

MSU Weed Science Research Program

EFFECT OF TIMING ON CONTROL OF EMERGED ROUND READY CORN, 2007

Trial ID: C1307  
 Conducted: CAMPUS

Study Dir.:  
 Investigator: James Kells

**Date Planted:** 5/14/07                      **Row Spacing:** 30 IN  
**Variety:** DKC 52-59                      **No. of Reps:** 4  
**Population:** 30,000 S/A                      **% OM:** 2.0  
**Soil Type:** Sandy Loam                      **pH:** 7.3  
**Plot Size:** 10 X 35 FT                      **Design:** RANDOMIZED COMPLETE BLOCK

**Tillage:** Fall Chisel, Spring Soil Finished X2  
**Fertilizer:** 125 lbs/A 19-19-19 in Row at Planting. 300 lbs/A 46-0-0 Broadcast.

**Crop Code Common Name**  
 1. ZEAMX CORN, FIELD

**Application Description**

|                              | A        | B        | C        |
|------------------------------|----------|----------|----------|
| <b>Application Timing:</b>   | PRE      | V1-2     | V4-5     |
| <b>Date Treated:</b>         | 5/4/07   | 5/21/07  | 6/6/07   |
| <b>Time Treated:</b>         | 7:00PM   | 9:15AM   | 5:45PM   |
| <b>% Cloud Cover:</b>        | 85       | 70       | 65       |
| <b>Air Temp., Unit:</b>      | 70 F     | 58 F     | 91 F     |
| <b>% Relative Humidity:</b>  | 35       | 70       | 45       |
| <b>Wind Speed/Unit/Dir:</b>  | 7 mph SE | 4 mph SE | 3 mph SE |
| <b>Soil Temp., Unit:</b>     | 60 F     | 54 F     | 80 F     |
| <b>Soil/Leaf Surface M:</b>  | 5 5      | 4 4      | 5 5      |
| <b>Soil Moist (1=w 5=d):</b> | 5        | 4        | 5        |

**Crop Stage at Each Application**

|                      | A     | B         | C         |
|----------------------|-------|-----------|-----------|
| <b>Crop Name:</b>    | ZEAMX | ZEAMX     | ZEAMX     |
| <b>Height (In.):</b> |       | 2-4(4)    | 10-14(12) |
| <b>Stage (L):</b>    |       | V1-2(2)4L | V4-5(4)7L |

**Application Equipment**

| Appl | Sprayer | Speed | Nozzle | Nozzle | Nozzle | Nozzle  | Boom  |     |         |     |
|------|---------|-------|--------|--------|--------|---------|-------|-----|---------|-----|
|      | Type    | MPH   | Type   | Size   | Height | Spacing | Width | GPA | Carrier | PSI |
| A    | CUB     | 3.5   | FF     | 8003   | 18"    | 20      | 120   | 20  | H2O     | 30  |
| B    | CUB     | 3.5   | FF     | 8003   | 21"    | 20      | 120   | 20  | H2O     | 30  |
| C    | CUB     | 3.5   | FF     | 8003   | 27"    | 20      | 120   | 20  | H2O     | 30  |

