconsistently. The need for a more reliable production method led to numerous experiments over the years. Finally, one experiment may have potential.

Figures 6 One year aspen grown from root cuttings
Photos courtesy of Ron Overton, USFS

In spring 2013, approximately 100-200 large aspen "weeds" were culled from red and white oak as the stock crossed the grading belt. These seedlings were stored in the cooler until the end of shipping season. After the dust settled from the busy shipping season, the aspen were retrieved and methodically run through a paper cutter until all roots were reduced to 4" pieces. Tops also were cut into 4" lengths and kept separate from the roots.

A nursery bed at Wilson State Nursery in Boscobel, Wisconsin was rototilled and prepped for planting just as if it were to be seeded. Trenches 1.5"-2" deep were made with the Whitfield hardwood planter; no seed was dropped and the packing roller was removed. The root cuttings were then hand sown into the open trenches and covered with soil by hand. This was an operational experiment with modest expectations of success so our goal was to get done as quickly as possible with limited labor invested. Because of this, no effort was made to size the cuttings by caliper. Everything from hair thin roots to pencil size and greater was sown. The tops were also planted but separately from the root cuttings.

After sowing, frequent irrigation was used to keep the ground constantly moist and the first above ground shoots appeared in the root cutting beds about 3 weeks later. These rapidly grew and by late summer they were waist high. Several cuttings produced

multiple stems. From the limited amount we have dug, it appears that most of the trees were produced on approximately 1/8" diameter root cuttings. For future plantings, we plan to size the roots so we can determine the optimum size cutting. Stem cuttings did not fare as well as root cuttings. Most broke bud and produced leaves, but without the aid of a rooting compound, they failed to produce roots and died. The only exception was the lowest cutting from each stem that contained a root collar. These produced new roots and developed into vigorous seedlings, even though the roots had been completely removed.

Figures 7 One year aspen grown from root cuttings
Photos courtesy of Ron Overton, USFS

For more information on the aspen propagation experiment, contact Roger Bohringer at 608-485-1425.

## FREE SEEDLINGS FOR 4th GRADERS

Arbor Day is celebrated the last Friday in April in Wisconsin. To honor the celebration, the State Nursery Program annually provides free tree seedlings to fourth grade students. It's an educational opportunity designed to teach students the importance of trees within our environment. This year the seedling provided will be a white pine.

Teachers can place an order online until March 15th at http://dnr.wi.gov/topic/TreePlanting/arborForm.asp or by calling 715-424-3700. Arbor Day educational tools can be found on the department's EEK web page http://dnr.wi.gov/eek/.

## NURSERY YOUTUBE PRODUCTIONS

A DNR production advocating for tree planting recently went live on YouTube. Check out *Planting for our Future* at http://www.youtube.com/watch?v=vPoC0dlweLc.

## FEEDBACK FROM READERS: (Cover Crop Article)

Dennis Waterman
Waterman Forestry, LLC
waterdj@chibardun.net
715-458-2684

I read [Sue Crowley's] article in the [July 2013] *Nursery News* on cover crops and thought I would pass on our experiences with cover crops.

CRP planting on fertile, former ag fields posed many problems when trying to 2nd guess what chemical treatment(s) would be effective. I started using cover crops around 20 years ago in Barron County. We experimented with white clover, winter rye and winter wheat.

The idea behind the clover was that the hardwoods may be able to utilize the extra nitrogen fixed by the clover. We had some very good success and the hardwoods looked great on some sites, but we ran into problems, especially where turkey manure was spread on the site in previous years - the clover growth was phenomenal, with the dense growth burying/smothering the tree seedlings.

Winter rye was a better choice, but early mowing was mandatory to avoid lodging of the rye stems resulting in smothering of the tree seedlings.

Winter wheat provided the best and most consistent results. Spring planting of the wheat is an alternative if the previous crop is not harvested in time to establish the wheat in the fall. However, we found that fall planting (1 bushel per acre) provided an established cover crop the next spring preventing most weed growth. The tree seedlings can then be planted directly into the wheat, or a furrowing machine can be used such as depicted in your photograph. Since wheat stems are much shorter than rye and with the lighter seeding rate of 1 bushel per acre, we found that early mowing was not necessary since the competition from the wheat is minimal and there is little chance of lodging. In fact early mowing to retard seed production actually destroys an opportunity for future weed control.

We now recommend mowing between the rows of trees after the wheat seed has ripened (usually around mid-August). Why? Mowing encourages the germination and regrowth of another crop of wheat for weed control the 2nd growing season. Doing the same practice the 2nd year can sometimes result in additional weed control from wheat growth for a 3rd year. Mowing of the ripe seeds encourages the regrowth - sites not mowed will have limited regrowth the following year. My one fear was that leaving a crop of wheat kernels on the site could provide a large food supply for the buildup of the meadow vole population - luckily we never observed this problem.

It is our feeling that in most cases planting winter wheat on fertile farm sites is a cost effective, environmentally friendly and more reliable weed control than the use of herbicides.

*Nursery News* is published in January and July with the intent to keep individuals abreast of regeneration topics.

**State Nursery Program Contacts**

Griffith State Nursery (Wisconsin Rapids): Jim Storandt, Nursery Manager, 715-424-3702, james.storandt@wisconsin.gov
Wilson State Nursery (Boscobel): Joe VandeHey, Nursery Manager, 608-574-4904, joseph.vandehey@wisconsin.gov
Hayward State Nursery (Hayward): Ray Aguilera, Foreman, 715-492-1204, domingo.aguilera@wisconsin.gov

**Reforestation Monitoring Program:**

Jeremiah Auer, Griffith State Nursery (Wisconsin Rapids), 715-424-3700, jeremiah.auer@wisconsin.gov
Roger Bohringer, Wilson State Nursery (Boscobel), 608-485-1425, roger.bohringer@wisconsin.gov

**Send article suggestions, submissions or comments to:**

Nursery Team Leader (Eau Claire): Pat Murphy, 715-839-3760, patriciad.murphy@wisconsin.gov
**www.dnr.wi.gov**, search "tree planting"

**THE MISSION** of the State Nursery Program is to ensure a consistent supply of high quality seedlings, of desirable forest species, at an economical price, to encourage reforestation in Wisconsin.