

Corn Tolerance to Warrant Applied at Three Postemergence Timings.

Trial ID: 11-20A-ME70 Location: Belleville Res. Center

Investigator: Bryan Young, Professor, Southern Illinois University, bgyoung@siu.edu
 City State Zip Country: Belleville IL 62221 USA
 Trial Status: FINAL Initiation Date: 5-31-11

Objectives: Evaluation of crop response to Warrant applied postemergence in corn at three growth stages and with various tank-mix partners.

Crop 1: ZEAMD Dent corn Variety: DKC 61-21 GENSS Description: RR2/LL
 Planting Method: SEEDED Planting Date: 5-31-11
 Rate, Unit: 28000 S/A Depth, Unit: 1.5 IN
 Row Spacing, Unit: 30 IN

Code: NA

Plot Width, Unit: 10 FT Site Type: FIELD
 Plot Length, Unit: 27 FT Tillage Type: REDUCED-TILL
 Replications: 4 Study Design: Randomized Complete Block

Prior Crops, Year
 1. GLXMA 2010

Field Prep./Maintenance: N 150 LB/A, P205 50 LB/A, K20 150 LB/A

% OM: 2 Texture: SILT LOAM
 pH: 6.8 Soil Name: BETHALTO
 CEC: 10 Fert. Level: P1 64 LB/A, K 327 LB/A

Application Description

| | A | B | C |
|-------------------------|--------|---------|--------|
| Application Date: | 6-9-11 | 6-29-11 | 7-5-11 |
| Time of Day: | 10:00 | 8:30 | 13:30 |
| Application Method: | Spray | Spray | Spray |
| Application Timing: | V2 | V7 | 30"CN |
| Application Placement: | BROFOL | BROFOL | BROFOL |
| Applied By: | JRK | BA | LAH |
| Air Temperature, Unit: | 83 F | 75 F | 87 F |
| % Relative Humidity: | 67 | 65 | 56 |
| Wind Velocity, Unit: | 2 MPH | 0 MPH | 0 MPH |
| Wind Direction: | W | | |
| Dew Presence (Y/N): | N | N | N |
| Soil Temperature, Unit: | 77 F | 76 F | 79 F |
| Soil Moisture: | ABONOR | ABONOR | NORMAL |
| % Cloud Cover: | 0 | 0 | 0 |

Crop stage at application: 9-6-11 29-6-11 5-7-11
 V2 V6-V7 V8
 Height Min, Max (inch): 3 3 20 25 35 40

Pest Stage At Each Application

Application Date: 6-9-11 6-29-11 7-5-11
 Weed Code: NA NA NA

Application Equipment

| | A | B | C |
|---------------------|-------------|-------------|-------------|
| Appl. Equipment: | CO2 sprayer | CO2 sprayer | CO2 sprayer |
| Operating Pressure: | 30 PSI | 30 PSI | 30 PSI |
| Nozzle Type: | Flat fan | Flat fan | Flat fan |
| Nozzle Size: | XR 8002 | XR 8002 | XR 8002 |
| Boom Length, Unit: | 10 FT | 10 FT | 10 FT |
| Spray Volume, Unit: | 15 GPA | 15 GPA | 15 GPA |

