

# Field evaluation of fungicides for management of Sclerotinia on dry edible (pinto) beans

Carrington, ND (2009) ■ 15-inch row spacing

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## KEY FINDINGS:

- Under high Sclerotinia disease pressure, Sclerotinia disease control and pinto bean yields were optimized with two sequential fungicide applications. A single fungicide application at bloom initiation also provided Sclerotinia disease control, but a sharp, statistically significant increase in disease control and yields was observed when a second fungicide application was made 7 days later. The benefit of a second fungicide application might be lower in an environment with lower disease pressure.
- ProPulse (10.3 fl oz/ac) was more effective against Sclerotinia than Proline (5.7 fl oz/ac). ProPulse = prothioconazole (200 g ai/L) + fluopyram (200 g ai/L); Proline = prothioconazole (480 g ai/L); Topsin = thiophanate-methyl (540 g ai/L).
- Applied as a single application, ProPulse (10.3 fl oz/ac) performed better than Topsin (1 lb/ac) + Headline (6 fl oz/ac); applied as two sequential applications, ProPulse and Topsin + Headline performed equivalently. ProPulse = prothioconazole (200 g ai/L) + fluopyram (200 g ai/L); Topsin = thiophanate-methyl (700 g ai/kg).

## METHODS and RESULTS:

### Fungicide application timing:

- A – Aug. 4 (approx. 75% of plants with an open blossom)
- B – Aug. 11 (full flower, pods at early development).

### Fungicide application details:

- Proline and ProPulse were applied with a non-ionic surfactant (0.25% v/v)
- Fungicides were applied in 17 gallons of water/ac at 35 psi using 8002 twin-jet nozzles.

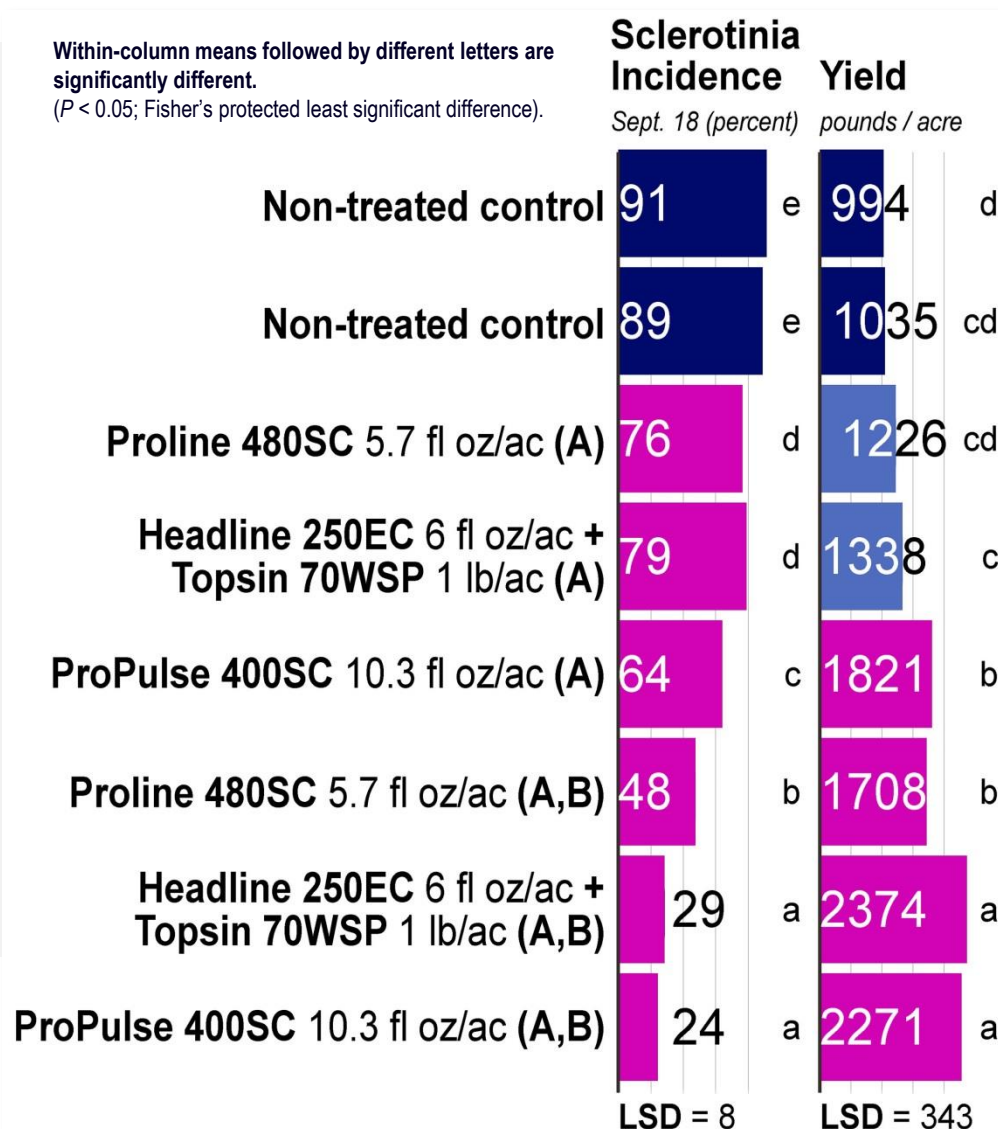
**Agronomics:** 'Lariat' pinto beans were seeded at 80,000 pure live seeds per acre on June 1; row spacing was 15 inches. Previous crop was canola, and conventional tillage was utilized. Harvest was October 19.

**Disease establishment:** This trial was conducted on a site with a history of Sclerotinia disease epidemics. To facilitate disease development, supplemental overhead irrigation was applied during bloom and pod-fill.

**Disease assessments:** Sclerotinia severity was assessed shortly before maturity on September 18 as the percent of plants expressing Sclerotinia disease symptoms.

Within-column means followed by different letters are significantly different.

( $P < 0.05$ ; Fisher's protected least significant difference).



## IMPORTANT NOTICE:

- Fungicide performance can differ in response to which diseases are present, levels of disease when products are applied, environmental conditions, plant architecture and the susceptibility to disease of the variety planted, crop growth stage at the time of fungicide application, and other factors.
- This report summarizes fungicide performance as tested at the NDSU Carrington Research Extension Center under the conditions partially summarized above.
- Fungicide efficacy may differ under other conditions; when choosing fungicides, always evaluate results from multiple trials.
- This report is shared for educational purposes and is not an endorsement of any specific products.