

Farmers, hit that snooze button — spraying later is your best bet

For pre-seed burn-down and broadleaf weed control, it's better to spray during the day rather than early morning or nighttime

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Photo: Canstock



Dew makes mornings the worst time to spray, Farming Smarter researchers have found.

A plant in the morning dew is a little like a man stepping out of a shower — wet and cold, and that much colder because it's wet.

“The phase change between a liquid and a gas sucks heat energy out of the plant. That practice will actually hurt the plant,” said Ken Coles, general manager of Farming Smarter.

“It's not growing actively, and therefore it doesn't absorb as much as it could.”

That might explain why the Farming Smarter team has found that, by and large, early morning is the worst time of day to spray.

“We tended to see reduced efficacy in that time period,” said Coles. “Sometimes early morning does work, and sometimes nighttime does work, but if you're looking at your best management strategy, day is always the best if you can swing it.”



Producers — especially those in southern Alberta — like to “wake up early to beat the wind.”

“I think we need to rethink that model,” said Coles. “Your best chance of success is spraying during the daytime.”

On Farming Smarter's pre-seed burn-down trials, “the largest difference in efficacy was about 18 per cent” when they compared spraying during the day to spraying at nighttime or the morning.

“That would be going from about 98 per cent with the control down to 80 per cent, and we had an average difference of about 10 per cent,” said Coles.

“Visually in a field, you would probably never notice it unless you were comparing it to something else. But that's still meaningful in yield and the amount of weed seeds that you're putting back into the soil.”

For broadleaf weed control, there was an average of 12 per cent difference in efficacy, and on visual ratings, “100 per cent showed that daytime was best.”

“With our quantitative weed biomass data, 75 per cent of the time (spraying during the) day was best.”

It's a bit of a different story for grassy weeds, which saw only an average of eight per cent difference in efficacy between daytime and nighttime spraying. And the visual ratings showed that day was best only 50 per cent of the time.

“For products that are known to photodegrade in the sun, night might be better,” said Coles.

“But when we looked at our weed biomass, day still pulled out ahead as your best bet for spraying.”

And the best way to know for sure if it’s the right time to spray is by using the Delta T model — the “wet bulb temperature minus the dry bulb temperature.”

“A regular thermometer is the dry bulb. With a wet bulb, you just wrap a wet sponge or paper towel around the bottom, and it takes into account the impact of the cooling effect,” said Coles.

“You can buy a little hand unit that you can hold out in the air, and it will give you a Delta T measurement. It’s a quick and dirty way to get a handle on whether it’s an optimum time to be spraying.”