

Sweet Corn Seed Treatment and Seedling Establishment Trial – 2005

Mark Bennett¹, Elaine Grassbaugh¹, and Matt Hofelich²

¹Ohio State University, 2001 Coffey Rd., Columbus, OH 43210

²OSU/OARDC North Central Agricultural Station, 1165 CR 43, Fremont, OH 43420

Objective:

Twelve seed treatment combinations plus an untreated control were tested on two cultivars of sweet corn (*sh*₂ ‘Krispy King’ and *se* ‘Luscious’) to determine the best seed treatments for optimum stand establishment.

Materials and Methods:

Plots were established at the North Central Agricultural Research Station (NCARS) near Fremont, Ohio on May 9, 2005. Four replications of 100 seeds were planted in rows spaced 30” apart with 4-5” between seeds. Each cultivar was planted in a randomized block design. Soil type was Rimer loamy fine sand. Soil temperature (2” depth) at planting was 50°F. When plants reached at least the 5-6 leaf stage stand counts were taken (June 15) to determine effective seed treatments for optimum sweet corn stand establishment.

Results and Discussion:

Emergence of the *se* cultivar ‘Luscious’ was lowest in the untreated check plots and two biological/organic seed treatments (GB 34 and Natural II). All other seed treatment combinations resulted in significantly higher emergence values. The emergence range in Fremont was 48% to 83% (Table 1).

Emergence of the *sh*₂ cultivar ‘Krispy King’ was 62% or less in the untreated check plots and the GB 34 plots. Only 3 seed treatment combinations had a significantly higher emergence than the untreated check (Table 1). Emergence of ‘Krispy King’ ranged from 59% to 84%.

This project was part of a multi-location trial organized by the Seed Treatment Committee of the International Sweet Corn Development Association, a non-profit research organization. The information generated from this study will be of value to sweet corn producers, industry personnel, consultants, farm advisers, extension plant pathologists and others interested in identifying the best performing seed treatments for optimum stand establishment.

Acknowledgements:

We would like to thank the *Ohio Vegetable and Small Fruit Research and Development Program* for their financial support of this research.

Table 1. Sweet Corn Seed Treatment and Seedling Establishment-2005, Fremont, OH.

| Seed Treatment | Rate | % Stand | |
|---------------------------------|--------------------|----------------|--------------------|
| | | se: 'Luscious' | sh2: 'Krispy King' |
| Untreated Check | | 52 | 62 |
| Captan 400 | 3.00 fl oz/cwt | 72 | 67 |
| Thiram 42S | 2.50 fl oz/cwt | | |
| Allegiance FL | 0.75 fl oz/cwt | | |
| Captan 400 | 3.00 fl oz/cwt | 71 | 75 |
| Thiram 42S | 2.50 fl oz/cwt | | |
| Allegiance FL | 0.75 fl oz/cwt | | |
| Topsin 30 | 5.00 fl oz/cwt | | |
| L0052 | 3.00 fl oz/cwt | 70 | 68 |
| L1226 | 15.00 g/cwt | | |
| L1028 | 1.25 g/cwt | | |
| Allegiance FL | 0.75 fl oz/cwt | | |
| Captan 400 | 3.00 fl oz/cwt | 72 | 72 |
| Thiram 42S | 2.50 fl oz/cwt | | |
| Allegiance FL | 0.75 fl oz/cwt | | |
| L1217 | 5.00 g a.l./100 kg | | |
| L1243 | 109.00 g/cwt | 75 | 67 |
| L1226 | 10.00 g/cwt | | |
| Allegiance FL | 0.75 fl oz/cwt | | |
| GB 34 (Biological/Organic) | 0.05 oz/cwt | 48 | 59 |
| Apron XL 3 LS | 0.19 fl oz/cwt | 72 | 65 |
| Maxim 4 FS | 0.08 fl oz/cwt | | |
| Dividend Xtreme 0.96 FS | 2.00 fl oz/cwt | | |
| Maxim 4 FS | 0.08 fl oz/cwt | 74 | 66 |
| Apron XL 3 LS | 0.31 fl oz/cwt | | |
| Dynasty 0.83 FS | 0.15 fl oz/cwt | | |
| Apron XL 3 LS | 0.19 fl oz/cwt | 83 | 83 |
| Dynasty 0.83 FS | 0.15 fl oz/cwt | | |
| Maxim 4 FS | 0.08 fl oz/cwt | | |
| Dividend Xtreme 0.96 FS | 2.00 fl oz/cwt | | |
| Cruiser 5 FS | 0.25 mg/seed | | |
| A14115A | 0.139 mg/seed | 78 | 84 |
| Apron XL 3 LS | 0.23 fl oz/cwt | | |
| Cruiser 5 FS | 0.125 mg/seed | | |
| Apron XL 3 LS | 0.104 fl oz/cwt | 81 | 82 |
| A14155A | 0.139 mg/seed | | |
| Dividend Xtreme 0.96 FS | 2.00 fl oz/cwt | | |
| Cruiser 5 FS | 0.125 mg/seed | | |
| Natural II (Biological/Organic) | 3.2 oz/cwt | 55 | 66 |
| LSD(0.05) | | 15.0 | 13.6 |
| CV | | 20.3 | 16.2 |