

This project is designed to show the benefits of managing disease in lentil production using a sustainable approach to fungicide use in order to reduce the risk of developing fungicide resistant diseases and increase the producer's net return. There have been questions from producers regarding the optimum number of fungicide applications to use, what situations warrant multiple applications, and whether to apply fungicides at all. Awareness, along with a good understanding of resistance mechanisms, must be made to prevent the development of disease resistance to fungicides. Knowledgeable field scouting to insure proper diagnosis, rotating fungicides with different modes of action when multiple applications are necessary, and following label rates and crop staging to maximize efficacy, are all factors that will prevent the development of disease resistance to fungicides.

Two crops were seeded; an older, more susceptible variety (Eston) and a new variety that shows resistance to ascochyta and/or anthracnose, (Invincible CL). The treatments included:

1. Untreated check (no fungicide)
2. One application with one mode of action at early flower (Headline EC)
3. Two applications with different modes of action 10-14 days apart (Bravo 500; Headline EC)
4. One application with two different modes of action at early flower (Headline Duo)

Disease levels, plant density, and vigor were recorded. Harvest samples were taken to determine yield and sub-samples were taken to evaluate grade.

In 2013, there was very low disease pressure in this lentil trial with no response to fungicide treatments. However, there couldn't have been a better situation to promote awareness to the mechanisms that cause disease resistance and the management practices necessary to prevent the development of pathogen resistance to fungicides. Under a continuous field scouting program where disease pressure is low and dry environmental conditions are forecasted to stay the same, applying fungicides would have a negative effect on net return and may also increase the chance of developing resistance. When disease levels warrant their application, label rates of fungicide at recommended stages of development can benefit net return by increasing grain yield and quality. Producers and consulting agronomists must ensure the proper steps are taken to prevent the development of disease resistance to fungicides by being knowledgeable in field scouting techniques to insure proper diagnosis and by incorporating the rotation of fungicides with different modes of action when multiple applications are necessary.

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