

Post Rock Extension District Column

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Crop Production Agent

“Don’t forget about controlling volunteer wheat this summer!”

Now that the 2022 wheat harvest is history, producers should be ready to control their volunteer wheat especially if we start to receive some moisture. Where volunteer wheat has emerged, producers should begin control measures as soon as possible, rather than waiting until closer to wheat planting time. This is especially important on fields if wheat was hailed out and volunteer wheat emerged at the time of harvest, or shortly afterward.

Controlling the first flush of volunteer wheat as soon as it emerges may require one more field pass than normal later in the summer to control later volunteer, but will help prevent bigger problems down the road. Producers should note that grazing volunteer wheat is not an effective option because there is green wheat material left that will enable wheat curl mite survival.

Where wheat suffered hail damage after heading, volunteer wheat often emerges even before harvest – as much as two to three weeks earlier than it would normally emerge. This volunteer wheat is especially likely to become infested with wheat curl mites and lead to problems later in the season if left uncontrolled.

Wheat curl mites move off wheat at or near harvest time, and need to quickly find green tissue on a suitable host plant or they will soon die of desiccation. The mites can live quite a few hours off the plant, and up to 24 hours under low temperature conditions, so significant numbers of mites may disperse on winds for greater distances than previously thought. Young, volunteer wheat growing in close proximity to current wheat harvest will be easily infested by the mites.

If volunteer wheat has emerged and is still alive shortly after harvest in hailed-out wheat, wheat curl mites can build up rapidly and move from there to other volunteer that emerges later in the season. Eliminating this early-emerging volunteer shortly after harvest will help break the green bridge. However, if more volunteer emerges during the summer, follow-up control will still be needed.

Volunteer wheat is not the only host of the wheat curl mite. Recent research has evaluated the suitability of wild grasses as hosts for both the curl mite and the wheat streak mosaic virus. **Barnyardgrass** topped the list of suitability for both virus and mites, but is fortunately not that common in wheat fields. In contrast, **green foxtail**, although a rather poor host, could be an important disease reservoir simply because of its abundance. Take note of significant stands of these grasses in marginal areas and control them as you would volunteer wheat.

If volunteer wheat and other hosts are not controlled throughout the summer and are infested with wheat

curl mites, the mites will survive until fall and could infest newly planted wheat at that time. Wheat curl mite infestations are the cause of infections of wheat streak mosaic, High Plains mosaic virus, and triticum mosaic virus.

Wheat streak mosaic (WSM) is one of the most economically devastating wheat diseases in Kansas and can reduce yield by more than 80 percent when susceptible cultivars are infected with the disease as seedlings. Wheat cultivars with intermediate levels of resistance are less damaged by the disease, but may still experience up to 20 percent yield loss. Yield losses are reduced if plants are infected after the heading stages of growth.

Wheat streak mosaic causes a yellow discoloration of leaves. This discoloration is most intense near the leaf tip and infected wheat seedlings are often stunted and have a reduced head size.

Very few wheat varieties possess the wsm2 gene for resistance to wheat streak mosaic with one variety including the new variety KS Dallas, but remains susceptible to Stripe rust and Fusarium Head blight or scab. T-158 is intermediate for the WSM virus which might help in lessening the virus infection. However, controlling volunteer wheat is still important even if you plant one of the varieties mentioned.

If you have further questions on wheat streak mosaic and controlling volunteer wheat, give me a call at any of our Post Rock Extension District Offices in Beloit, Lincoln, Mankato, Osborne or Smith Center.

Post Rock Extension District of K-State Research and Extension serves Jewell, Lincoln, Mitchell, Osborne, and Smith counties. Sandra may be contacted at swick@ksu.edu or by calling Smith Center, 282-6823, Beloit 738-3597, Lincoln 524-4432, Mankato 378-3174, or Osborne 346-2521. Join us for our weekly "The Ag Roundup" by simply emailing me and getting on our weekly ag listserv. Also remember our website is www.postrock.ksu.edu and my twitter account is @PRDcrops.