

Field evaluation of fungicides for management of Ascochyta blight on chickpeas

Carrington, ND (2008)

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KEY FINDINGS:

- Sequential applications of Proline (5 and 5.7 fl oz/ac) and rotational strategies in which Proline (5 fl oz/ac) was tank-mixed with a protectant fungicide (mancozeb or chlorothalonil) and rotated with Endura (6 oz/ac) provided excellent control of Ascochyta.
- When applied to chickpeas under significant Ascochyta disease pressure, ProPulse (10.3 fl oz/ac) provided greater “kick-back” curative activity than Proline (5 fl oz/ac). When applied as two sequential applications 10 and 25 days after an application of chlorothalonil (applied as Echo 720 at 1.4 pt/ac), ProPulse (10.3 fl oz/ac) resulted in a sharp increase in chickpea yields relative to Proline (5 fl oz/ac).
- Under the conditions evaluated in this trial, chlorothalonil (applied as Echo 720 at 1.4 pt/ac) did not perform as well as Proline (5 fl oz/ac) when applied as the first product in a fungicide program. This result is not surprising; Ascochyta blight was at fairly high levels when the first fungicide was applied, and chlorothalonil is a protectant fungicide with no curative activity.

SUMMARY OF RESULTS:

Within-column means followed by different letters are significantly different ($P < 0.05$; Fisher’s protected least significant difference).

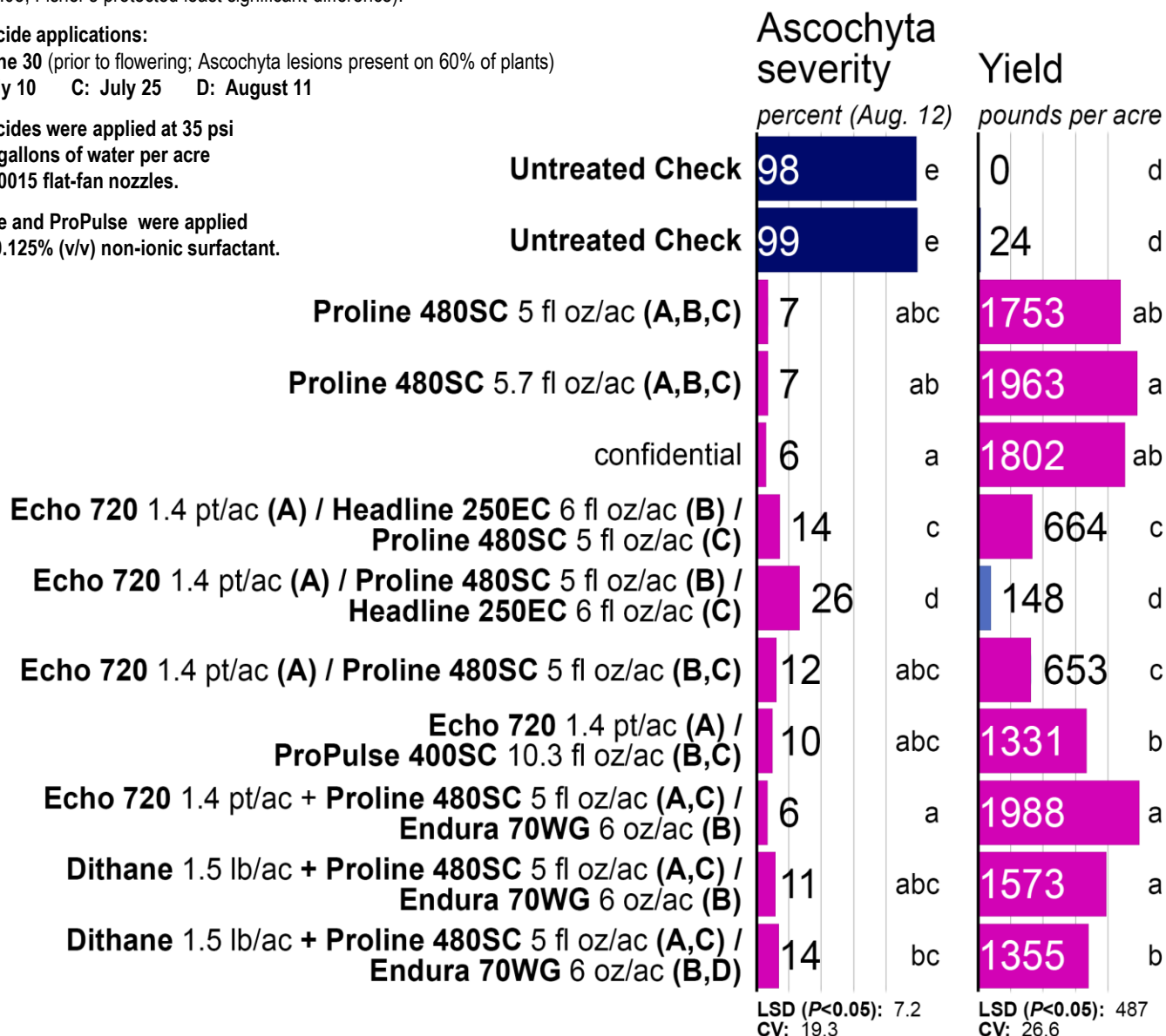
Fungicide applications:

A: June 30 (prior to flowering; Ascochyta lesions present on 60% of plants)

B: July 10 C: July 25 D: August 11

Fungicides were applied at 35 psi in 17 gallons of water per acre with 80015 flat-fan nozzles.

Proline and ProPulse were applied with 0.125% (v/v) non-ionic surfactant.



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METHODS:

- **Chickpea variety:** Sierra
- **Planting date:** May 12
- **Harvest date:** September 25
- **Previous crop:** spring wheat
- **Row spacing:** 7 inches **Rows per plot:** 7
- **Plot size at harvest:** 5 ft (center-to-center) by approx. 19 feet long
- **Fungicides were applied at 35 psi in 17 gallons of water per acre with 80015 flat-fan nozzles.**
- **Fungicide application timing:** A: June 30 (prior to flowering; *Ascochyta* at trace levels); B: July 10; C: July 25; Aug. 11

ACTIVE INGREDIENTS OF FUNGICIDES EVALUATED IN THIS TRIAL:

Dithane: mancozeb

Echo 720: 720 grams chlorothalonil per liter

Endura: 700 grams boscalid per kilogram

Headline: 250 grams pyraclostrobin per liter

Proline: 480 grams prothioconazole per liter

ProPulse: 200 grams prothioconazole + 200 grams fluopyram per liter

FUNDING:

This study was funded by **Bayer CropScience**.

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 chickpea 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 in the methods section (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.