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Field Crop Advisory Team Alert

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Last issue for 2010

This is the final issue for the 2010 season of the *Field Crop CAT Alert* newsletter. Included in this issue is an index of articles to help guide readers through the topics covered this year. *MSUE* educators and specialists have worked hard to inform readers about current issues and crop production throughout the last few months.

We will continue to publish timely articles at the Field Crop CAT Alert web site: <http://ipmnews.msu.edu/fieldcrop/>. Interested in staying informed via email notification? Send an email to catalert@msu.edu with your full name and note that you wish to subscribe to the fruit edition.

We love to hear feedback from our readers. Do you have a comment or suggestion? Please send it to catalert@msu.edu or mail it to the address on the back of this newsletter. Indicate whether you are referring to our fruit, vegetable, field crop or landscape edition.

This is our last issue with assistant editor Andrea Gooch. We wish her well at her new job in Kalamazoo and will miss her excellent skills here at the MSU IPM Program.

Thank you. - Joy Landis, editor and Andrea Gooch, asst. editor

Dodder: A potential new weed problem

Christy Sprague, Crop and Soil Sciences

Recently, the parasitic weed dodder was found in a Michigan field that was frost seeded to clover. Dodder (*Cuscuta spp.*) is a parasitic weed that is rarely found in Michigan. This annual plant is a true parasitic weed that extracts water, nutrients, and carbohydrates from the host plant. Dodder resembles orange or yellow "string" that grows extensively across and around affected plants (Photo 1). Dodder reproduces by seed that develops in small clusters of white to pink flowers that are reported to show up early in the spring. This hard coated seed has been reported to survive in the soil for up to 60 years. When the seed germinates, it produces an ineffective root that can only support the dodder seedling for a couple of days. Seedling survival is dependent



Photo 1. Dodder resembles orange or yellow "string" that grows extensively across and around affected plants.

on the availability and proximity (within 1 to 3 inches) of a host plant. Upon germination, dodder seedlings are in search of suitable hosts. When in contact

with a host, the dodder seedlings coil counter-clockwise around the host plant (Photo 2). Dodder then produces small sucking appendages known as “haustoria” that penetrate the host plant to extract water, nutrients and carbohydrates from that host, the small initial root of dodder then dies. It has been reported that dodder can grow up to three inches per day, continually producing new haustoria that drain nutrients from the host plant. Dodder infestations can reduce yield and weaken host plants making them more susceptible to other pests and diseases that may eventually kill the host.

Dodder has many crop hosts including: clover, alfalfa, sugarbeet,

soybean, dry bean, potato, and tomato to name a few. Several broadleaf weeds have also been reported to be hosts of dodder. Grass species including corn have been reported to be non-hosts. Once dodder is identified in a field, it should be quickly removed before it produces seed. We have little experience with control of dodder, since it is a relatively rare occurrence in Michigan. Glyphosate has been reported to provide some control of dodder; however, this has been reported when glyphosate has killed the host plant. In searching the literature, I haven’t been able to find out how control of dodder is in Roundup Ready (glyphosate-resistant) crops, when the crop



Photo 2. Dodder seedlings coil counter-clockwise around the host plant.

is able to tolerate glyphosate applications. If you find dodder in any of your fields this fall or next spring, please contact your local extension agent or myself at sprague1@msu.edu. **IPM**

