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Spray fungicides before breakfast and herbicides at lunch

Morning may be best for spraying fungicide, but save your herbicide application for midday

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[Crops](#)



Preliminary results of Michael Harding's night-spraying research show that morning may be the best time to spray fungicides. *Photo: Jennifer Blair*

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Time of day counts when it comes to spraying for weeds and diseases, a study being conducted by Farming Smarter suggests.

“If we have a better understanding of which herbicides work better under different conditions, we might be able to come up with a schedule that will maximize our efficacies,” said Ken Coles, the [Lethbridge](#) organization’s general manager.

“Whenever you do that, you have an opportunity to get better weed control, maybe a little less weed seed bank in the soils, and in certain cases... yield advantages.”

Coles and his team set out to determine if night spraying might be a better option for producers who have a narrow window to spray.

“The advent of auto steer has expanded the opportunity to spray at nighttime, and some guys are crazy enough to do it,” he said. “It does give you an expanded window of operation.”

Most registered herbicides have little data on nighttime application, when there can be “significant differences in environmental factors.” Coles’ team sprayed four different crops – wheat, pea, canola, and barley – at three different times of day: In the morning between 4 and 5, from noon to 1 p.m., and between midnight and 1 a.m.

“We’re starting to stumble upon what we thought were patterns,” he said. “When we sprayed under normal types of conditions... early was the least efficacious, night was somewhere in between, and noon was usually the best.”

- From the Grainews website: [Know when to apply fungicide](#)

In southern Alberta — where producers have been taught, “if you want to spray, you get up early and you beat the wind” — the cool temperatures and high humidity of early morning seemed to work against the herbicides, which perform best in hotter, drier conditions.

“When we come in at 4 or 5 in the morning, that’s actually where the lowest temperature of the day tends to be, and it’s also the highest relative humidity. Often, we’ll have large amounts of dew,” said Coles.

“We’ve sprayed in dew and had lots of luck, but so far in most conditions, that’s actually the least effective time to be spraying for most of the herbicides we’ve got going on.”

But each product performed differently under different conditions. Wheat herbicides worked best overall “under most circumstances,” while a product like Liberty performed best at midday.

“If I were forced to schedule a day, I would spray the wheat herbicides when it’s the coolest or early in the morning,” said Coles. “I would save my glyphosate and my Liberty for the middle of the day, and then I would spray my peas in the evening.

“It’s not perfect information by any means, but that’s the trend we’ve been seeing.”

Spray fungicides early

But the conditions that make herbicides least effective may actually make fungicides work best.

“So far, what we’ve seen is a trend toward the morning application being best for our fungicides,” said Michael Harding, research scientist at Alberta Agriculture and Rural Development.

“The dew and the cool conditions make it so that the fungicides don’t dry as quickly, and they may redistribute better throughout the canopy.”

With fungal infections, preventing the spread of the disease is critical.

“Most of the time, we can’t really cure them. Once we start seeing the symptoms, it may be too late to do anything about it,” said Harding.

“We want to get them on preventively, and we want to hit our target.”

Spraying at a time when temperatures are lower and relative humidity is high increases penetration low in the canopy where stem rots like ascochyta in pea or sclerotinia in canola attack plant stems, causing lodging at harvest time.

“We actually saw our biggest results in peas,” he said, adding barley also responded well to the morning application.

“We haven’t really seen any significant differences in wheat or canola, but that may have had more to do with disease pressure than with fungicides.”

So far, the study’s preliminary findings suggest that morning application is best for fungicides, but the results aren’t “earth shattering,” said Harding.

“We’re not suggesting you make any life-altering decisions based on what we’ve seen so far, but right now, the trend is indicating that morning for many situations could be a good time to be putting fungicides on.”

About the author

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