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VP Agricultural Affairs

To the SBARE members:

Please consider the following research suggestion as you go forward with your deliberations.

Thank you for this consideration,



Jim & Jody Hauge, phone 701-226-8103

SBARE Research Recommendations

In your letter dated July 14, 2023 it indicated that SBARE is reaching out for research recommendations. I talked to our two sons and they said ergot research is very limited and it is a serious periodic issue amongst wheat producers.

According to Andrew Fiskop, NDSU Plant Pathologist, in 2018 he explained several factors can lead to higher levels of ergot with environment being one of the most important. Conditions that favor ergo included prolonged (sometimes excessive) periods of moisture and cool temperatures (60 to 80 degrees). These conditions are of utmost importance prior to and during the heading stages of wheat (mid-June to early July). Prolonged and excessive periods of soil moisture initiate germination of ergot bodies on the soil surface and produce mushroom-like stalks that release spores into the atmosphere. Additional periods of prolonged moisture (long dews and/or rain) during the pollination stages, allows the ergot pathogen to efficiently colonize the female part of the flower resulting in the production of ergot bodies. These ergot bodies end up in the harvested grain resulting in severe reductions and rejections at the point of sale.

Ergot is a periodic problem in North Dakota and seems to be more of an issue than in previous periods. As Andrew Fiskop mentioned, when ergot is present in the wheat crop it makes it heavily price discounted or sometimes unmarketable. The tolerance for ergot in wheat is very small because of its chemical properties and the increased prevalence of the disease.

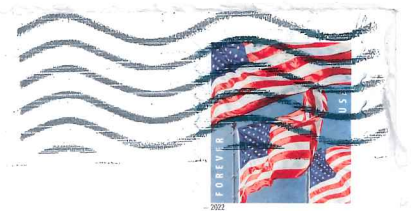
It does not strike every year; in some cases, it will affect one farmer and not his neighbor. Other than environment, little is known what specific factors cause this disease; if it is the planting date, wheat variety, increased prevalence of no-till farming, or some other factor. Bottom line is there is very little known about why ergot is a factor or if there are cultural or chemical preventions, or some genetic factor such as the host-parasite compatibilities.

We realize since it is not a factor every year that it has not been a priority with the limited research funds available but it seems that recently it has been more prevalent and more severe. We would encourage you to consider this as a worthy research project for ergot's prevention or genetic resistance.

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