**Comments:** \*dying = Percent of plants in the plot dying when compared to the untreated.

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| Weed Code         |                         |           |           |      |           |          | ZEAMX   | Left Row    | Rght Row    | ZEAMX   | ZEAMX   | Left Row    | Rght Row    |
|-------------------|-------------------------|-----------|-----------|------|-----------|----------|---------|-------------|-------------|---------|---------|-------------|-------------|
| Crop Code         |                         |           |           |      |           |          | injury  | ZEAMX       | ZEAMX       | percent | injury  | ZEAMX       | ZEAMX       |
| Rating Data Type  |                         |           |           |      |           |          | percent | count/dying | count/dying | dying*  | percent | count/dying | count/dying |
| Rating Unit       |                         |           |           |      |           |          |         | /plot       | /plot       |         | /plot   | /plot       | /plot       |
| Rating Date       |                         |           |           |      |           |          |         |             |             |         | 6/21/07 | 6/21/07     | 6/21/07     |
| Trt-Eval Interval |                         |           |           |      |           |          | 7DAT    | 14 DAT      | 14 DAT      | 14 DAT  | 45 DAP  | 45 DAP      | 45 DAP      |
| Trt No.           | Treatment Name          | Form Conc | Form Type | Rate | Rate Unit | Grow Stg | 1       | 2           | 3           | 4       | 5       | 6           | 7           |
| 1                 | Harness Xtra 5.6 ENTIRE | 5.6       | L         | 1.5  | qt/a      | PRE      | 73      | 49          | 48          | 82      | 99      | 0           | 1           |
| 1                 | Select Max              | 0.97      | L         | 4    | fl oz/a   | V1-V2    |         |             |             |         |         |             |             |
| 1                 | Activator 90            |           | L         | 0.25 | % v/v     | V1-V2    |         |             |             |         |         |             |             |
| 1                 | Ammonium Sulfate        | 100       | DF        | 2.5  | lb/a      | V1-V2    |         |             |             |         |         |             |             |
| 2                 | Select Max              | 0.97      | L         | 6    | fl oz/a   | V1-V2    | 81      | 18          | 28          | 39      | 100     | 0           | 0           |
| 2                 | Activator 90            |           | L         | 0.25 | % v/v     | V1-V2    |         |             |             |         |         |             |             |
| 2                 | Ammonium Sulfate        | 100       | DF        | 2.5  | lb/a      | V1-V2    |         |             |             |         |         |             |             |
| 3                 | Select Max              | 0.97      | L         | 4    | fl oz/a   | V1-V2    | 78      | 53          | 53          | 90      | 100     | 0           | 0           |
| 3                 | Activator 90            |           | L         | 0.25 | % v/v     | V1-V2    |         |             |             |         |         |             |             |
| 3                 | Ammonium Sulfate        | 100       | DF        | 2.5  | lb/a      | V1-V2    |         |             |             |         |         |             |             |
| 3                 | Roundup OriginalMax     | 4.5       | L         | 0.75 | lb ae/a   | V1-V2    |         |             |             |         |         |             |             |
| 4                 | Select Max              | 0.97      | L         | 6    | fl oz/a   | V1-V2    | 73      | 57          | 57          | 97      | 99      | 1           | 1           |
| 4                 | Activator 90            |           | L         | 0.25 | % v/v     | V1-V2    |         |             |             |         |         |             |             |
| 4                 | Ammonium Sulfate        | 100       | DF        | 2.5  | lb/a      | V1-V2    |         |             |             |         |         |             |             |
| 4                 | Degree Xtra             | 4         | L         | 2    | qt/a      | V1-V2    |         |             |             |         |         |             |             |
| 5                 | Select Max              | 0.97      | L         | 8    | fl oz/a   | V1-V2    | 84      | 14          | 17          | 26      | 100     | 0           | 0           |
| 5                 | Activator 90            |           | L         | 0.25 | % v/v     | V1-V2    |         |             |             |         |         |             |             |
| 5                 | Ammonium Sulfate        | 100       | DF        | 2.5  | lb/a      | V1-V2    |         |             |             |         |         |             |             |
| 6                 | Gramoxone Inteon        | 2         | L         | 1    | qt/a      | V1-V2    | 95      | 5           | 3           | 6       | 96      | 4           | 2           |
| 6                 | Sencor                  | 75        | DF        | 2    | oz/a      | V1-V2    |         |             |             |         |         |             |             |
