

MSU Weed Science Research Program

Effect of Row-width and Plant Population on Roundup Ready Sugarbeets

Trial ID: SB06-07 Robinson Study Dir.: Armstrong, Powell, Sprague
 Conducted: Robinson's Investigator: Christy Sprague

Date Planted: 4/21/07 **Row Spacing:** IN
Variety: Beta RZ02RR07 **No. of Reps:** 4
Population: **% OM:** 10.7
Soil Type: Clay Loam **pH:** 7.5
Plot Size: 15 X 30 FT **Design:** RANDOMIZED COMPLETE BLOCK

Crop and Weed Description

| Weed | Code | Common Name | Scientific Name |
|------|-------|-----------------------|-----------------------------|
| 1. | CHEAL | LAMBSQUARTERS, COMMON | CHENOPODIUM ALBUM L. |
| 2. | ABUTH | VELVETLEAF | ABUTILON THEOPHRASTI MEDIK. |
| 3. | AMARE | PIGWEEED, REDROOT | AMARANTHUS RETROFLEXUS L. |
| Crop | Code | Common Name | |
| 1. | BETVU | BEET, SUGAR | |

Application Description

| | A | B |
|------------------------------|-----------|-----------|
| Application Timing: | Weed Free | Weed Free |
| Date Treated: | 5/18/07 | 6/6/07 |
| Time Treated: | 4:30 pm | 1:20 pm |
| % Cloud Cover: | 10 | 10 |
| Air Temp., Unit: | 70 F | 70 F |
| % Relative Humidity: | 20 | 49 |
| Wind Speed/Unit/Dir: | 5 mph W | 5 mph SW |
| Soil Temp., Unit: | 64 F | 63 F |
| Soil/Leaf Surface M: | 5 5 | 4 5 |
| Soil Moist (1=w 5=d): | 5 | 3 |

Crop Stage at Each Application

| | A | B |
|----------------------|--------|-------|
| Crop Name: | BETVU | BETVU |
| Height (In.): | 1/2-2" | 5-7 |
| Stage (L): | coty-4 | 12 |

Weed Stage at Each Application

| | A | B |
|----------------------|----------|--------|
| Weed 1 Name: | CHEAL | CHEAL |
| Height (In.): | 1/4-1" | 2-3" |
| Stage (L): | coty-6 | 7 |
| Weed 2 Name: | ABUTH | ABUTH |
| Height (In.): | 1/4-1.5" | 2" |
| Stage (L): | coty-2 | 4 |
| Weed 3 Name: | AMARE | AMARE |
| Height (In.): | 1/4-3/4" | 1.5-2" |
| Stage (L): | coty-2 | 8-12 |

Application Equipment

| Appl | Sprayer Type | Speed MPH | Nozzle Type | Nozzle Size | Nozzle Height | Nozzle Spacing | Boom Width | GPA | Carrier | PSI |
|------|--------------|-----------|-------------|-------------|---------------|----------------|------------|-----|---------|-----|
| A | Cub | 3.8 | AirMix | 11003 | 22" | 20 | 100 | 19 | water | 27 |
| B | Cub | 3.8 | AirMix | 11003 | 24" | 20 | 100 | 19 | water | 27 |

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| | | | | | |
|-------------------|----------|----------|----------|----------|----------|
| Weed Code | | | | | |
| Crop Code | BETVU | BETVU | BETVU | BETVU | BETVU |
| Rating Data Type | count | % sugar | yield | RWST | RWSA |
| Rating Unit | #/100' | | ton/acre | #/ton | ton/acre |
| Rating Date | 9/20/07 | 9/20/07 | 9/20/07 | 9/20/07 | 9/20/07 |
| Trt-Eval Interval | 125 DA-A | 125 DA-A | 125 DA-A | 125 DA-A | 125 DA-A |

| Trt No. | Treatment Name | Rate Unit | BETVU count | BETVU % sugar | BETVU yield ton/acre | BETVU RWST #/ton | BETVU RWSA ton/acre |
|--------------------|--|-----------|-------------|---------------|----------------------|------------------|---------------------|
| 1 | 20" rows, 84 beets/100' Weed free | | 101 | 16.1 | 31.7 | 230.7 | 3.6 |
| 2 | 20" rows, 120 beets/ 100' Weed free | | 125 | 16.8 | 28.6 | 242.5 | 3.5 |
| 3 | 20" rows, 156 beets/100' Weed free | | 146 | 16.9 | 26.1 | 247.0 | 3.2 |
| 4 | 20" rows, 192 beets/100' Weed free | | 174 | 16.9 | 31.0 | 241.5 | 3.8 |
| 5 | 30" rows, 126 beets/100' Weed free | | 132 | 16.0 | 30.5 | 226.2 | 3.4 |
| 6 | 30" rows, 180 beets/100' Weed free | | 176 | 16.6 | 30.9 | 241.6 | 3.7 |
| 7 | 30" rows, 234 beets/100' Weed free | | 214 | 16.7 | 28.3 | 244.6 | 3.5 |
| 8 | 30" rows, 288 beets/100' Weed free | | 243 | 16.6 | 28.5 | 242.3 | 3.5 |
| 9 | 15" rows, 63 beets/100' Weed free | | 82 | 16.3 | 30.9 | 237.6 | 3.6 |
| 10 | 15" rows, 90 beets/100' Weed free | | 100 | 16.9 | 30.8 | 245.7 | 3.8 |
| 11 | 15" rows, 117 beets/100' Weed free | | 116 | 17.1 | 26.9 | 251.3 | 3.4 |
| 12 | 15" rows, 144 beets/100' Weed free | | 148 | 17.1 | 32.8 | 250.3 | 4.1 |
| LSD (P=.05) | | | 19.8 | 1.24 | 7.53 | 22.92 | 0.92 |
| Standard Deviation | | | 13.7 | 0.86 | 5.22 | 15.87 | 0.64 |
| CV | | | 9.39 | 5.17 | 17.55 | 6.57 | 17.74 |