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| Trt No. | Treatment Name | Form Conc | Form Type | Rate | Rate Unit | Other Rate | Other Rate Unit | Growth Stage | Appl Code | ZEAMD 10-7-11 Moisture Percent | ZEAMD 10-7-11 Test wt. lb/bu | ZEAMD 10-7-11 Yield bu/A | ZEAMD Chlorosis 7 DAT | ZEAMD Chlorosis 21 DAT | ZEAMD Stunt 7 DAT | ZEAMD Stunt 21 DAT |
|-------------------|--------------------|-----------|-----------|--------|-----------|------------|-----------------|--------------|-----------|--------------------------------|------------------------------|--------------------------|-----------------------|------------------------|-------------------|--------------------|
| 1 | ROUNDUP WEATHERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | V2 | A | 21.0 ab | 53.5 ab | 168 f | 0 c | 0 a | 0 d | 0 b |
| 1 | WARRANT | 3 | CS | 1.125 | lb ai/a | 48 | fl oz/a | V2 | A | | | | | | | |
| 1 | N-PAK AMS | 100 | SL | 2.5 | % v/v | 2.5 | % v/v | V2 | A | | | | | | | |
| 2 | ROUNDUP WEATHERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | V7 | B | 19.5 b | 54.2 a | 176 a-f | 1 bc | 0 a | 2 bcd | 1 b |
| 2 | WARRANT | 3 | CS | 1.125 | lb ai/a | 48 | fl oz/a | V7 | B | | | | | | | |
| 2 | N-PAK AMS | 100 | SL | 2.5 | % v/v | 2.5 | % v/v | V7 | B | | | | | | | |
| 3 | ROUNDUP WEATHERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | 30"CN | C | 21.4 ab | 53.3 ab | 170 ef | 0 c | 0 a | 0 d | 0 b |
| 3 | WARRANT | 3 | CS | 1.125 | lb ai/a | 48 | fl oz/a | 30"CN | C | | | | | | | |
| 3 | N-PAK AMS | 100 | SL | 2.5 | % v/v | 2.5 | % v/v | 30"CN | C | | | | | | | |
| 4 | ROUNDUP WEATHERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | V2 | A | 19.7 b | 54.1 ab | 174 b-f | 0 c | 0 a | 0 d | 0 b |
| 4 | WARRANT | 3 | CS | 2.25 | lb ai/a | 96 | fl oz/a | V2 | A | | | | | | | |
| 4 | N-PAK AMS | 100 | SL | 2.5 | % v/v | 2.5 | % v/v | V2 | A | | | | | | | |
| 5 | ROUNDUP WEATHERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | V7 | B | 23.2 a | 53.1 b | 169 ef | 0 c | 0 a | 3 bcd | 1 b |
| 5 | WARRANT | 3 | CS | 2.25 | lb ai/a | 96 | fl oz/a | V7 | B | | | | | | | |
| 5 | N-PAK AMS | 100 | SL | 2.5 | % v/v | 2.5 | % v/v | V7 | B | | | | | | | |
| 6 | ROUNDUP WEATHERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | 30"CN | C | 19.7 b | 54.1 a | 189 ab | 1 b | 0 a | 3 bcd | 0 b |
| 6 | WARRANT | 3 | CS | 2.25 | lb ai/a | 96 | fl oz/a | 30"CN | C | | | | | | | |
| 6 | N-PAK AMS | 100 | SL | 2.5 | % v/v | 2.5 | % v/v | 30"CN | C | | | | | | | |
| 7 | ROUNDUP WEATHERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | V2 | A | 21.3 ab | 53.4 ab | 172 def | 6 a | 0 a | 5 b | 0 b |
| 7 | WARRANT | 3 | CS | 1.125 | lb ai/a | 48 | fl oz/a | V2 | A | | | | | | | |
| 7 | 32% UAN | 100 | SL | 100 | % v/v | 60 | qt/a | V2 | A | | | | | | | |
| 8 | ROUNDUP WEATHERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | V2 | A | 21.1 ab | 53.5 ab | 178 a-f | 7 a | 0 a | 5 b | 0 b |
| 8 | 32% UAN | 100 | SL | 100 | % v/v | 60 | qt/a | V2 | A | | | | | | | |
| 9 | HALEX GT | 4.38 | CS | 2.195 | lb ai/a | 64 | fl oz/a | V7 | B | 19.5 b | 54.2 a | 173 c-f | 0 c | 0 a | 1 cd | 0 b |
| 9 | N-PAK AMS | 100 | SL | 2.5 | % v/v | 2.5 | % v/v | V7 | B | | | | | | | |
| 10 | ROUNDUP WEATHERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | V7 | B | 20.4 ab | 53.8 ab | 189 ab | 0 c | 0 a | 3 bcd | 0 b |
