Water volumes are critical to your fall canola application.

When it comes to fall applications on canola, water volumes will play a pivotal role in your success – or failure – at contacting pods, stems, and any remaining leaves and weeds.

Diquat – the active ingredient in Reglone® Ion desiccant – works on contact to burst the surface cells of the plant.This is what delivers its quick-acting dry-down activity. Proper coverage is the key component to achieving your desired results prior to harvesting the crop.

Higher water volumes are the most effective way to ensure you drive your fall-applied products deep into the lower parts of the crop canopy. This not only ensures more even coverage, but also more consistent product performance.

Reglone Ion works on what it contacts, hitting (and desiccating) the lowest parts of the canopy is important – particularly where the cutterbar operates.

Exploring the true value of water volumes

- On the Reglone Ion label, Syngenta recommends spraying with a 200 L/ha (20 gal/ac) water volume.
- In contrast, other fall herbicide applications are typically applied using a water volume of 100 L/ha.

So, here are the two big questions we wanted to answer:

1. Does an extra 100 L/ha of water make a big difference in your fall application on canola?
2. And is the extra time needed for spraying with a larger water volume going to deliver real benefits?

Reglone® Ion

syngenta®

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COMPARING COVERAGE: THE EXPERIMENT

To compare coverage, we used Helios®, a specially developed colourless dye and sprayed it on a standing canola crop to simulate a pre-harvest desiccant application.

First, we applied Helios at the 200 L/ha labelled Reglone Ion water volume rate. Next, we lowered the rate to 100 L/ha rate, then looked at the canola pods and stems under UV light. This excites the molecules within the Helios dye, making it glow brightly and show where the spray landed.[1]

200 L/ha

Thorough, even coverage of canola pods and stems.

Spray penetrates deeper into the crop canopy.

100 L/ha

No spray evident deeper into the crop canopy.

[1] Study performed August 2021 – Balcarres, Saskatchewan, Canada.

- By looking for the glow of the Helios dye, we can see that the 200 L/ha rate provided thorough, even coverage of canola pods and stems (left). The spray was also able to penetrate deeper into the crop canopy (right).
- After spraying at 100 L/ha, there is no Helios glow visible deeper into the crop canopy. Out in the field, this application would've only succeeded in desiccating the upper parts of the plant. We can also see just two drops on the water sensitive paper – further confirming no coverage deep into the canopy.

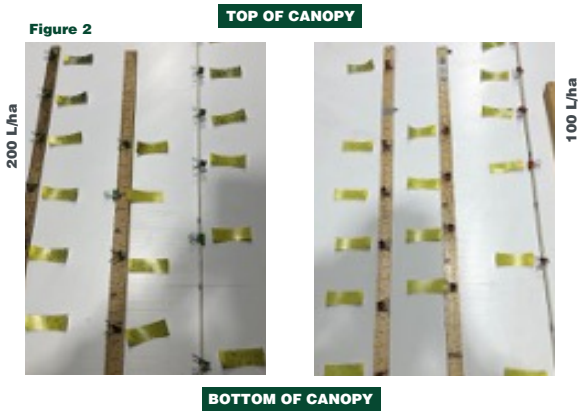
In addition to using the Helios dye, we also compared the effects of water volume coverage with water sensitive paper in the field. When spray droplets contact the water sensitive paper, a blue mark is shown.

- The water sensitive paper shows a larger number of droplets at the labelled, 200 L/ha water volume for Reglone Ion.
- When we look at the 100 L/ha volume, the number of droplets on the water sensitive paper drops off significantly as we get deeper into the crop canopy.

Figure 1

Example of the in-field setup.

Figure 2



Larger number of droplets penetrating deeper into crop canopy.

Significant drop off deeper into crop canopy.

In figure 3, we used water sensitive paper to compare 100 L/ha vs 200 L/ha water volume coverage on weeds.

Figure 3

Even at 200 L/ha, coverage was insufficient.

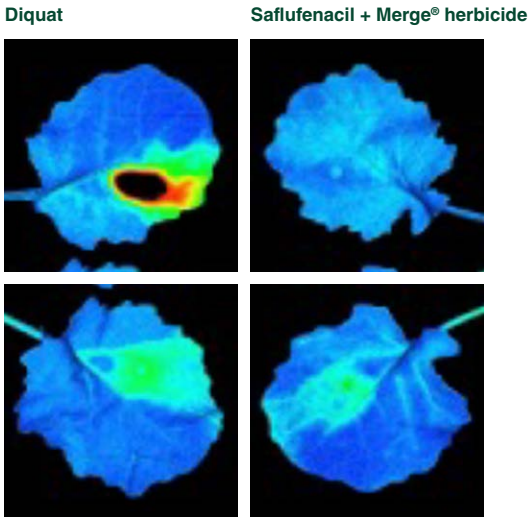
- Even at 200 L/ha, coverage was not sufficient.
- Without good coverage the benefits of your fall applications are drastically reduced.

SPEED OF ACTIVITY COMPARISON[2]

On the top left side are canola leaves where Reglone Ion (diquat) has been applied. As little as 420 minutes (7 hours) after application, there's nearly no photosynthetic activity on the parts of the leaf contacted by diquat.

On the bottom left and right-side leaves, we used glyphosate, saflufenacil and Merge® herbicide to represent a typical fall application. 420 minutes after application, the leaves where these products were used show only reduced photosynthetic activity.

Why is this important? Good coverage gives products like Reglone Ion a better chance at more evenly (and quickly) drying down plant material for a smoother harvest experience.



[2] Source: Syngenta application technology trial – Munchwilen, Switzerland December 2021.

Two key takeaways from the water volume experiment

- The 200 L/ha labelled water volume for Reglone Ion is needed for ideal coverage in standing canola.
- The 100 L/ha water volume doesn't consistently contact pods and stems in the lower canopy.

More harvest desiccant spray tips

- To get more spray deeper into the canopy, slow down, add water and point nozzles backward. The backward orientation helps offset your forward travel speed, giving the droplets a slower forward velocity that helps their downward movement.
- If you're using contact products, stick with labelled water volume rates and slightly finer sprays. Also make sure that you prioritize spray drift control and pay attention to water quality.

Performance evaluations are based on internal trials, field observations and/or public information. Data from multiple locations and years should be consulted whenever possible. Individual results may vary depending on local growing, soil and weather conditions.