Free screening for glyphosate-resistant weeds in Michigan

Christy Sprague, Crop and Soil Sciences

Glyphosate-resistant weeds are a growing concern for Michigan producers. Horseweed (marestail) was first reported resistant to glyphosate in 2007 in Michigan. While glyphosate-resistance has been fairly limited in Michigan, bordering states have reported widespread resistance of horseweed and giant ragweed and more localized glyphosate-resistance of common ragweed and waterhemp. Confirming herbicide-resistant weed populations is the first step of any resistance management program. Verification will provide producers with the knowledge to implement the best possible management strategies with the ultimate goal of preventing or limiting the spread of herbicide-resistant weeds. Glyphosate offers Michigan growers many benefits and is used frequently in several

crops. The high frequency of use in glyphosate-resistant (Roundup Ready) corn, soybean and sugarbeet increases the selection pressure for glyphosate-resistant weeds. If glyphosate-resistant weeds become wide-spread in Michigan, this technology’s usefulness is at risk. [Diagnostic Services](#) at Michigan State University has conducted and will continue to conduct free glyphosate-resistance screening for Michigan growers. This free glyphosate-resistance screening has been funded by the [Michigan Soybean Promotion Committee](#) through the Michigan soybean checkoff program.

If you think that you have a glyphosate-resistant weed species, please consider submitting a sample to MSU Diagnostic Services, 101

Center for Integrated Plant Systems, East Lansing, Michigan 48824 (attn: Christy Sprague) or contact your local extension office. Samples will also be screened for ALS- and triazine-resistance. Sampling consists of collecting seedheads from mature suspected-resistant plants. Clip off several seedheads and place them in a paper bag.

Note: both common and giant ragweed seeds are found in the leaf axils. They are not found at the very top of the plant. Please use Diagnostic Services sample submittal forms when sending in samples. If you have any questions about field criteria or seedhead collection, please contact Christy Sprague at 517-355-0271 x.1224 or sprague1@msu.edu. **IPM**

Testing for soybean sudden death syndrome (SDS)

Martin Chilvers, Plant Pathology

Soybean sudden death syndrome (SDS) has been prevalent this year

in Michigan and across the north central states. So far in 2010, SDS

has been identified in an additional six Michigan counties, bringing

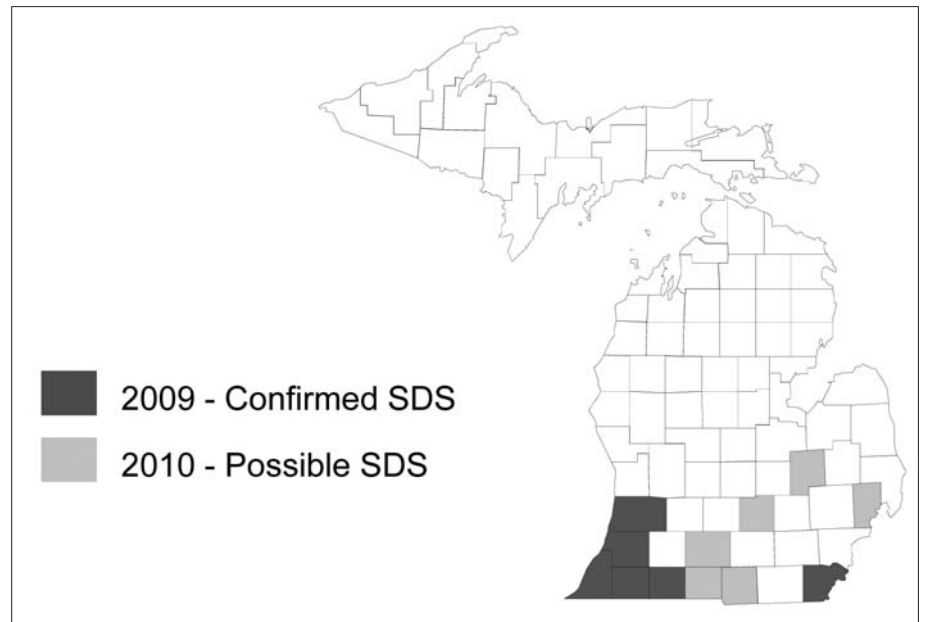
the total number of counties with confirmed SDS to 12. SDS is predominantly found across the south of the state but has been observed as far north as Genesee County (Figure 1).

