

## **Yield and Quality Impacts of Fungicide Usage to Control Pasma of Flax**

Michael J. Wunsch, Scott Halley, Michael Schaefer, Blaine G. Schatz, and Sam Markell

**F**lax Pasma, caused by the fungal pathogen *Septoria linicola*, is a disease associated with stem and leaf necrosis that can cause severe yield and quality losses on flax. It is often mistaken for natural senescence and maturity of flax. Many producers are not aware of the disease even when it occurs at severe levels in their fields, and, consequently, they do not realize that they are losing yield potential due to the disease.

The fungicide Headline is registered for control of flax Pasma, and many producers in the Langdon area make an application of Headline to flax at late bloom. The purpose of this study was to identify other fungicides with different modes of action that can be alternated with Headline for fungicide resistance management. A field trial was seeded to 'CDC Bethune' on May 24 at 3.1 million pure live seeds per acre. To promote disease establishment (so as to rigorously evaluate the fungicides), flax residues were spread evenly across the trial on June 10. The experimental design was a randomized complete block with four replicates. The trial was harvested September 8.

A single application of Headline at late bloom raised yield from 9.0 bushels/acre (non-treated check) to 18.2 bushes/acre, and it increased test weight from 51.8 to 53.4 pounds/bushel (Figure 1). Two other fungicides – Inspire XT and Quadris Top – performed similarly. Inspire XT is a particularly promising chemistry; as a premix of two different triazole chemistries, it would be an excellent tool for fungicide resistance management. Quadris Top, a premix of triazole and strobilurin chemistries, would be less effective for fungicide resistance management.

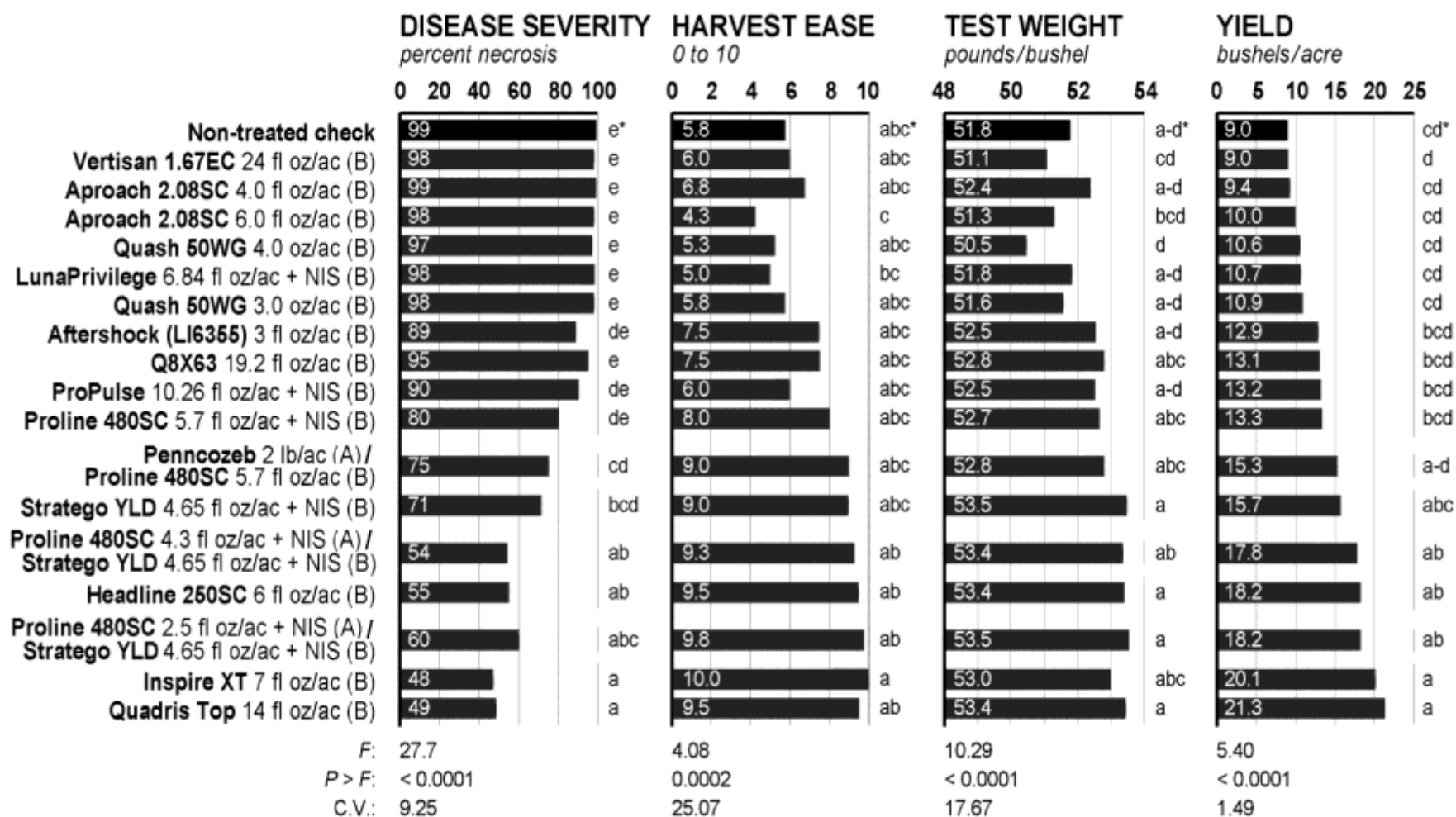


Figure 1. Disease severity, harvest ease (standability and lodging), test weight, and yield associated with 17 fungicide treatments and a non-treated check on flax; Carrington, ND, 2011. Fungicide application timing: A = July 21 (early bloom) and B = July 29 (late bloom). Headline is the only fungicide that is currently registered for foliar use on flax. \*Within-column means followed by different, non-overlapping letters are significantly different ( $P < 0.05$ ).