

Goggi, A. S., D. Curry and J. Daniels. 2009. Cold test and saturated cold test reliability for testing carryover corn seed treated with seed-applied insecticides. **Seed Technology** 31: 7-20.

#### Abstract

The cold test germination percentage of carryover seed corn lots treated with a seed-applied insecticide (SAI) can be below the seed industry's sale standard. However, the same seed lots have good emergence (80 to 90%) when planted in the field. The objectives of this study were to 1) evaluate the extent of cold test germination differences between carryover seed lots treated with fungicide + SAI or fungicide-only; 2) determine if an alternative preparation can be made to a seed lot prior to the cold test and the saturated cold test; and 3) address the accuracy of the conventional cold versus the saturated cold testing method in predicting field emergence. Nineteen seed lots treated with fungicide-only or fungicide + SAI were tested in the laboratory and the field. The cold test germination percentage of carryover seed lots treated with fungicide + SAI was lower than fungicide-only treated seed. When the treatments were removed with Tween 20, the cold test germination of the fungicide + SAI-treated seed was not significantly different from the fungicide-only treated control. The cold test of fungicide-only treated and fungicide + SAI-treated seed correctly estimated emergence under all field conditions. After the fungicide + SAI seed treatment was removed, the saturated cold test accurately predicted field emergence under "poor" field conditions but underestimated field emergence under "average" or "good" field conditions. Removing the fungicide + SAI treatment before conducting the cold test may help seed companies better predict field emergence of the seed lots.

#### URL:

<http://www.seedtechnology.net/journal.htm>