

MB Sunflower Crop Report



Sunflower Crop Tours will be held within the next two weeks in Morden, Rathwell and Deloraine. Come out for a look at variety performance and to learn about current agronomic issues. Topics include Lygus Bug, Banded Sunflower Moth and Sunflower Rust. ID Cards and Snacks provided.

Morden Research Station: Thursday July 29th, 9:00 a.m. (meet at front entrance parking lot)

Rathwell: Wednesday, August 4th, 9:00 a.m. (Directions will be provided in next report)

Deloraine: Thursday, August 5th, 9:00 a.m. (Directions will be provided in next report)

Tours will be informal and are weather permitting. For questions or to R.S.V.P, call (204) 750-2555. Expected duration; 1.5 hrs.

Report 9

Monday, July 26, 2010

Staging	R-2 to R-5.5. Fields planted in late April are flowering. Proper plant staging is important for insect scouting and timing of insecticide applications (See page 3).
Insects	<p>The optimum timing for control of seed damaging insects is R-5.1 or 10% flowering (Fig.1). This is the onset of pollen shed and the timing when Banded Sunflower Moth eggs are just beginning to hatch. The larvae begin to feed on the disk flowers and are present on the head along with Lygus bug and Sunflower Seed Weevil, making them susceptible to an insecticide treatment. Levels of Lygus bug being found in the field continue to be high. Scouting for Banded Sunflower Moth eggs needs to take place prior to flowering, at crop stage R-3. The following links provide information on scouting for BSM eggs;</p> <p>Video on how to scout; http://www.youtube.com/watch?v=SfCXhl3mmAk Worksheet to determine Economic Injury Level; http://www.ag.ndsu.edu/pubs/plantsci/pests/e823.pdf Information Pamphlet; http://www.ag.ndsu.nodak.edu/aginfo/entomology/entupdates/BSM_econ_calc.xls</p> <p>Producers are encouraged to take the appropriate steps to reduce risk to honey bees when spraying insecticides. This is for the benefit of both sunflower growers and beekeepers. Important steps include;</p> <ol style="list-style-type: none"> 1. Scout fields for seed damaging insects and beneficial insects, only apply insecticides if necessary. 2. Spray in the evening when honey bees have returned to the hive and communicate with beekeepers. Honeybees can increase both the number and weight of sunflower seeds through increased pollination.
Disease	<p>Sclerotinia wilt and mid stalk rot are starting to show up. While the window for Sclerotinia infection in sunflower is very wide, the peak infection time is thought to be the first 3 weeks beginning at flowering. Sclerotia in the soil require wet soil for 7-14 days to germinate– the weather forecast looks promising to keep conditions relatively dry.</p> <p>Other Diseases being found include early symptoms of Phoma Black stem (Fig. 2) and various leaf diseases (Fig. 3) on lower leaves which are difficult to distinguish (Alternaria, Septoria).</p>

Limiting Factors None

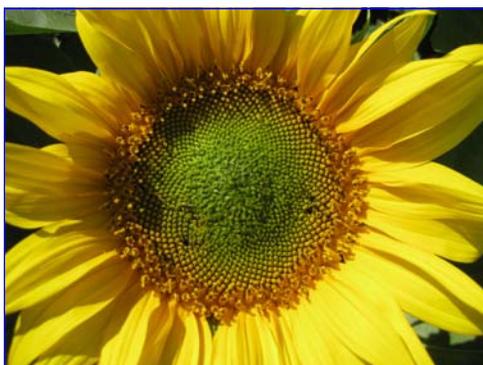


Fig 1. Early flower, R-5.1 to R-5.2. The decimal representing the head area that is flowering.



