Wisconsin Crop Manager

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# Video- Pigweed Identification Emphasizing Flowering Characteristics

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Pigweeds aren't going away anytime soon. In fact, Palmer amaranth and waterhemp are moving into new areas of Wisconsin where they previously did not exist.

We recently posted a new video that demonstrates how to differentiate flowering pigweed species. This video will display easy to spot differences in the male and female flowering structures of different pigweeds including: redroot pigweed, smooth pigweed, waterhemp, and Palmer amaranth.


While it is relatively easy to identify these species while in flower, realize that if you intend to control plants it is much more desirable to identify it when plants are young and vegetative (e.g. < 6 inches tall). A range of methods are available that are effective at controlling the plants and preventing seed production at this stage. Few options for effective control exist once plants are taller than this, especially when they are flowering.

As most people know, Palmer and waterhemp have been found to be really good at developing resistance to a range of herbicides. While many reasons exist for this like their dioecious nature and producing many seeds (Palmer can have up to 2 million seeds per plant) we need to try to limit the spread of these plants in Wisconsin. Unfortunately, we also need to realize that we don't have control of all of the pathways that may result in new infestations in Wisconsin.

We need to keep a vigilant eye out for new populations and eradicate them before they establish a large seedbank and impact our agronomic fields. To do this we need to become effective at identifying these different species. Previous resources created this year include:

- A vegetative identification video
- A waterhemp factsheet
- A Palmer amaranth factsheet

If you find a new population of palmer amaranth or waterhemp, please report it! Follow this link to the Report a Pigweed page on the Wisconsin First Detector Network website to learn more about pigweeds and how to report them or email us directly at reportapigweed@gmail.com.

# Herbicide Considerations for Cover Crop Establishment

Daniel H. Smith, Southwest Regional Specialist, Nutrient and Pest Management Program, Matt Ruark, Soil Science Extension Specialist, Department of Soil Science, Shawn Conley, State Soybean and Small Grains Specialist, Department of Agronomy, University of Wisconsin-Madison and University of Wisconsin Extension

Commonly applied corn and soybean residual herbicides have the potential to injure cover crops planted after the herbicide application. Residual herbicides have activity in the soil for a period of time after application, and may remain active after the cash crop is harvested. A wide range of management choices (tillage, residue management, herbicide application rate, timing, method, and active ingredient), soil properties (soil moisture, temperature, pH, and organic matter) and environmental conditions (temperature and precipitation between herbicide application and cover crop establishment) can affect the residual properties of the herbicide.

Cover crop injury will be dependent upon species sensitivity to the herbicide, application timing and rate, management choices, and environment conditions between herbicide application and cover crop establishment. Residual herbicide activity is often hard to predict prior to cover crop establishment and variable from one year to another.

## Cover Crops for Forage Use

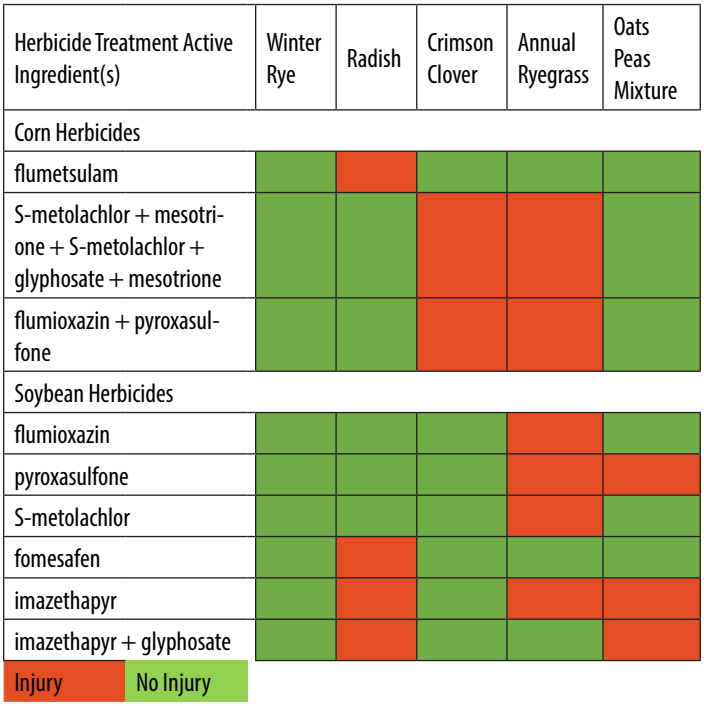
A crop is classified as a cover crop when no biomass is harvested. A cover crop becomes a forage crop when biomass is harvested for feed. A cover crop can be used for forage, however, most pesticide labels do not provide the plant back restriction time required from pesticide application to grazing or harvest for cover crops, only forage crops. If a cover crop will be planted later this cropping season, consider the rotational restrictions for any herbicides used in the field the past few seasons. Establishing a cover crop within this rotation restriction time period is allowed, however, the grower accepts a risk that the cover crop may not establish and will not be harvested for forage.

