

# MSU Soil Fertility Research Program

## COMPARISON OF POP- UP FERTILIZER TREATMENTS, 2012

Trial ID: BV03-12      Location: SVRF    Trial Year:  
 Protocol ID: BV03-12    Investigator: Kurt Steinke  
 Project ID: BV03-12    Study Director:  
 Sponsor Contact:

| Crop Code          |                |             |            |            |              | BEAVA         | BEAVA         |
|--------------------|----------------|-------------|------------|------------|--------------|---------------|---------------|
| Crop Name          |                |             |            |            |              | Sugarbeet     | Sugarbeet     |
| Crop Variety       |                |             |            |            |              | Crystal RR059 | Crystal RR059 |
| Description        |                |             |            |            |              | harvest       | harvest       |
| Rating Date        |                |             |            |            |              | Oct-5-2012    | Oct-5-2012    |
| Rating Type        |                |             |            |            |              | YIELD         | RWST          |
| Rating Unit        |                |             |            |            |              | T-US          |               |
| ARM Action Codes   |                |             |            |            |              | TY1           |               |
| Number of Decimals |                |             |            |            |              | 1             | 1             |
| Trt No.            | Treatment Name | Rate        | Other Rate | Other Rate | Growth Stage | Appl Code     |               |
|                    |                | Rate Unit   | Rate       | Rate       | Unit         |               |               |
| 1                  | CHECK          |             |            |            |              | A             | 9             |
|                    | P205-PHOS      | 40 lb ai/a  | 89 lb/a    |            | PPI          | A             | 34.6 a        |
|                    | K20-POTASH     | 100 lb ai/a | 161 lb/a   |            | PPI          | A             | 286.1 ab      |
|                    | MANGANESE      | 2 lb ai/a   | 7.4 lb/a   |            | PPI          | A             |               |
|                    | UREA 46-0-0    | 140 lb ai/a | 304 lb/a   |            | PPI          | A             |               |
| 2                  | P205-PHOS      | 40 lb ai/a  | 89 lb/a    |            | PPI          | A             | 31.5 ab       |
|                    | K20-POTASH     | 100 lb ai/a | 161 lb/a   |            | PPI          | A             | 290.8 ab      |
|                    | MANGANESE      | 2 lb ai/a   | 7.4 lb/a   |            | PPI          | A             |               |
|                    | UREA 46-0-0    | 140 lb ai/a | 304 lb/a   |            | PPI          | A             |               |
|                    | 10-34-0        | 3 gal/a     | 3 gal/a    |            | FURROW       | B             |               |
| 3                  | P205-PHOS      | 40 lb ai/a  | 89 lb/a    |            | PPI          | A             | 33.8 a        |
|                    | K20-POTASH     | 100 lb ai/a | 161 lb/a   |            | PPI          | A             | 292.3 ab      |
|                    | MANGANESE      | 2 lb ai/a   | 7.4 lb/a   |            | PPI          | A             |               |
|                    | UREA 46-0-0    | 140 lb ai/a | 304 lb/a   |            | PPI          | A             |               |
|                    | 10-34-0        | 5 gal/a     | 5 gal/a    |            | FURROW       | B             |               |
| 4                  | P205-PHOS      | 40 lb ai/a  | 89 lb/a    |            | PPI          | A             | 28.3 b        |