| 6                 | Activator 90            |           | L         | 0.25 | % v/v     | V1-V2    |         |             |             |         |         |             |             |
| 6                 | Herbimax                |           | L         | 1    | % v/v     | V1-V2    |         |             |             |         |         |             |             |
| 7                 | Liberty                 | 1.67      | L         | 1    | qt/a      | V1-V2    | 84      | 35          | 28          | 53      | 87      | 12          | 11          |
| 7                 | Ammonium Sulfate        | 100       | DF        | 3    | lb/a      | V1-V2    |         |             |             |         |         |             |             |
| 8                 | Select Max              | 0.97      | L         | 4    | fl oz/a   | V4-V5    | 55      | 18          | 17          | 30      | 98      | 1           | 1           |
| 8                 | Activator 90            |           | L         | 0.25 | % v/v     | V4-V5    |         |             |             |         |         |             |             |
| 8                 | Ammonium Sulfate        | 100       | DF        | 2.5  | lb/a      | V4-V5    |         |             |             |         |         |             |             |
| 9                 | Select Max              | 0.97      | L         | 6    | fl oz/a   | V4-V5    | 58      | 5           | 3           | 6       | 100     | 0           | 0           |
| 9                 | Activator 90            |           | L         | 0.25 | % v/v     | V4-V5    |         |             |             |         |         |             |             |
| 9                 | Ammonium Sulfate        | 100       | DF        | 2.5  | lb/a      | V4-V5    |         |             |             |         |         |             |             |
| 10                | Select Max              | 0.97      | L         | 4    | fl oz/a   | V4-V5    | 59      | 25          | 35          | 51      | 96      | 1           | 1           |
| 10                | Activator 90            |           | L         | 0.25 | % v/v     | V4-V5    |         |             |             |         |         |             |             |
| 10                | Ammonium Sulfate        | 100       | DF        | 2.5  | lb/a      | V4-V5    |         |             |             |         |         |             |             |
| 10                | Roundup OriginalMax     | 4.5       | L         | 0.75 | lb ae/a   | V4-V5    |         |             |             |         |         |             |             |
| 11                | Select Max              | 0.97      | L         | 6    | fl oz/a   | V4-V5    | 55      | 43          | 53          | 81      | 91      | 3           | 5           |
| 11                | Activator 90            |           | L         | 0.25 | % v/v     | V4-V5    |         |             |             |         |         |             |             |
| 11                | Ammonium Sulfate        | 100       | DF        | 2.5  | lb/a      | V4-V5    |         |             |             |         |         |             |             |
| 11                | Degree Xtra             | 4         | L         | 2    | qt/a      | V4-V5    |         |             |             |         |         |             |             |
| 12                | Select Max              | 0.97      | L         | 8    | fl oz/a   | V4-V5    | 63      | 0           | 0           | 0       | 100     | 0           | 0           |
| 12                | Activator 90            |           | L         | 0.25 | % v/v     | V4-V5    |         |             |             |         |         |             |             |
| 12                | Ammonium Sulfate        | 100       | DF        | 2.5  | lb/a      | V4-V5    |         |             |             |         |         |             |             |
| 13                | Gramoxone Inteon        | 2         | L         | 1    | qt/a      | V4-V5    | 99      | 0           | 0           | 0       | 100     | 0           | 0           |
| 13                | Sencor                  | 75        | DF        | 2    | oz/a      | V4-V5    |         |             |             |         |         |             |             |
| 13                | Activator 90            |           | L         | 0.25 | % v/v     | V4-V5    |         |             |             |         |         |             |             |
| 13                | Herbimax                |           | L         | 1    | % v/v     | V4-V5    |         |             |             |         |         |             |             |
| 14                | Liberty                 | 1.67      | L         | 1    | qt/a      | V4-V5    | 65      | 36          | 40          | 64      | 87      | 19          | 15          |
| 14                | Ammonium Sulfate        | 100       | DF        | 3    | lb/a      | V4-V5    |         |             |             |         |         |             |             |
| 15                | Untreated               |           |           |      |           |          | 0       | 58          | 60          |         | 0       | 58          | 61          |