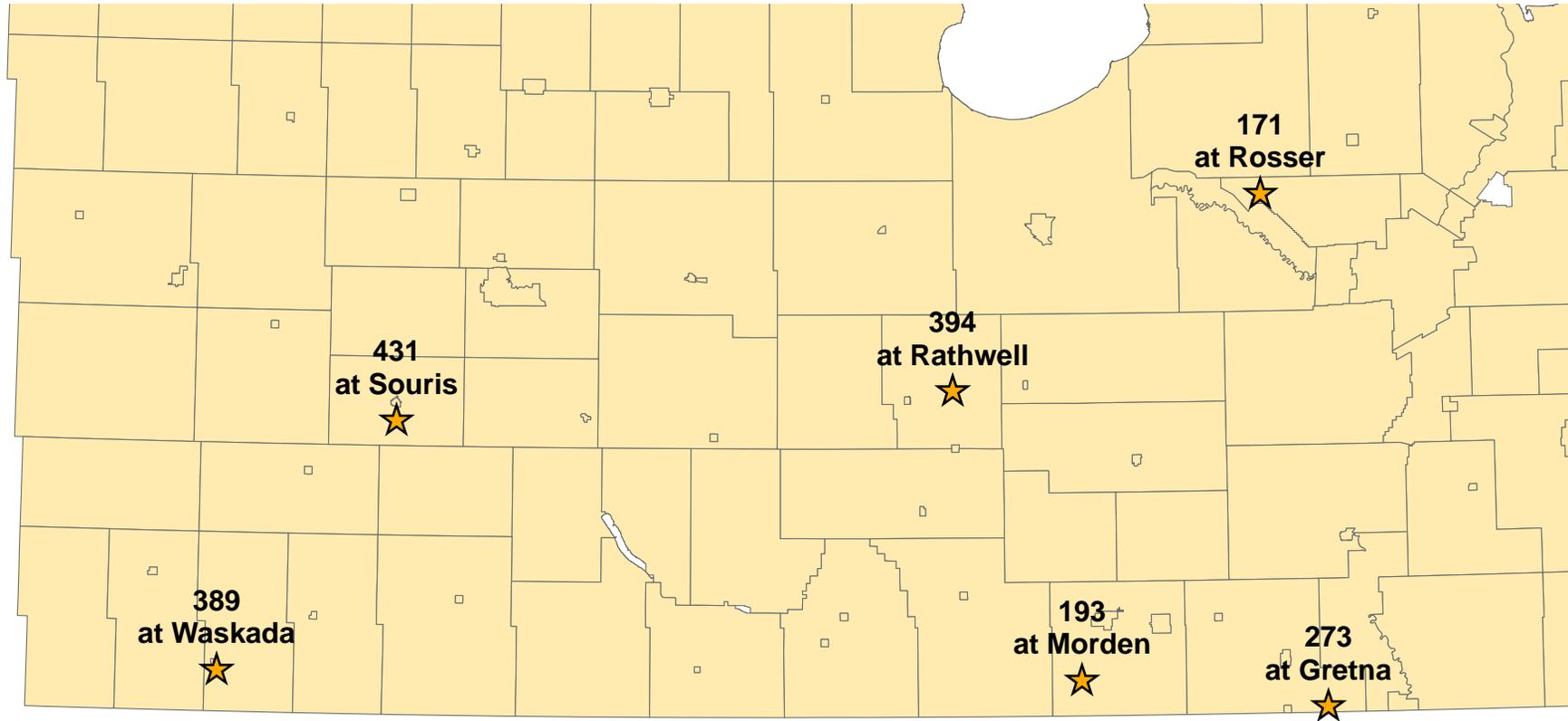
Fig 2. Phoma Black Stem begins at leaf and works its way down petiole to stalk.



Fig 3. Leaf disease on lower leaves; generally not of economic concern.



MB Cumulative Banded Sunflower Moth Trap Counts* from July 12-23



R.M.	2010	2009
Rosser**	171	30
South Norfolk	394	39
Pembina/Stanley**	193	1
Rhineland	421	3
Glenwood	431	55
Brenda	389	45

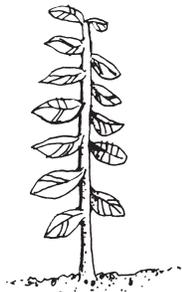
*There are no economic thresholds that correlate with trap counts. Growers are strongly encouraged to scout their fields for BSM eggs (information available in crop report). These trap counts are used to determine when adult moths are emerging, when counts are peaking and relative populations across the province and from year to year.

**Count from July 19-23 only

Vegetative Stages



True leaf — 4 cm



V-12



V-E



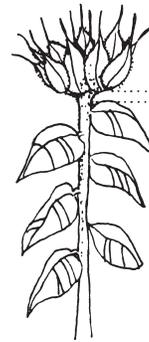
V-2



V-4

Stages of Sunflower Development

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J.F. Miller, USDA-ARS
D.R. Berglund, Extension Agronomist



Less than 2cm

R-2



More than 2cm

R-3

Reproductive Stages



R-1



R-2



R-3



R-3 Top View



R-4 Top View



R-5.1



R-5.5



R-5.9



R-6



R-7



R-8



R-9

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Description of sunflower growth stages

The total time required for development of a sunflower plant and the time between the various stages of development depends on the genetic background of the plant and the growing environment. When determining the growth stage of a sunflower field, the average development of a large number of plants should be considered. This staging method can also be used for individual plants. The same system can be used for classifying either a single head or branched sunflower. In the case of branched sunflower, make determinations using only the main branch or head. In stages R7 through R9, use healthy, disease-free heads to determine plant development if possible, because some diseases can cause head discoloration.

	Stage	Description
Vegetative Emergence	VE	Seedling has emerged and the first leaf beyond the cotyledons is less than 4 cm long.
Vegetative Stages	V (number) (i.e.) V1 V2 V3 etc.,	These are determined by counting the number of true leaves at least 4 cm in length beginning as V1, V2, V3, V4, etc. If senescence of the lower leaves has occurred count leaf scars (excluding those where the cotyledons were attached) to determine proper stage.
Reproductive Stages	R1	The terminal bud forms a miniature floral head rather than a cluster of leaves. When viewed from directly above the immature bracts form a many-pointed star-like appearance.
	R2	The immature bud elongates 0.5 to 2.0 cm above the nearest leaf attached to the stem. Disregard leaves attached directly to the back of the bud.
	R3	The immature bud elongates more than 2.0 cm above the nearest leaf.
	R4	The inflorescence begins to open. When viewed from directly above immature ray flowers are visible.
	R5 (decimal) (i.e.) R5.1 R5.2 R5.3 etc.	This stage is the beginning of flowering. The stage can be divided into substages dependent upon the percent of the head area (disk flowers) that has completed or is in flowering. Ex. R5.3 (30%), R5.8 (80%) etc.
	R6	Flowering is complete and the ray flowers are wilting.
	R7	The back of the head has started to turn a pale yellow color.
	R8	the back of the head is yellow but the bracts remain green.
	R9	The bracts become yellow and brown. This stage is regarded as physiological maturity.

From Schneiter, A.A., and J.F. Miller. 1981. Description of Sunflower Growth Stages. *Crop Sci.* 21:901-903.

For more information on this and other topics, see: www.ag.ndsu.edu



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