|                    | K20-POTASH     | 100 lb ai/a | 161 lb/a   |            | PPI          | A             | 278.5 ab      |
|                    | MANGANESE      | 2 lb ai/a   | 7.4 lb/a   |            | PPI          | A             |               |
|                    | UREA 46-0-0    | 140 lb ai/a | 304 lb/a   |            | PPI          | A             |               |
|                    | 10-34-0        | 7 gal/a     | 7 gal/a    |            | FURROW       | B             |               |
| 5                  | P205-PHOS      | 40 lb ai/a  | 89 lb/a    |            | PPI          | A             | 32.3 ab       |
|                    | K20-POTASH     | 100 lb ai/a | 161 lb/a   |            | PPI          | A             | 282.4 ab      |
|                    | MANGANESE      | 2 lb ai/a   | 7.4 lb/a   |            | PPI          | A             |               |
|                    | UREA 46-0-0    | 140 lb ai/a | 304 lb/a   |            | PPI          | A             |               |
|                    | 10-34-0        | 3 gal/a     | 3 gal/a    |            | FURROW       | B             |               |
|                    | MMREE          | 2 qt/a      | 2 qt/a     |            | FURROW       | B             |               |
| 6                  | P205-PHOS      | 40 lb ai/a  | 89 lb/a    |            | PPI          | A             | 32.6 ab       |
|                    | K20-POTASH     | 100 lb ai/a | 161 lb/a   |            | PPI          | A             | 296.6 ab      |
|                    | MANGANESE      | 2 lb ai/a   | 7.4 lb/a   |            | PPI          | A             |               |
|                    | UREA 46-0-0    | 140 lb ai/a | 304 lb/a   |            | PPI          | A             |               |
|                    | 6-24-6         | 2 gal/a     | 2 gal/a    |            | FURROW       | B             |               |
| 7                  | P205-PHOS      | 40 lb ai/a  | 89 lb/a    |            | PPI          | A             | 31.5 ab       |
|                    | K20-POTASH     | 100 lb ai/a | 161 lb/a   |            | PPI          | A             | 285.7 ab      |
|                    | MANGANESE      | 2 lb ai/a   | 7.4 lb/a   |            | PPI          | A             |               |
|                    | UREA 46-0-0    | 140 lb ai/a | 304 lb/a   |            | PPI          | A             |               |
|                    | 6-24-6         | 2 gal/a     | 2 gal/a    |            | FURROW       | B             |               |
|                    | MMREE          | 2 qt/a      | 2 qt/a     |            | FURROW       | B             |               |
| 8                  | P205-PHOS      | 40 lb ai/a  | 89 lb/a    |            | PPI          | A             | 32.6 ab       |
|                    | K20-POTASH     | 100 lb ai/a | 161 lb/a   |            | PPI          | A             | 284.9 ab      |
|                    | MANGANESE      | 2 lb ai/a   | 7.4 lb/a   |            | PPI          | A             |               |
|                    | UREA 46-0-0    | 140 lb ai/a | 304 lb/a   |            | PPI          | A             |               |
|                    | MMREE          | 2 qt/a      | 2 qt/a     |            | FURROW       | B             |               |
| 9                  | P205-PHOS      | 40 lb ai/a  | 89 lb/a    |            | PPI          | A             | 34.3 a        |
|                    | K20-POTASH     | 100 lb ai/a | 161 lb/a   |            | PPI          | A             | 295.4 ab      |
|                    | MANGANESE      | 2 lb ai/a   | 7.4 lb/a   |            | PPI          | A             |               |
|                    | UREA 46-0-0    | 140 lb ai/a | 304 lb/a   |            | PPI          | A             |               |
|                    | GAVILON 30     | 2 gal/a     | 2 gal/a    |            | FURROW       | B             |               |