The first step in managing the disease is to identify the problem. Although it is now becoming difficult to identify SDS symptoms, it is not too late to submit suspect plants or report locations for testing. It can be difficult to distinguish SDS from other diseases such as brown stem rot, so it is recommended that a sample be submitted for lab testing.

As part of a funded project jointly funded by [MSPC](#) and [Project GREEN](#), we are offering free testing of suspect samples. Samples submitted for SDS testing will allow us to determine the extent of SDS spread and to collect isolates to assess the diversity and aggressiveness of the fungus, which will ultimately facilitate the development of resistant varieties and improved management options.

Please include entire plants in your shipment. Do not wash roots, but if necessary shake off excess soil. To prevent soil from touching the foliage, roots can be placed into a separate plastic bag and secured

Figure 1: Distribution of SDS on soybeans in Michigan, indicated in red *Fusarium virguliforme* was confirmed in 2009 with cultural and molecular techniques, in orange SDS samples collected in 2010.



at the soil line with a rubber band. Alternatively, you may provide a location from which we can sample. Please include grower name and contact details as well as detailed directions, crossroads or address preferably with GPS coordinates.

Samples or location details can be sent to Martin Chilvers, 34 Plant Biology building, 178 Wilson Rd,

East Lansing, Michigan 48823. Email chilvers@msu.edu, phone 517-353-9967 or fax 517-353-1781.

For further information, read the Field CAT Alert article from July 29: [Soybean sudden death syndrome \(SDS\) - *Fusarium virguliforme* \(<http://bit.ly/soybeansds>\)](#). **IPM**

Northern stem canker

Martin Chilvers, Plant Pathology

Over the last couple of weeks dead soybean plants with petioles and leaves still attached have been noted in some fields. Northern stem canker caused by the fungus *Diaporthe phaseolorum* var. *caulivora* has been identified as a potential causal agent.

At this stage of plant maturity, it can be difficult to easily identify the cause of disease. Phytophthora stem rot can easily be confused with Northern stem canker. One of the key differences is the location of lesions. Phytophthora will produce

a brown to black lesion on the stem that initiates from below the soil line, while northern stem canker will produce lesions that initiate around nodes, appear sunken and may girdle the stem. Check the roots, plants with Phytophthora rot will have rotten and reduced root mass, while those infected with northern stem canker will appear healthy.

Northern stem canker produced severe yield losses back in the 1950's across the North Central region, it was controlled by the introduction of resistant varieties,

but there are reports that it is on the rise. For disease management, use resistant or moderately resistant cultivars, seed treatments as the pathogen is seed transmissible, and tillage may also be beneficial.

For further information, visit these sites:

- www.planthealth.info/stem-canker_basics.htm
- <http://ipcm.wisc.edu/WCMNews/tabid/53/EntryId/671/Stem-canker-and-charcoal-rot-in-soybeans.aspx>

IPM



I – Southeast

Ned Birkey

Weather

It is still summery even though fall started last night. It was 90°F degrees in Monroe on Tuesday and near 90 is forecast again for today. Some welcome rain fell on Wednesday, one of the few general rains to reach southeast Michigan since late July.

Crop report

Alfalfa fourth cutting is over for the commercial farmers with the hobby farmers cutting now. Several fields of new stands were seeded this late summer. Hay prices are in their usual summer lull.

Corn harvest has started with some farmers reporting moistures below 20 percent. Early reports

are of highly variable yields, up to 243 bushels at one National Corn Grower entry field. Anthracnose caused early die back of many fields, and now farmers are worried about stalk rots and windy weather causing lodging. Corn planting stretched from April until June, so it will be interesting to see how variable the yields end up. The extremely dry August and September has resulted in lighter kernel weights and test weights. Corn silage harvest is nearing completion with generally good tonnage. \$4.75 cash corn last Saturday and even \$4 corn for 2011 has farmers encouraged. Giant ragweeds are taller than the corn in some fields.

