

Effect of adjuvants tank-mixed with Buccaneer Plus + Volunteer on the control of volunteer glyphosate resistant corn in glyphosate resistant soybeans at Lamberton, MN in 2009.

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The objective of this study was to evaluate adjuvants tank-mixed with Buccaneer Plus + Volunteer for 12 to 17-inch volunteer corn control in soybeans. This study was conducted on a Normania loam soil containing 4.2% organic matter, pH 6.1 and soil test P and K levels of 68 and 376 lb/A, respectively. A randomized complete block design with four replications and a plot size of 10 by 30 ft was used. The site was planted to oats in 2008 and was fall chiseled. Glyphosate resistant corn was broadcast seeded over the entire plot area. On May 19, 2009, Pioneer '91M80' glyphosate resistant soybeans were planted in 30-inch rows at a seeding rate of 160,000 seeds/A. Glyphosate was applied on June 11 to the entire plot area for annual weed control. On July 29, all plots were treated with bifenthrin for soybean aphid and spider mite control. All treatments were applied with a tractor-mounted sprayer delivering 20 gpa at a pressure of 40 psi. The sprayer was equipped with 8002 flat-fan nozzles spaced 15 inches apart on the boom. Application dates, environmental conditions, plant sizes and rainfall data are listed below:

| | |
|-----------------------------------|----------|
| Date | June 22 |
| Treatment | POST |
| Temperature (F) | |
| air | 75 |
| soil (4 inch) | 76 |
| Relative humidity (%) | 74 |
| Wind (mph) | NW 6 |
| Sky | clear |
| Soil moisture | moist |
| Soybean | |
| leaf no. | V3 |
| height (inch) | 10 |
| Volunteer corn | |
| leaf no. | 5-collar |
| height (inch) | 12 to 17 |
| no./ft ² | 3 |
| Yellow foxtail | |
| leaf no. | 2 to 4 |
| height (inch) | 1 to 3 |
| no./ft ² | 28 |
| Common lambsquarters | |
| leaf no. | 1 to 2 |
| height (inch) | 1 to 2 |
| no./ft ² | 2 |
| Tall waterhemp | |
| leaf no. | 1 to 2 |
| height (inch) | 1 to 2 |
| no./ft ² | 16 |
| Rainfall after application (inch) | |
| 1 week | 0.46 |
| 2 week | 0.09 |
| 3 week | 1.39 |

(Southwest Research and Outreach Center, University of Minnesota, Lamberton).

Table. Effect of adjuvants tank-mixed with Buccaneer Plus + Volunteer on the control of volunteer glyphosate resistant corn in glyphosate resistant soybeans at Lamberton, MN in 2009 (Getting).

| Treatment | Rate | Volunteer corn | | | Yellow foxtail | | | C. lambsquarters | | | Tall waterhemp | | | Yield (bu/A) ^a |
|---|------------------------------|------------------------|-------|--------|----------------|-------|--------|------------------|-------|--------|----------------|-------|--------|------------------------------|
| | | Jul 1 | Jul 8 | Sep 16 | Jul 1 | Jul 8 | Sep 16 | Jul 1 | Jul 8 | Sep 16 | Jul 1 | Jul 8 | Sep 16 | |
| POST (12 to 17-inch volunteer corn) | (oz/A, pt/A, qt/A) | ----- (% control)----- | | | | | | | | | | | | |
| Volunteer + N-Tense + Premium COC | 3 oz + 0.25% +1 pt | 94 b | 100 a | 100 a | 98 a | 95 a | 99 a | 0 b | 0 b | 0 c | 0 b | 0 b | 0 c | 25.7 d |
| Volunteer + AMS + Premium COC | 3 oz + 8.5 lb/100 gal +1 pt | 97 a | 100 a | 100 a | 98 a | 95 a | 99 a | 0 b | 0 b | 0 c | 0 b | 0 b | 0 c | 30.2 c |
| Buccaneer Plus + N-Tense | 16 oz + 0.25% | 0 e | 0 e | 0 c | 97 a | 94 a | 99 a | 98 a | 97 a | 99 a | 98 a | 97 a | 99 a | NA |
| Buccaneer Plus + Volunteer + N-Tense | 16 oz + 3 oz + 0.25% | 87 d | 97 bc | 100 a | 97 a | 94 a | 99 a | 99 a | 98 a | 99 b | 98 a | 97 a | 99 ab | 58.9 ab |
| Buccaneer Plus + Volunteer + N-Tense | 16 oz + 3 oz + 0.5% | 90 c | 93 d | 99 b | 98 a | 95 a | 97 b | 98 a | 97 a | 99 b | 98 a | 97 a | 99 a | 58.8 ab |
| Buccaneer Plus +Volunteer + N-Tense + Trophy Gold | 16 oz + 3 oz + 0.25% + 0.25% | 90 c | 96 c | 100 a | 97 a | 94 a | 97 b | 99 a | 98 a | 99 b | 99 a | 98 a | 99 ab | 57.0 b |
| Buccaneer Plus +Volunteer + N-Tense + WC074 | 16 oz + 3 oz + 0.25% + 0.25% | 93 bc | 96 c | 100 a | 97 a | 95 a | 99 a | 98 a | 97 a | 99 b | 98 a | 97 a | 98 b | 58.2 ab |
| Buccaneer Plus +Volunteer + N-Tense + WC074 | 16 oz + 3 oz + 0.25% + 0.5% | 91 c | 99 ab | 100 a | 97 a | 94 a | 99 a | 98 a | 98 a | 99 b | 99 a | 98 a | 99 a | 61.0 a |
| Buccaneer Plus +Volunteer + N-Tense + Premium COC | 16 oz + 3 oz + 0.25% + 1 pt | 93 bc | 97 bc | 100 a | 97 a | 94 a | 96 b | 99 a | 98 a | 99 b | 98 a | 97 a | 99 a | 60.1 ab |
| Checks | | | | | | | | | | | | | | |
| Weedy Check | - | 0 e | 0 e | 0 c | 0 b | 0 b | 0 c | 0 b | 0 b | 0 c | 0 b | 0 b | 0 c | NA |
| | LSD (0.10) | 2.6 | 2.1 | 1.0 | 1.4 | 2.1 | 1.5 | 1.6 | 1.0 | 0.2 | 1.8 | 1.3 | 0.8 | 3.70 |

^a Yield adjusted to 13% moisture.