

Decision Making for Poor Stands of Winter Wheat



Evaluating winter wheat stands

Plant stands should be assessed once dormancy has broken and regrowth has started. Evaluating the amount of winter kill and deciding to keep a stand or terminate is a difficult decision. An optimum winter wheat plant stand is 20 to 25 plants/ft², but research has shown that plant stands as low as 7 to 8 plants/ft² can yield 80% of a normal stand. Winter wheat is able to compensate for thin plant stands by increasing tillering, but tillering won't likely be able to fully compensate for a thin stand.



Photo: Fall rye field with poor plant stands in small patches in mid-April.

Fields with Small Patches of Poor Stands

For fields with small patches of poor stands, the best option is to leave the field and focus on management strategies such as good weed control, early application of nitrogen to encourage tillering, and increase disease scouting since weakened plants may be delayed in growth leading to increased risk of infection.

Refer to the Guide to Crop Protection for herbicide and fungicide control options in winter wheat:

<https://www.gov.mb.ca/agriculture/crops/guides-and-publications/pubs/guide-crop-protection-2024.pdf>

Fields with Large Patches of Poor Stands

Decisions become more difficult in a field with larger patches with few or no plants. The first option is to keep the field and adjust your management based on the thin stand. Fungicide applications may not pencil out at reduced yield potential.

To help manage weeds in larger patches, a possible option may be to plant winter wheat into the larger gaps. Winter wheat planted in the spring will not vernalize so it will not produce a head. However, it will provide ground cover and compete with weeds until harvest. Spring seeded winter wheat will need to be killed with tillage or herbicides after harvest.

Seeding spring wheat into large gaps is an option, but if winter and spring wheat are mixed at harvest the grain will only be eligible for the feed wheat class. The spring wheat will also be at a different stage than winter wheat, so management for fusarium head blight may be difficult. If seeding spring wheat into bare spots, consider working around these patches so that they can be kept separate at harvest time.

In fields with extremely variable stands with large patches of dead plants, replanting may become a more realistic option. Prior to destroying and reseeding any wheat fields, contact your local MASC

insurance agent. Wheat streak mosaic may carry over from infected winter wheat fields into spring seeded cereals. Try to avoid replanting to cereals, especially wheat. If you do decide to replant to a spring cereal, it is recommended that there be two weeks with no living green material to try and mitigate the risk of infection to the reseeded crop. Keep in mind that any winter wheat volunteers that produce grain may increase the possibility of downgrading your reseeded crop.

Terminating Winter Wheat Stands

Winter wheat is hard to kill. Tillage and/or burn-down herbicides will likely not control all plants, especially if some are suffering injury and slow spring regrowth.

Delay herbicide applications until plants have greened up and are actively growing. In-crop volunteer cereal herbicides may also be required.

References

Lafond, G.P. and Y. Gan. 1999. Row spacing and seeding rate studies for no-till winter wheat for the Northern Great Plains. J. Prod. Agric., Vol. 12, no. 4.

Contact Us

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