Soybean harvest is perhaps 75 percent completed in Monroe County, whereas Washtenaw County is just getting started. Moistures were down to 9 percent even two weeks ago when harvest of early maturing varieties began. Yields are variable, but generally lower than expected with generally small seed size. Prices have improved in recent weeks with \$10-plus beans for 2010 and even 2011.

Wheat planting started this week, even though it is about

one week earlier than the MSU recommendation of seeding seven to 10 days after the Hessian fly free date, which was September 21 for Monroe County and September 19 for Washtenaw County. It has been extremely difficult to keep farmers out of the fields to start seeding. Wheat seed supplies are down to almost nothing left to buy. Several farmers have sold some \$7 wheat for next July. The terminal elevators have millions of bushels in storage, and wheat may be substituted for feed corn if corn supplies are rationed by higher prices.

Miscellaneous

The MSU Corn Variety Trial is signed and farmers can view the observation replication. The plot is located north of Milan on Judd Road, east of McClure Road at the Matt Talladay farm. The MSU Soybean Variety Trial is also signed and is located on Piotter Road, south of Holloway Road, south of Britton at the Jason Woods farm. I toured the soybean plot earlier this week and there are definite differences in varieties, seed size, growth and other characteristics. **IPM**

Michigan State University Cooperative Agricultural Weather Service
Cumulative Precipitation Summary For 09/22/2010*