## Wisconsin Research

In 2013 and 2014 University of Wisconsin-Madison evaluated several common corn and soybean residual herbicides' impact on cover crops. The cover crops were established following silage harvest. All herbicides were applied at full-labeled rate and at the latest application timing.

- Results from this experiment indicate that risk of herbicide carryover injury is dependent on year, herbicide application rate, and cover crop species by herbicide combination.

**Summary of cover crop injury nine weeks after establishment at the Arlington Agricultural Research Station, Arlington, WI in 2013**




- In 2014, little to no carryover injury was seen to any of the cover crops. More precipitation events and warmer temperatures in 2014 likely led to greater pesticide dissipation and degradation.
- Risk of herbicide injury is present when residual herbicides are used in the cropping system, however, weather conditions from herbicide application until cover crop establishment will influence when and if injury occurs.

## Winter Rye

Research from several universities including University of Wisconsin-Madison has shown that winter rye is readily established following many residual herbicides used in corn and soybean cropping systems. Winter rye is one of the few cover crops that may be successfully established in Wisconsin following corn or soybean grain harvest.

Following grain harvest there is often not enough growing degree units left to justify many of the other cover crop species- as little growth and benefit will occur.

For more information on herbicide and cover crop interactions:
University of Missouri- http://weedscience.missouri.edu/extension/pdf/cover_crop_carryover_slideshow.pdf
Purdue University- https://ag.purdue.edu/btny/weedscience/Documents/covercropcarryover.pdf
Penn State- http://extension.psu.edu/plants/crops/soil-management/cover-crops/herbicide-persistence/herbicide-carryover-table
For more information on Wisconsin cover crop recommendations and research:
http://fyi.uwex.edu/covercrop/

For more information on cover crops and cover crop species selection:

http://mccc.msu.edu/

http://mccc.msu.edu/selector-tool/

## Timely Videos about Brown Stem Rot, Sudden Death Syndrome of Soybean

**Damon Smith, Ph.D, Assistant Professor, Plant Pathology**

Two short videos timely for telling the difference between the two diseases are linked here.

https://www.youtube.com/watch?v=-KWu9dPCDXY

In this video Damon Smith talks about **brown stem rot (BSR) of soybean**. BSR can be a significant problem in years where the spring is wet and cool resulting in infection by the fungus Phialophora gregata soon after emergence. However, BSR is often not noticed until the reproductive growth stages when foliar symptoms typically develop. The discussion here includes tips on spotting BSR, determining the difference between BSR and sudden death syndrome and how to manage the disease.

https://www.youtube.com/watch?v=DaDfQplrFxw

In this video Smith talks about **sudden death syndrome (SDS) of soybean**. SDS can be a significant problem in years where the spring is wet and cool resulting in infection by the fungus Fusarium virguliforme soon after emergence. However, SDS is often not noticed until the reproductive growth stages when foliar symptoms typically develop. The discussion here includes tips on spotting SDS, determining the difference between SDS and brown stem rot and how to manage the disease.

For more information about SDS visit the Soybean Plant Health Topics webpage at http://fyi.uwex.edu/fieldcroppathology/soybean_pests_diseases/ and scroll down.

## Corn Southern Rust Update – August 19, 2017

Damon L. Smith, Extension Field Crops Pathologist, University of Wisconsin-Madison

Southern rust of corn has been confirmed in Wisconsin by the University of Wisconsin-Madison Plant Disease Diagnostics Clinic. The sample came in from Kenosha Co. on August 18, 2017. This find is not entirely surprising considering the rapid movement of the southern rust pathogen from the southern U.S. to the northern U.S. this season. The latest southern rust map can be found at http://ext.ipipe.org.

