



FUNGICIDE OPTIONS FOR DRYLAND WINTER WHEAT 2005 THE DAKOTA LAKES STAFF

INTRODUCTION: The preferred method of managing diseases in plants is through the use of proper crop rotation and sanitation practices. Choice of the practices to use is based on long-term probability. This means that conditions occasionally occur that require a “plan B”. The 2005 growing season presented the opportunity to test representative fungicide programs on dryland winter wheat. The weather in May and June was slightly above normal for rainfall and much above normal for relative humidity. This created ideal conditions for leaf spotting diseases in wheat even though good practices had been followed. Humidity and rainfall returned to normal ranges from anthesis to maturity.

METHODS: Jagalene winter wheat was used for all of the fields in the study. Replicated strip trials were established using a standard field sprayer operating the full length of the field. Harvest was accomplished by combining two passes from each strip and weighing it in a scale equipped grain cart.

Field 4-4 had been in Spring Wheat-Winter Wheat-Corn-Broadleaf rotation for 15 years at the time of this study. This was the winter wheat phase. This rotation would be expected to have the highest potential for leaf diseases of the three fields used in the study. That in fact was the case with it showing a large increase in yield to both of the treatments that had fungicide applications at flag leaf. The response to the Folicur alone treatment indicated that there was some benefit but substantial damage was done during the period from flag leaf to anthesis. It would have been interesting to have included an early-season low-rate treatment but the dry conditions of early spring

FIELD 4-4 2005 Jagalene Winter Wheat Response to Fungicide treatments

Treatment	Yield Bushel/a	Cost / a of Product	Extra Cost per Bushel
Check	45	\$0.00	\$0.00
Headline at Flag Leaf	66	\$9.40	\$0.46
Folicur at Anthesis	54	\$10.39	\$1.21
Headline plus Folicur	61	\$19.79	\$1.30

The Headline treatment was applied on May 23 at a rate of 6 oz/a.

The Folicur treatment was applied on Jun 10 at a rate of 4 oz/a.

Field 5-3 has been managed in a no-till Winter Wheat-Corn-Broadleaf (mostly pea) rotation for 15 years at the time of this study. This rotation would be expected to have relatively low potential for leaf diseases. The 13 to 14 bu/acre increase to both flag leaf treatments indicates that a sufficient number of spores were transported into the field to cause above threshold pressure. The relatively small response to the treatment at anthesis (Folicur impacts leaf diseases as well as head scab) indicates that most of the positive response from fungicide use was associated with protecting the plant between flag leaf and anthesis. Moderating weather conditions were part of the cause.

FIELD 5-3 2005 Jagalene Winter Wheat Response to Fungicide Treatments

Treatment	Yield Bushel/a	Cost / a of Product	Extra Cost per Bushel
Check	83	\$0.00	\$0.00
Headline at Flag Leaf	97	\$10.97	\$0.74
Folicur at Anthesis	89	\$10.39	\$1.65
Headline plus Folicur	96	\$21.36	\$1.55

The Headline treatment was applied on May 27 at a rate of 7oz/a.
 The Folicur treatment was applied on Jun 10 at a rate of 4 oz/a.

The Dakota Lakes Research Farm acquired the North Unit in 2000. The South field had been tilled in the past (up through the 1970's) but had been in hay land for many years. Part of this field was tilled in 1999 and in 2000 before Dakota Lakes gained possession. This part of this field was in wheat when the land was purchased. The rest had been planted to wheat since at least the 1970's. The reorientation of field layouts in 2001 resulted in each strip crossing the same amount of land with the differing histories. In either case it had been several years without wheat. The previous crop was peas.

A large yield response would not be expected based on crop history but one occurred. The soils in this field are not as productive as the soils at the main farm so yields are lower. The yield response occurred across all fungicide treatments. This site is 5 miles from the other two so weather conditions were not dissimilar.

North Unit South 2005 Jagalene Winter Wheat Response to Fungicide Treatments

Treatment	Yield Bushel/a	Cost / a of Product	Extra Cost per Bushel
Check	44	\$0.00	\$0.00
Headline at Flag Leaf	56	\$10.97	\$0.91
Folicur at Anthesis	54	\$10.39	\$1.06
Headline plus Folicur	57	\$21.36	\$1.68

The headline treatment was applied on May 27 at a rate of 7oz/a.
 The folicur treatment was applied on Jun 10 at a rate of 4 oz/a.

CONCLUSIONS: It sometimes pays to be ready for the unanticipated event.