STATION OR DISTRICT	ACTUAL AND PREDICTED DEGREE-DAY ACCUMULATIONS SINCE MARCH 1 2010 (*)				PRECIPITATION TOTALS SINCE				04/01/10 (since Apr. 1)		
	AS OF 2009	BY 2009	AS OF 2010	BY 2010	09/16/2010 (last week)	09/09/2010 (last 2 weeks)	08/26/2010 (last 4 weeks)	Actual	Dev. Norm.	Actual	Dev. Norm.
WEST UP NORMS**	2886	2938	1808	1833	0.18	2.26	0.41	3.61	-0.02	22.32	3.21
MARQUETTE	3200	3236	1492	1996	0.92	1.54	-0.31	3.85	0.22	21.76	2.65
STEPHENSON	2920	3581	1805	2355	0.30	2.12	0.25	6.26	2.80	22.93	4.86
EAST UP NORMS	2648	2700	1582	1604	0.57	1.79	-0.09	3.87	0.46	23.44	6.38
CHATHAM	3131	3176	1457	1946	0.59	1.77	-0.11	4.18	0.77	20.94	3.88
SSMARIE	2636	3417	1530	2122	0.70	1.27	-0.54	1.65	-1.65	18.79	1.75
N. W. LP NORMS	3200	3264	1760	2334	0.61	1.41	-0.40	2.47	-0.83	18.69	1.65
LAKECITY	3589	3654	1747	2359	0.87	1.51	-0.30	2.35	-0.95	20.20	3.16
PELLSTON	2667	3443	1608	2225	0.48	1.33	-0.48	1.77	-1.53	22.36	5.32
N. E. LP NORMS	3128	3189	1991	2022	1.86	2.36	0.64	4.75	1.58	16.09	-1.14
ALPENA	3611	3671	1784	2353	0.40	0.89	-0.83	2.34	-0.83	18.35	1.12
HTNLAKE	2940	3758	1786	2480	0.67	1.52	-0.17	2.34	-0.47	21.75	3.65
OSSINEKE	2881	3625	1747	2390	0.81	1.36	-0.33	2.64	-0.77	16.96	-1.14
ROGERCITY	2912	3461	1761	2222	1.25	1.72	0.17	2.77	0.12	18.74	2.58
W. CENT. LP NORMS	3483	3554	2121	2732	0.68	1.53	-0.23	2.58	-0.35	21.92	3.40
FREMONT	4080	4163	2121	2732	0.93	1.87	0.11	2.49	-0.44	24.51	5.99
CENT. LP NORMS	3569	3640	2177	2805	1.22	1.72	-0.04	2.71	-0.22	27.55	9.03
ALMA	4133	4220	2092	2693	0.62	1.14	-0.62	2.12	-0.81	22.12	3.60
WHEELER	3313	3993	2092	2693	0.73	1.17	-0.32	1.80	-0.83	22.95	4.69
E. CENT. LP NORMS	3609	3687	2056	2738	1.95	2.49	1.00	3.71	1.08	16.19	-2.07
AKRON	4050	4140	2056	2738	1.13	1.54	0.05	2.38	-0.25	26.15	7.89
BADAXE	3227	4001	2027	2703	0.04	0.14	-1.35	1.33	-1.30	18.13	-0.13
PIGEON	3193	3967	1989	2663	3.19	4.23	2.74	5.37	2.74	22.31	4.05
SAGINAW	3551	4330	2275	2985	2.55	3.53	2.04	4.68	2.05	18.62	0.36
SAGVALLEY	4005	4094	2033	2694	1.39	1.63	0.08	2.71	0.06	22.74	6.58
STANDISH	3096	3835	1915	2555	0.68	1.53	-0.23	2.58	-0.35	21.92	3.40
S. W. LP NORMS***	3936	4025	2129	2732	0.62	1.14	-0.62	2.12	-0.81	22.12	3.60
ALLENDALE	4086	4174	2129	2732	0.73	1.17	-0.32	1.80	-0.83	22.95	4.69
GRAPIDS	4580	4679	2527	3181	1.95	2.49	1.00	3.71	1.08	16.19	-2.07
GULLLAKE	4062	4676	2706	3266	1.13	1.54	0.05	2.38	-0.25	26.15	7.89
SOUTHBEND	4044	4693	2697	3271	0.04	0.14	-1.35	1.33	-1.30	18.13	-0.13
S. CENT. LP NORMS	3848	3932	2601	2650	3.19	4.23	2.74	5.37	2.74	22.31	4.05
ALBION	4380	4479	2402	3009	2.55	3.53	2.04	4.68	2.05	18.62	0.36
CERESCO	4304	4401	2316	2934	1.06	1.90	0.41	3.11	0.48	17.87	-0.39
COLDWATER	4454	4555	2524	3069	0.71	1.69	0.30	2.84	0.48	16.29	-1.16
IONIA	4105	4198	2158	2768	1.04	1.63	0.24	2.07	-0.29	27.68	10.23
LANSING	4446	4546	2369	3067	0.54	1.67	0.28	2.83	0.47	18.11	0.66
OWOSSO	4244	4340	2205	2902	0.86	1.11	-0.28	1.53	-0.83	17.26	-0.19
S. E. LP NORMS	3872	3960	2614	2666	0.29	1.61	0.22	1.79	-0.57	15.22	-2.23
FLINT	4392	4493	2283	3035	0.73	1.68	0.29	2.41	0.05	23.64	6.19
HELL	4275	4374	2353	2918	0.30	0.91	-0.48	1.29	-1.07	22.42	4.97
LAPEER	4110	4205	2197	2793	0.73	1.68	0.29	2.41	0.05	23.64	6.19
PETERSBURG	4349	4449	2390	2991	0.30	0.91	-0.48	1.29	-1.07	22.42	4.97
ROME	4282	4381	2299	2929	0.30	0.91	-0.48	1.29	-1.07	22.42	4.97
TIPTON	4323	4423	2391	2965	0.30	0.91	-0.48	1.29	-1.07	22.42	4.97
TOLEDO	4754	4864	2744	3345	0.30	0.91	-0.48	1.29	-1.07	22.42	4.97

Report generated at 09:49, 09/23/10

* Since weather data for some agricultural stations are not available prior to April 1st, GDD values for those stations during February and March are estimated with closest available station data.
** District normals were calculated as the mean of daily GDD totals at several stations within each district for the period 1951-1980.
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