

EVALUATIONS OF FUNGICIDES AND TIMING FOR MANAGEMENT OF PHOMOPSIS

Sam Markell, Scott Halley, Blaine Schatz, Scott Meyer, Febina Mathew, and Tom Gulya



Outline

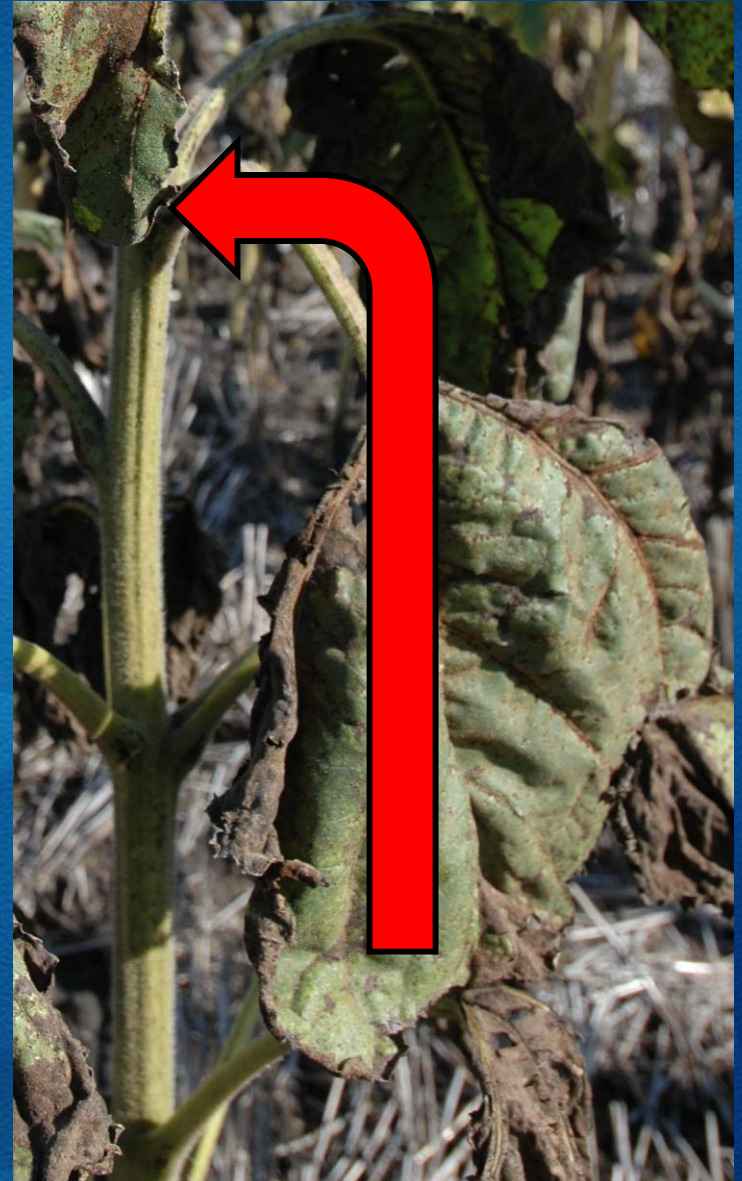
- ▣ Importance of Phomopsis
- ▣ Disease Cycle
- ▣ Fungicide Trials in 2009
- ▣ Advice or suggestions?

Importance of Phomopsis

- ▣ Significant in Europe
- ▣ 40% yield losses – France
- ▣ 50-80% incidence in Yugoslavia
 - High Yield Losses
- ▣ Managed by Resistance
AND Fungicides
- ▣ 2008 NSA survey
- ▣ 29% fields – Phomopsis
 - Inc = 1-82% plants
 - Mean = 18%
- ▣ Yield losses =
 - Girdling lesions
 - Rotten Pith
 - Lodging

Disease Cycle

- ▣ Caused by *Phomopsis helianthi* (tel. *Diaporthe helianthi*)
- ▣ Overwinters in debris
- ▣ Perithecia
- ▣ Spores released
 - Splash and wind dispersed
 - Leaf – petiole – stem
(1 month)





Infection goes across the leaf veins



Phomopsis

Sclerotinia

Phoma



Phomopsis Stalk Symptoms



**BIG, light brown
stem lesion, rotted
pith, may lodge**

Slide: Gulya

Management with Fungicides

- ▣ Europe
 - Resistance Insufficient
- ▣ < 8-12 leaf = ineffective
- ▣ Fenpropimorphe (Corbal) and Flusilazol (Punch)

- ▣ Folicur, Headline, Quadris?
- ▣ Others?

OBJECTIVE

Determine the most effective fungicides and fungicide timing for management of Phomopsis

Materials and Methods

- ▣ Efficacy and Timing Trials
 - Langdon and Carrington
 - RCBD
 - Infected Stalks in Rows
 - Mist – Langdon
 - Pivot – Carrington
- ▣ Evaluation
 - 1 = Small lesion
 - 2 = Large lesion
 - 3 = Girdled
 - 4 = Lodged
- ▣ Timing = Corbal (9.0)
 - ▣ R1, R5, R6
- ▣ Efficacy
 - Corbal (9.0)
 - Endura(6.0)
 - Headline (6.0)
 - Proline (5.7)
 - Quadris (6.2)
 - Quash (4.0)
 - Tebuzol (4.0)
 - NTC

Results

- ▣ Lots of Disease!
 - Sclerotinia wilt, mid stalk and head rot
 - Phoma
- ▣ Lots of Insects!

- ▣ Very little Phomopsis

Carrington - Efficacy 2009

Treatment	Rate	Phomopsis Incidence	Dis. Sev. Low Stem	Tst Weight	Yield (lb/a)
Non-Trt	NA	15.0	44.2	31.6	1332
Headline	6.0	15.0	30.8	32.9	1712
Quadris	6.2	12.5	29.5	32.8	1501
Tebuzol	4.0	10.0	28.6	32.2	1438
Proline	5.7	5.0	36.4	32.9	1771
Corbal	9.0	12.5	33.4	32.8	1639
Endura	6.0	20.0	43.7	32.2	1503
Quash	4.0	12.5	35.2	32.2	1584
LSD		16.7	15.7	NS	NS
CV		88.4	30.27	1.4	9.4

Langdon - Timing 2009

Treatment	Rate	Timing	Phomopsis Incidence	Tst Weight	Yield (lb/a)
Non-Trt	NA	NA	27.5	21.1	1317
Corbel	9.0	R2	27.5	20.5	1108
Corbel	9.0	R5	25.0	21.2	1413
Corbel	9.0	R6	20.0	21.0	1203
Corbel	9.0	R2 + R5	30.0	21.4	1374
Corbel	9.0	R2 + R6	30.0	21.3	1505
Corbel	9.0	R5 + R6	27.5	21.0	1287
Corbel	9.0	R2+R5+R6	27.5	21.4	1335
LSD			NS	NS	NS
CV			60.4	3.17	17.18

Next Year

- ▣ Grant Submitted to the ND Dept Ag.
- ▣ Possible Changes?
 - Inoculation by spore suspension?
 - Location?
 - Weather?

Acknowledgements

- ▣ Personnel at Langdon and Carrington
- ▣ NSA
- ▣ ND Dept. Ag

THANK YOU

ADIVCE / SUGGESTIONS?