

EFFECT OF SOME FUNGICIDES ON  
GERMINATION AND EMERGENCE OF SWEET CORN

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## SUMMARY AND CONCLUSIONS

Responses to seed treatment of Cherokee hybrid sweet corn seed were studied in laboratory and field emergence. Incidence of fungal growth, percentage of abnormal seedlings and seedling length were also evaluated.

Seven chemicals were tested, Arasan-50-red, Captan 30 flowable, Captan Methoxichlor 75-3, Vitavax 200 w.p., Evershield Captan-Malathion, Evershield Thiram, and Evershield Vitavax + Evershield Captan-Malathion. Three application rates, 1/2 recommended rate, recommended rate, and double the recommended rate were evaluated. A control with no treatment was also included along with two seed quality levels, high germination (90%) and low germination (70%). Low quality seeds were obtained by placing a sample of high vigor seed into an aging chamber at 42C and 10% RH for 72 hours.

High quality seed responded positively to seed treatment in the laboratory. Germination rate increased as treatment rate increased. On the contrary, low vigor seed had similar behavior at the different rates.

In the cold test and field emergence low quality seed received the largest benefit from chemical treatment. Here the lowest treatment rate (1/2 recommended rate) was effective in supplying adequate protection to get an acceptable stand on both seed vigor levels.

The combination Evershield Vitavax + Evershield Captan-Malathion had a depressive effect on germination and seedling length, while

Evershield Thiram showed the lowest performance among chemicals in the cold test and field emergence.

Fungal growth was not affected by the vigor levels of the seed, but the number of seedlings that showed this kind of damage were highest at the second count (seven days after planting). The percentage of abnormal seedlings decreased as the amount of fungal growth decreased.

Based on the results from this research it can be concluded:

1. High vigor seed responded positively in the germination test to the increased rates of treatment.
2. In the cold and field emergence tests the greatest benefit from the chemicals was evidenced on low quality seed. However no significant differences among rates were detected at either level of seed vigor. A good stand was obtained with the lowest rate of treatment (1/2 the recommended rate).
3. The combination Evershield Vitavax + Evershield Captan-Malathion had a negative effect on laboratory germination and seedling length, while Evershield Thiram gave the least protection to the seedling in the cold test and field emergence.
4. All the chemicals exhibited an enormous capacity to inhibit fungal growth, mainly at the time of the first count.
5. Fungi were the principal cause of abnormal seedlings.