| 10 | WARRANT | 3 | CS | 1.125 | lb ai/a | 48 | fl oz/a | V7 | B | | | | | | | |
| 10 | CALLISTO | 4 | SC | 0.094 | lb ai/a | 3 | fl oz/a | V7 | B | | | | | | | |
| 10 | N-PAK AMS | 100 | SL | 2.5 | % v/v | 2.5 | % v/v | V7 | B | | | | | | | |
| 11 | ROUNDUP WEATHERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | V7 | B | 20.1 b | 53.9 ab | 191 a | 0 c | 0 a | 4 bc | 2 b |
| 11 | WARRANT | 3 | CS | 1.125 | lb ai/a | 48 | fl oz/a | V7 | B | | | | | | | |
| 11 | IMPACT | 2.8 | SC | 0.016 | lb ai/a | 0.73 | fl oz/a | V7 | B | | | | | | | |
| 11 | MSO (MSO ULTRA) | 100 | SL | 0.5 | % v/v | 0.5 | % v/v | V7 | B | | | | | | | |
| 11 | N-PAK AMS | 100 | SL | 2.5 | % v/v | 2.5 | % v/v | V7 | B | | | | | | | |
| 12 | ROUNDUP WEATHERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | V7 | B | 19.7 b | 54.1 ab | 188 abc | 0 c | 0 a | 3 bcd | 2 b |
| 12 | WARRANT | 3 | CS | 1.125 | lb ai/a | 48 | fl oz/a | V7 | B | | | | | | | |
| 12 | LAUDIS | 3.5 | SC | 0.082 | lb ai/a | 3 | fl oz/a | V7 | B | | | | | | | |
| 12 | MSO (MSO ULTRA) | 100 | SL | 0.5 | % v/v | 0.5 | % v/v | V7 | B | | | | | | | |
| 12 | N-PAK AMS | 100 | SL | 2.5 | % v/v | 2.5 | % v/v | V7 | B | | | | | | | |
| 13 | ROUNDUP WEATHERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | V7 | B | 21.3 ab | 53.5 ab | 186 a-d | 0 c | 0 a | 3 bcd | 1 b |
| 13 | WARRANT | 3 | CS | 1.125 | lb ai/a | 48 | fl oz/a | V7 | B | | | | | | | |
| 13 | STATUS | 56 | WG | 0.0875 | lb ae/a | 2.5 | oz/a | V7 | B | | | | | | | |
| 13 | N-PAK AMS | 100 | SL | 2.5 | % v/v | 2.5 | % v/v | V7 | B | | | | | | | |
| 14 | ROUNDUP WEATHERMAX | 4.5 | SL | 0.77 | lb ae/a | 22 | fl oz/a | V7 | B | 19.7 b | 54.1 ab | 184 a-e | 0 c | 0 a | 15 a | 6 a |
| 14 | WARRANT | 3 | CS | 1.125 | lb ai/a | 48 | fl oz/a | V7 | B | | | | | | | |
| 14 | CALLISTO | 4 | SC | 0.078 | lb ai/a | 2.5 | fl oz/a | V7 | B | | | | | | | |
| 14 | RESOLVE | 25 | WG | 0.0188 | lb ai/a | 1.2 | oz/a | V7 | B | | | | | | | |
| 14 | N-PAK AMS | 100 | SL | 2.5 | % v/v | 2.5 | % v/v | V7 | B | | | | | | | |
| LSD (P=.05) | | | | | | | | | | 2.97 | 0.99 | 15.2 | 0.9 | 0.0 | 3.1 | 1.5 |
| Replicate F | | | | | | | | | | 6.526 | 8.235 | 0.817 | 2.550 | 0.000 | 2.337 | 2.663 |
| Replicate Prob(F) | | | | | | | | | | 0.0011 | 0.0002 | 0.4938 | 0.0696 | 1.0000 | 0.0886 | 0.0613 |
| Treatment F | | | | | | | | | | 1.030 | 1.112 | 2.454 | 52.812 | 0.000 | 11.823 | 7.710 |
| Treatment Prob(F) | | | | | | | | | | 0.4440 | 0.3786 | 0.0193 | 0.0001 | 1.0000 | 0.0001 | 0.0001 |

Means followed by same letter do not significantly differ (P=.05, LSD)

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Trial Comments

1. Protocol: Monsanto (24-14).
2. Ratings: Percent chlorosis and phytotoxicity at 7 and 21 DAT;
The phyto rating includes stunting, drawstring, stacking, etc.
3. Yield.
4. Mixing and spraying; Using 32% UAN as a carrier requires a 32% UAN practice bottle(s).
5. Blanket PRE application of Degree Xtra (3 qt/A) plus Atrazine (1 lbai/A) was applied to entire area on 5-31-11.
6. DAT = Days after various applications.
Ratings at 7 days after the V2, V7, and 30"CN applications were on 6-16-11, 7-6-11, and 7-12-11, respectively.
Ratings at 21 days after the V2, V7, and 30"CN applications were on 6-30-11, 7-20-11, and 7-26-11, respectively.
7. Stunt = growth inhibition.
8. Missing yield data for plots 408 - 414 were due to flooding.
9. Harvested 10-7-11, (2) 30 inch rows by 24 ft.