

University of Illinois

GRAY LEAF SPOT CONTROL IN NO-TILL CORN UNDER CENTER PIVOT IRRIGATION USING FOLIAR FUNGICIDES AT TASSEL EMERGENCE IN MASSAC COUNTY, ILLINOIS

Project Code: TILTCN02

Location: TRAVIS FARM - MASSAC CO.

Cooperator: HINES

By: D.S.A.C.

ELECTRONIC DATA EXCHANGE FORMAT

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TRIAL INFORMATION

Trial Number: TILTCN02 Trial Status: NEW Initiation Date: 03-01-02
Title: GRAY LEAF SPOT CONTROL IN NO-TILL CORN UNDER CENTER PIVOT IRRIGATION
State: IL County: MASSAC Country: USA Zip Code: 62908

Objective(s): To evaluate the efficacy of foliar fungicides applied at VT (tassel) for the control of gray leaf spot and other foliar diseases on no-till rotational corn under center pivot irrigation in southern Illinois.

Conclusion(s): No visible GLS lesions were identified on any stalk earleaf at fungicide application on 7/26. Only moderate GLS developed during the next 28 days. All fungicide treatments allowed significantly fewer GLS lesions to develop vs. the untreated check. The Stratego and Tilt/Quadris treatments were sig. better than Tilt alone. All fungicide treatments increased yield.

SITE DESCRIPTION

Weed(s): 1.None

Crop 1: No-till Corn Variety: Pioneer 33V08 Planting Date: 06-04-02
Planting Method: ROWS Rate, Unit: 31,363, /ACRE Depth, Unit: 1.25, INCH
Row Spacing, Unit: 30, INCH

Soil Temp., Unit: 81, F Soil Moisture: EXCELLENT Emergence Date: 06-09-02
Plot Width/Area, Unit: 7.5, FT Plot Length, Unit: 25, FT Reps: 6
Site Type: UPLAND Seed Bed Desc.: ROUGH Ground Cover: STUBBLE
Tillage Type: NO-TILLAGE Study Design: RCB

Field Preparation/Plot Maintenance: 900#/A of 34-0-0, and 150#/A each of 18-46-0 and 0-0-60 was applied on 5/24. 50#/A of "N" was applied by irrigation on 7/16.
Trial Initiation Comments: This trial site, while in a continuous no-till corn/soybean rotation, has had heavy gray leaf spot damage to corn in the past.

Previous:	Crops	Pesticides	Year	Crops	Pesticides	Year
1.	NT SOYBEANS	ROUNDUP ULTRAMX	01	2. NT CORN	BULLET 4ME	00
3.	NT SOYBEANS	ROUNDUP ULTRA	99	4. NT CORN	BULLET 4ME	98
5.	NT SOYBEANS	ROUNDUP ULTRA	97	6. NT CORN	AATREX/2,4-D	96

SOIL DESCRIPTION

Texture: SANDY SILT LOAM % OM: 1.4 % Sand: 45.7 % Silt: 52.2 % Clay: 2.1
pH: 6.5 CEC: 9.3 Soil Name: 462A SCIOTOVILLE Fertility Level: P1=102; K=293

MOISTURE CONDITIONS

Moisture On:	Date	Amount	Unit	Type	Date	Amount	Unit	Type
1.	06-04-02	0.44	INCH	RAIN	2.	06-05-02	1.13	INCH RAIN
3.	06-10-02	0.26	INCH	RAIN	4.	07-16-02	1.14	INCH IRRIGATION
5.	07-22-02	0.89	INCH	IRRIGATION	6.	07-26-02	1.24	INCH IRRIGATION
7.	07-28-02	1.02	INCH	IRRIGATION	8.	08-03-02	0.98	INCH IRRIGATION

Overall Moisture Conditions: JUNE 2.35"; JULY 9.18"; AUGUST 4.66"; SEPT. 7.35";
Nearest Meteorological Station: ON SITE

APPLICATION INFORMATION

	A	B	C	D	E	F
Application Date:	07-26-02					
Time of Day:	1 PM					
Application Method:	BROADCAST					
Application Timing:	TASSEL					
Air Temp., Unit:	90 ,F					
% Relative Humidity:	70%					
Wind Velocity, Unit:	1-2 ,MPH					
Dew Presence (Y/N):	N					
Water Hardness:	195					
Soil Temp., Unit:	87 ,F					
Soil Moisture:	EXCELLENT					
% Cloud Cover:	95%					

APPLICATION EQUIPMENT INFORMATION

	A	B	C	D	E	F
Appl. Equipment:	HAND CO2					
Operating Pressure:	24 PSI					
Nozzle Type:	FLAT FAN					
Nozzle Size:	9503 E					
Nozzle Spacing, Unit:	30 ,INCH					
Nozzles/Row:	ONE					
Band Width, Unit:	30 ,INCH					
Boom Length, Unit:	1 ,INCH					
Ground Speed, Unit:	2.3 ,MPH					
Incorporation Equip.:	NONE					
Carrier:	WATER					
Spray Volume, Unit:	20 ,GPA					
Propellant:	CO2					
Tank Mix (Y/N):	Y					

Summary Comments: The entire trial area was treated with Bullet 4ME @4 qts., Aatrex 4L @1 pt., 2,4-D LV4 @1 pt. and Roundup UltraMAX @52 ozs. per acre in 20 GPA for season long weed control on May 21, 2002. Lorsban 15G @8 ozs./1000 row feet was applied in a T-band, and 2% zinc phosphide pellets @5 lbs./acre was applied in the furrow at planting for season long soil insect and small rodent damage control on 6/4.

Gray leaf spot lesion counts were taken on the earleaf of the 10th, 15th, and 20th stalks in each of the center two harvest rows of each plot. The University of Illinois "0 to 5" Stalk Rot Rating Scale was used at harvest to rate stalk rot. Stalks #3, #6 and #9 of each of the center two rows of each plot were split from the ear to the soil line so visual ratings could be made. Other Summary Comments not reported in "Conclusions":

- No significant difference in stalk rot rating was identified.
- No significant difference in stalk lodging occurred in this trial.
- No significant difference in harvest moisture or grain test weight occurred between treatments in this trial.
- No significant reduction in the number of mold damaged ears occurred at a result of any of the fungicide treatments.
- All fungicide treatments required significantly fewer corn ears to make a bushel of grain vs. the untreated check.
- Only Treatment #9 (Folicur + USF 2004 + Induce) produced significantly higher yield per acre than Treatment #2 (Tilt + Induce).
- No leaf rust was identified in this trial.
- Significant yield increases from the fungicide applications ranged from 14.1 to 26.6 bushels per acre vs. the untreated check.