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| Weed Code          |                |           |           |      |           |          | Left Row | Right Row   |             |         | Left Row | Right Row   |       |
|--------------------|----------------|-----------|-----------|------|-----------|----------|----------|-------------|-------------|---------|----------|-------------|-------|
| Crop Code          |                |           |           |      |           |          | ZEAMX    | ZEAMX       | ZEAMX       | ZEAMX   | ZEAMX    | ZEAMX       |       |
| Rating Data Type   |                |           |           |      |           |          | injury   | count/dying | count/dying | percent | injury   | count/dying |       |
| Rating Unit        |                |           |           |      |           |          | percent  | /plot       | /plot       | dying*  | percent  | /plot       |       |
| Rating Date        |                |           |           |      |           |          |          |             |             |         | 6/21/07  | 6/21/07     |       |
| Trt-Eval Interval  |                |           |           |      |           |          | 7DAT     | 14 DAT      | 14 DAT      | 14 DAT  | 45 DAP   | 45 DAP      |       |
| Trt No.            | Treatment Name | Form Conc | Form Type | Rate | Rate Unit | Grow Stg | 1        | 2           | 3           | 4       | 5        | 6           | 7     |
| LSD (P=.05)        |                |           |           |      |           |          | 7.7      | 9.8         | 8.4         | 11.9    | 2.2      | 3.3         | 4.3   |
| Standard Deviation |                |           |           |      |           |          | 5.4      | 6.8         | 5.9         | 8.3     | 1.5      | 2.3         | 3.0   |
| CV                 |                |           |           |      |           |          | 7.97     | 24.73       | 20.16       | 18.67   | 1.71     | 35.11       | 46.55 |

