

CHAFF FLOW THROUGHPUT EFFECTS ON A HWSC MILL DURING HARVEST

DOES THE EFFICACY PERFORMANCE OF HWSC MILLS CHANGE WHEN DIFFERENT RATES OF CHAFF ARE PROCESSED BY THE MILLS WITH THE WEEDS TYPICALLY FOUND IN EACH CROP PRODUCTION SYSTEM?

TESTING PROCESS

The Redekop SCU was put to the test in Virginia Techs laboratories.

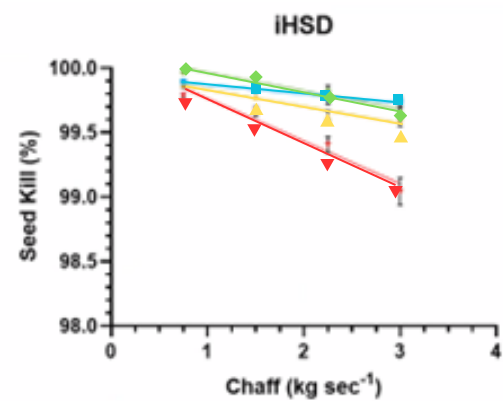
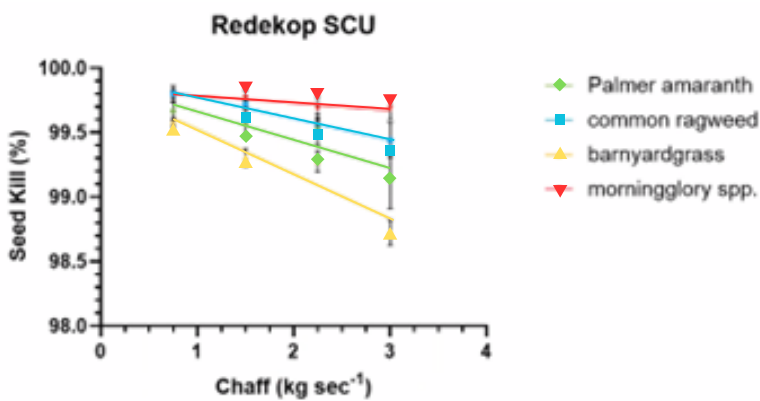
Chaff was spread out evenly on a belt conveyor and weed seeds were added to the middle 80% of the chaff row. The mills were brought up to the manufacturers recommended speed, and once stable the conveyor delivered the wheat or soybean chaff into the mills at a typical harvest rate of 1.5 kg/s, and alternate rates of 0.75, 2.25 and 3 kg/s corresponding to 50%, 1.5x and 2x the typical rate. The chaff was caught as it exited the mill using a 500-micro mesh bag. The chaff and weed seeds collected were mixed 1:1 with potting mix and remained in the green house for 12 weeks. A minimum of 40% of each test was grown out to ensure an accurate seed count. All tests were triple replicated.

RESULTS

The chaff throughput rate does significantly change the efficacy of light weight weed seeds such as ryegrass in the small grain production system for all HWSC mills, whereas there is very little effect on the weed seeds found in the large grain production system.

Care must be taken to select the best type of concaves and to blank out the appropriate number of concaves to reduce the straw load on the cleaning system and through HWSC mills.

a. for weeds in a Large Grains production system (soybean chaff)



b. for weeds in Small Grains fields (wheat chaff)

