

The effect of cultural practices on fusarium

In many locations, 1989 was a bad year for Fusarium head blight on winter wheat. Many of the worst situations were found in wheat planted on corn stubble. Many growers also commented that there was a difference in disease severity amongst varieties.

Dr. Arend Smid at the Ridgetown College of Agricultural Technology evaluates winter wheat varieties each year. In 3 years over 10 locations Harus wheat had on average 1.54% heads blighted, while Augusta had 2.7% heads blighted. Harus wheat appears to be more tolerant than Augusta.

Timing

The other important statistic, however, is flowering date. In the same studies, Harus headed 2 days earlier, on average, than Augusta. It is then assumed that Harus flowers earlier, as well. While there is no disputing that Harus is more tolerant, some of the tolerance may be in fact due to avoiding infection by flowering when the weather is not suitable for infection.

The occurrence of Fusarium head blight is tied more closely to weather at flowering than any other factor. Rain and prolonged wet periods at flowering are optimum conditions for infection. Thus, if these conditions prevail at flowering, a tolerant crop planted in a non-host stubble will have less infection than a susceptible crop planted on corn ground, but it will still be infected.

Therefore, yield potential of the variety is probably a more important consideration than tolerance to Fusarium head blight with the levels of tolerance that we presently have.

Rotation

Planting wheat in rotation with another host crop, such as soybeans, does a great deal to reduce the severity of disease in a particular field. It does not, however, stop the spread of spores coming from nearby fields. The degree of infection is therefore, tied to:

1. weather at flowering
2. cropping history
3. proximity to sources of air-borne spores (neighboring fields), and

4. variety grown, in that order of importance.

If for some reason you still want to plant wheat on corn ground, ploughing the corn stubble cleanly is important to reduce the risk of infection by Fusarium spores coming from the corn residues in the field.

Excerpt of presentation by Art Schaalsma, Ridgetown College of Agricultural Technology, Ridgetown, Ont., Cereal and Forage Day, January 1990.

Copyright © 1990 *REAP Canada*