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Weed Code  
 Crop Code  
 Rating Data Type  
 Rating Unit  
 Rating Date  
 Trt-Eval Interval

ZEAMX  
 percent  
 dying\*  
 6/21/07  
 45 DAP

| Trt No. | Treatment Name          | Form Conc | Form Type | Rate | Rate Unit | Grow Stg | 8  |
|---------|-------------------------|-----------|-----------|------|-----------|----------|----|
| 1       | Harness Xtra 5.6 ENTIRE | 5.6       | L         | 1.5  | qt/a      | PRE      | 1  |
| 1       | Select Max              | 0.97      | L         | 4    | fl oz/a   | V1-V2    |    |
| 1       | Activator 90            |           | L         | 0.25 | % v/v     | V1-V2    |    |
| 1       | Ammonium Sulfate        | 100       | DF        | 2.5  | lb/a      | V1-V2    |    |
| 2       | Select Max              | 0.97      | L         | 6    | fl oz/a   | V1-V2    | 0  |
| 2       | Activator 90            |           | L         | 0.25 | % v/v     | V1-V2    |    |
| 2       | Ammonium Sulfate        | 100       | DF        | 2.5  | lb/a      | V1-V2    |    |
| 3       | Select Max              | 0.97      | L         | 4    | fl oz/a   | V1-V2    | 0  |
| 3       | Activator 90            |           | L         | 0.25 | % v/v     | V1-V2    |    |
| 3       | Ammonium Sulfate        | 100       | DF        | 2.5  | lb/a      | V1-V2    |    |
| 3       | Roundup OriginalMax     | 4.5       | L         | 0.75 | lb ae/a   | V1-V2    |    |
| 4       | Select Max              | 0.97      | L         | 6    | fl oz/a   | V1-V2    | 1  |
| 4       | Activator 90            |           | L         | 0.25 | % v/v     | V1-V2    |    |
| 4       | Ammonium Sulfate        | 100       | DF        | 2.5  | lb/a      | V1-V2    |    |
| 4       | Degree Xtra             | 4         | L         | 2    | qt/a      | V1-V2    |    |
| 5       | Select Max              | 0.97      | L         | 8    | fl oz/a   | V1-V2    | 0  |
| 5       | Activator 90            |           | L         | 0.25 | % v/v     | V1-V2    |    |
| 5       | Ammonium Sulfate        | 100       | DF        | 2.5  | lb/a      | V1-V2    |    |
| 6       | Gramoxone Inteon        | 2         | L         | 1    | qt/a      | V1-V2    | 5  |
| 6       | Sencor                  | 75        | DF        | 2    | oz/a      | V1-V2    |    |
| 6       | Activator 90            |           | L         | 0.25 | % v/v     | V1-V2    |    |
| 6       | Herbimax                |           | L         | 1    | % v/v     | V1-V2    |    |
| 7       | Liberty                 | 1.67      | L         | 1    | qt/a      | V1-V2    | 19 |
| 7       | Ammonium Sulfate        | 100       | DF        | 3    | lb/a      | V1-V2    |    |
| 8       | Select Max              | 0.97      | L         | 4    | fl oz/a   | V4-V5    | 1  |
| 8       | Activator 90            |           | L         | 0.25 | % v/v     | V4-V5    |    |
| 8       | Ammonium Sulfate        | 100       | DF        | 2.5  | lb/a      | V4-V5    |    |
| 9       | Select Max              | 0.97      | L         | 6    | fl oz/a   | V4-V5    | 0  |
| 9       | Activator 90            |           | L         | 0.25 | % v/v     | V4-V5    |    |
| 9       | Ammonium Sulfate        | 100       | DF        | 2.5  | lb/a      | V4-V5    |    |
| 10      | Select Max              | 0.97      | L         | 4    | fl oz/a   | V4-V5    | 2  |
| 10      | Activator 90            |           | L         | 0.25 | % v/v     | V4-V5    |    |
| 10      | Ammonium Sulfate        | 100       | DF        | 2.5  | lb/a      | V4-V5    |    |
| 10      | Roundup OriginalMax     | 4.5       | L         | 0.75 | lb ae/a   | V4-V5    |    |
| 11      | Select Max              | 0.97      | L         | 6    | fl oz/a   | V4-V5    | 7  |
| 11      | Activator 90            |           | L         | 0.25 | % v/v     | V4-V5    |    |
| 11      | Ammonium Sulfate        | 100       | DF        | 2.5  | lb/a      | V4-V5    |    |
| 11      | Degree Xtra             | 4         | L         | 2    | qt/a      | V4-V5    |    |
| 12      | Select Max              | 0.97      | L         | 8    | fl oz/a   | V4-V5    | 0  |
| 12      | Activator 90            |           | L         | 0.25 | % v/v     | V4-V5    |    |
| 12      | Ammonium Sulfate        | 100       | DF        | 2.5  | lb/a      | V4-V5    |    |
| 13      | Gramoxone Inteon        | 2         | L         | 1    | qt/a      | V4-V5    | 0  |
| 13      | Sencor                  | 75        | DF        | 2    | oz/a      | V4-V5    |    |
| 13      | Activator 90            |           | L         | 0.25 | % v/v     | V4-V5    |    |
| 13      | Herbimax                |           | L         | 1    | % v/v     | V4-V5    |    |
| 14      | Liberty                 | 1.67      | L         | 1    | qt/a      | V4-V5    | 29 |
| 14      | Ammonium Sulfate        | 100       | DF        | 3    | lb/a      | V4-V5    |    |
| 15      | Untreated               |           |           |      |           |          |    |

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Weed Code  
 Crop Code ZEAMX  
 Rating Data Type percent  
 Rating Unit dying\*  
 Rating Date 6/21/07  
 Trt-Eval Interval 45 DAP

| Trt No. | Treatment Name | Form Conc | Form Type | Rate | Rate Unit | Grow Stg | 8 |
|---------|----------------|-----------|-----------|------|-----------|----------|---|
|---------|----------------|-----------|-----------|------|-----------|----------|---|

|                    |       |
|--------------------|-------|
| LSD (P=.05)        | 6.1   |
| Standard Deviation | 4.3   |
| CV                 | 92.14 |

ARM Action Codes

T1 = ((([c2]+[c3])/2)/59)\*100  
 T2 = ((([c6]+[c7])/2)/59)\*100