For more information on southern rust, please see my previous post on the subject. You also should visit the Crop Protection Network Southern Rust information page where you can download a brand new fact sheet about southern rust on corn and management of the disease. Note that late planted corn will be more vulnerable to yield loss from the disease. Corn that is still silking (R1 growth stage) to milk (R3 growth stage) is vulnerable to yield loss by southern rust. Corn that is at the R4 (dough) growth stage or later is not as vulnerable and will likely not respond to a fungicide application. Even if corn is at a vulnerable growth stage, remember that we also have to have conducive weather for the pathogen. Extremely dry weather is not conducive for disease. High humidity and temperatures in the 80s favor disease increase.

Continue to scout and growth-stage your corn. If you find evidence of what you think is southern rust, I would encourage you to send it to the Plant Disease Diagnostics Clinic for confirmation.

This article is from Damon Smith's blog site at >>> http://fyi.uwex.edu/fieldcroppathology/

## Wisconsin DATCP Pest Bulletins, Aug 24 & 17, 2017

Krista Hamilton, Entomologist, Bureau of Plant Industry/ Division of Agricultural Resource Management, Wisconsin Department of Agriculture, Trade and Consumer Protection

**Volume 62 Issue No. 17** of the Wisconsin Pest Bulletin is now available at:

https://datcpservices.wisconsin.gov/pb/pdf/08-24-17.pdf

FORAGES & GRAINS: Potato leafhopper counts still well below threshold

CORN: Corn rootworm beetle counts the lowest in 46 years of surveys

SOYBEANS: Soybean aphid densities remain low in most fields

FRUITS: Large codling moth flights continue at a few orchard sites

VEGETABLES: More cases of late blight confirmed by UW

NURSERY & FOREST: Assorted reports from recent nursery inspections

**Volume 62 Issue No. 16** of the Wisconsin Pest Bulletin is now available at:

https://datcpservices.wisconsin.gov/pb/pdf/08-17-17.pdf

## WI Vegetable Crop Update No. 17- August 11, 2017

Amanda Gevens, Associate Professor & Extension Specialist, Potato & Vegetable Pathology, Plant Pathology Department

PDF >>> UWEX Vegetable Crop Updates Newsletter #17

Includes:

- late blight and early blight risks based on weather,
- late blight confirmations for WI and the US (WI confirmations now from Waukesha, Pierce, and Dane Counties, all US-23),
- cucurbit downy mildew (none yet in WI),
- onion downy mildew (first detection today in southeastern WI).

## UW/UWEX Plant Disease Diagnostic Clinic (PDDC) Update, August 18

Brian Hudelson, Sue Lueloff, John Lake and Ann Joy

The PDDC receives samples of many plant and soil samples from around the state. The following diseases/ disorders have been identified at the PDDC. The 8/18/17 PDDC Wisconsin Disease Almanac (i.e., weekly disease summary) is now available at PDDC-Summary-August 18, 2017

***All of the weekly reports are on the PDDC website at https://pddc.wisc.edu/wisconsin-disease-almanac-2017/***

## Wisconsin Fruit News-August 18, 2017

Janet van Zoeren and Christelle Guédot, UW-Extension

Please enjoy this issue of the Wisconsin Fruit Newsletter (http://go.wisc.edu/54qa68). This week you can read about:

* Insect Diagnostic Lab update
* Plant Disease Diagnostic Clinic update
* Honeyberries, Haskaps, Blue honeysuckle (Part II)
* Organic production and IPM guides available
* Cranberry degree-day map and update
* Powdery mildew in the vineyard
* Social wasps in vineyards
* Wine and table grape developmental stages
* Vineyard netting protection
* Revisiting the insecticide Assail
* Preventing Patulin in apples
* Apple maturity index report

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# UW-Madison/Extension
# Plant Disease Diagnostic Clinic (PDDC) Update

**Brian Hudelson, Sue Lueloff, John Lake and Ann Joy**

*The PDDC receives samples of many plant and soil samples from around the state. The following diseases/disorders have been identified at the PDDC from August 12, 2017 through August 18, 2017.*