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)  
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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 Sponsor Contact:

| Crop Code          |                |             |            |            |              | BEAVA         | BEAVA         |
|--------------------|----------------|-------------|------------|------------|--------------|---------------|---------------|
| Crop Name          |                |             |            |            |              | Sugarbeet     | Sugarbeet     |
| Crop Variety       |                |             |            |            |              | Crystal RR059 | Crystal RR059 |
| Description        |                |             |            |            |              | harvest       | harvest       |
| Rating Date        |                |             |            |            |              | Oct-5-2012    | Oct-5-2012    |
| Rating Type        |                |             |            |            |              | YIELD         | RWST          |
| Rating Unit        |                |             |            |            |              | T-US          |               |
| ARM Action Codes   |                |             |            |            |              | TY1           |               |
| Number of Decimals |                |             |            |            |              | 1             | 1             |
| Trt No.            | Treatment Name | Rate        | Other Rate | Other Rate | Growth Stage | Appl Code     |               |
|                    |                | Rate Unit   | Rate Unit  | Rate Unit  |              |               |               |
| 10                 | P205-PHOS      | 40 lb ai/a  | 89 lb/a    |            | PPI          | A             | 34.3 a        |
|                    | K20-POTASH     | 100 lb ai/a | 161 lb/a   |            | PPI          | A             | 277.3 b       |
|                    | MANGANESE      | 2 lb ai/a   | 7.4 lb/a   |            | PPI          | A             |               |
|                    | UREA 46-0-0    | 140 lb ai/a | 304 lb/a   |            | PPI          | A             |               |
|                    | PRO-GERMINATOR | 2.5 gal/a   | 2.5 gal/a  |            | FURROW       | B             |               |
|                    | MICRO-500      | 2 qt/a      | 2 qt/a     |            | FURROW       | B             |               |
|                    | 28 % NITROGEN  | 40 lb ai/a  | 13.3 gal/a |            | 2x2PL        | C             |               |
| 11                 | P205-PHOS      | 40 lb ai/a  | 89 lb/a    |            | PPI          | A             | 33.2 a        |
|                    | K20-POTASH     | 100 lb ai/a | 161 lb/a   |            | PPI          | A             | 307.9 a       |
|                    | MANGANESE      | 2 lb ai/a   | 7.4 lb/a   |            | PPI          | A             |               |
|                    | UREA 46-0-0    | 100 lb ai/a | 217 lb/a   |            | PPI          | A             |               |
|                    | PRO-GERMINATOR | 2.5 gal/a   | 2.5 gal/a  |            | FURROW       | B             |               |
|                    | MICRO-500      | 2 qt/a      | 2 qt/a     |            | FURROW       | B             |               |
|                    | PRO-GERMINATOR | 1.5 gal/a   | 1.5 gal/a  |            | 2x2PL        | C             |               |
|                    | SURE-K         | 7.5 gal/a   | 7.5 gal/a  |            | 2x2PL        | C             |               |
|                    | 28 % NITROGEN  | 40 lb ai/a  | 13.3 gal/a |            | 2x2PL        | C             |               |
|                    | MICRO-500      | 2 qt/a      | 2 qt/a     |            | 2x2PL        | C             |               |
| 12                 | P205-PHOS      | 40 lb ai/a  | 89 lb/a    |            | PPI          | A             | 33.9 a        |
|                    | K20-POTASH     | 100 lb ai/a | 161 lb/a   |            | PPI          | A             | 308.1 a       |
|                    | MANGANESE      | 2 lb ai/a   | 7.4 lb/a   |            | PPI          | A             |               |
|                    | UREA 46-0-0    | 100 lb ai/a | 217 lb/a   |            | PPI          | A             |               |
|                    | PRO-GERMINATOR | 4 gal/a     | 4 gal/a    |            | 2x2PL        | C             |               |
|                    | SURE-K         | 7.5 gal/a   | 7.5 gal/a  |            | 2x2PL        | C             |               |
|                    | MICRO-500      | 2 qt/a      | 2 qt/a     |            | 2x2PL        | C             |               |
|                    | 28 % NITROGEN  | 40 lb ai/a  | 13.3 gal/a |            | 2x2PL        | C             |               |
| LSD (P=.05)        |                |             |            |            |              | 3.00          | 17.51         |
| Standard Deviation |                |             |            |            |              | 2.08          | 12.13         |
| CV                 |                |             |            |            |              | 6.35          | 4.17          |
| Bartlett's X2      |                |             |            |            |              | 9.741         | 16.475        |
| P(Bartlett's X2)   |                |             |            |            |              | 0.554         | 0.124         |
| Skewness           |                |             |            |            |              | -0.3776       | -0.132        |
| Kurtosis           |                |             |            |            |              | 0.6558        | -0.2093       |

Crop Code  
 BEAVA, BSUG, Beta vulgaris vulg. altissima, = US  
Rating Type  
 YIELD = yield  
Rating Unit  
 T-US = ton (short=2000 lb)  
ARM Action Codes  
 TY1 = 0.1244571\*[C8]