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COLORADO WHEAT DISEASE NEWSLETTER

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DISEASE OBSERVATIONS

Mosaic virus symptom reports are on the rise. Importantly, viruses typically exist in a complex in Colorado, including *Wheat streak mosaic virus (WSMV)*, *Triticum mosaic virus (TriMV)*, and *High Plains Wheat Mosaic Virus (HPWMOV)*. At the Wheat Field Days, I found virus symptoms at three of the four sites I visited. All of the samples we have tested so far this year have been positive for both TriMV and WSMV. In WSMV-resistant varieties, WSMV levels have been low, so the symptoms observed in these varieties are very likely caused primarily by TriMV. The drought has contributed to the severe virus disease symptoms this year, since the mites go to plants during times of drought to find water.

As we are approaching harvest, ***I strongly recommend controlling the volunteer wheat that emerges between harvest and planting.*** TriMV has been a major problem this year and last year, and while we have some resistance against the mite that transmits the virus, there is no genetic resistance against TriMV. Therefore, it is essential to limit the viral populations through cultural control methods, especially through volunteer management. Volunteers that emerge post-harvest serve as a home for the mites that transmit viruses, and these volunteers can become infected and serve as a viral inoculum source for wheat that emerges post-planting in the fall. I also encourage you to read about WSMV and TriMV control on pages 49-50 in the [2022 'Making Better Decisions' Wheat Report](#).



Figure 1. Common root rot symptoms in Burlington. *Photo: Ron Meyer*

Common root rot disease was reported in Burlington (**Figure 1**). This disease is caused by a complex of several fungal species (*Bipolaris sorokiniana* and many *Fusarium* species). The disease favors plants under high environmental stress, especially under drought and warm weather conditions. Several sites also saw hail damage this past week, which can exasperate symptoms. Nutritional stress and high soil compaction can also increase disease prevalence. The fungal complex infects the plant through the roots and subcrowns, and then moves to the internodes and leaves. Symptoms include plant and root stunting, root decay/rot, brown discoloration of the stem bases, roots, crowns, and lower leaves, and plants may appear bleached and/or dead. The disease is difficult to control because environmental stress is a main driver for disease development. Seed treatments with fungicides that prevent seed rot can provide some protection against common root rot.

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DISEASE WATCH AND MANAGEMENT

Since we are near the end of the growing season, most new diseases/infections should not greatly impact yield. I expect stripe rust pressure will remain low, but you may see more virus symptoms continue to pop up.

The **Colorado Wheat Entomology Newsletter** covers insect/mite pests and management tips. The newsletters are published bi-weekly during the growing season and are available here:

<https://coloradowheat.org/category/news-events/wheat-pest-and-disease-update/>

Do you have a disease that you would like diagnosed? Contact the **Plant Diagnostic Clinic** for sample submission: <https://plantclinic.agsci.colostate.edu/> or plantlab@colostate.edu.

Additional resources

1. Making Better Decisions 2022 Wheat Report: <https://agsci.colostate.edu/csucrops/wp-content/uploads/sites/18/2022/06/wheatreport-2022-WFD.pdf>
2. The North Central Regional Committee on Management of Small Grain Diseases (NCERA-184) Fungicide Efficacy for Control of Wheat Diseases Table: <https://crop-protection-network.s3.amazonaws.com/publications/fungicide-efficacy-for-control-of-wheat-diseases-filename-2021-04-21-154024.pdf>
3. Colorado State University Integrated Pest Management website: <https://agsci.colostate.edu/agbio/ipm/>

CONTRIBUTORS

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