| PLANT/SAMPLE TYPE | DISEASE/DISORDER | PATHOGEN | COUNTY |
|---|---|---|---|
| **BROAD LEAFED WOODY ORNAMENTALS** | | | |
| Burning Bush | Cytospora Canker | Cytospora sp. | La Crosse |
| Lilac (Japanese Tree) | Verticillium Wilt | Verticillium sp. | Dane |
| Maple (Silver) | Anthracnose | Discula sp. | Ozaukee |
| | Chlorosis | None | Ozaukee |
| | Tar Spot | Rhytisma sp. | Ozaukee |
| Maple (Unspecified) | Sphaeropsis Canker | Sphaeropsis sp. | La Crosse |
| Oak (Bur) | Bur Oak Blight | Tubakia iowensis | Dane |
| | Tubakia Leaf Spot | Tubakia dryina | Dane |
| Oak (Red) | Anthracnose | Discula sp. | Dane |
| | Oak Wilt | Ceratocystis fagacearum | Marathon |
| | Tubakia Leaf Spot | Tubakia dryina | Dane |
| Oak (Unspecified) | Anthracnose | Discula sp. | Dane |
| | Tubakia Leaf Spot | Tubakia dryina | Dane |
| Rose (Rugosa) | Black Spot | Marssonina rosae | Dane |
| | Chlorosis | None | Dane |
| Serviceberry | Coniothyrium Leaf Spot | Coniothyrium sp. | Eau Claire |
| | Entomosporium Leaf Spot | Entomosporium sp. | Eau Claire |
| **FIELD CROPS** | | | |
| Corn | Common Rust | Puccinia sorghi | Grant |
| Soybean | Brown Spot | Septoria glycines | Dodge |
| | Charcoal Rot | Macrophomina phaseolina | Dodge |
| | Fusarium Root Rot | Fusarium oxysporum | Dodge |
| | Tobacco Streak | Tobacco streak virus | Dodge |

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| ***FRUIT CROPS*** | | | |
| *Apple* | *Apple Scab* | *Venturia inaequalis* | *Eau Claire* |
| | *Blister Spot* | *Pseudomonas syringae pv. papulans* | *Lafayette* |
| | *Root/Crown Rot* | *Phytophthora sp.* | *Dane* |
| ***HERBACEOUS ORNAMENTALS*** | | | |
| *Coneflower (Purple)* | *Verticillium Wilt* | *Verticillium sp.* | *Dane* |
| *Creeping Jenny* | *Southern Blight* | *Sclerotium rolfsii* | *Winnebago* |
| *Gladiolus* | *Corm Rot* | *Penicillium sp., Fusarium sp.* | *Jackson* |
| | *Mild Mosaic* | *Bean yellows mosaic virus* | *Jackson* |
| *Zinnia* | *Xanthomonas Leaf Spot* | *Xanthomonas sp.* | *Grant* |
| ***NEEDLED WOODY ORNAMENTALS*** | | | |
| *Spruce (Blue)* | *Stigmina Needle Cast* | *Stigmina sp.* | *Dane* |
| *Spruce (Norway)* | *Rhizosphaera Needle Cast* | *Rhizosphaera kalkhoffii* | *Waukesha* |
| ***VEGETABLE CROPS*** | | | |
| *Celery* | *Cucumber Mosaic* | *Cucumber mosaic virus* | *Dane* |
| *Cucumber* | *Bacterial Wilt* | *Erwinia tracheiphila* | *Dubuque (IA)* |
| *Parsley* | *Cercosporoid Leaf Blight* | *Passalora punctum* | *Lafayette* |
| *Potato* | *Early Blight* | *Alternaria solani* | *Portage* |
| *Pumpkin* | *Bacterial Leaf Spot* | *Xanthomonas campestris* | *Dubuque (IA)* |
| | *Gummy Stem Blight* | *Phoma cucurbitacearum* | *Waushara* |
| | *Plectosporium Blight* | *Plectosphaerella cucumerina (Plectosporium tabacinum)* | *Waushara* |
| *Tomato* | *Bacterial Speck* | *Pseudomonas syringae pv. tomato* | *Dane, Lafayette* |
| | *Early Blight* | *Alternaria solani* | *Marquette* |
| | *Late Blight* | *Phytophthora infestans* | *Jefferson* |
| | *Septoria Leaf Spot* | *Septoria lycopersici* | *Dane, La Crosse, Marathon, Marquette* |
| *Watermelon* | *Bacterial Leaf Spot* | *Xanthomonas sp.* | *Waushara* |

| | | | |
|---|---|---|---|
| ***SPECIALTY CROPS*** | | | |
| *Hop* | *Apple Mosaic* | *Apple Mosaic Virus* | *Dane* |
| | *Phoma Leaf Spot* | *Phoma sp.* | *Dane* |
| | *Unidentified Carlavirus Disease* | *Unidentified carlavirus* | *Dane* |

*For additional information on plant diseases and their control, visit the PDDC website at pddc.wisc.edu. Follow the clinic on Facebook and Twitter @UWPDDC.*