

CROP SAFETY WITH FACTOR IN CANOLA

Selective Herbicides

Selective herbicides control specific weed species, while leaving the crop relatively unharmed. The selective herbicide is absorbed by the crop, but due to the crops ability to metabolise the herbicide, there is minimal effect to either foliage or yield.

There are a number of aspects that influence a crops ability to metabolise the herbicide

- Growth stage
- Stress conditions – drought, water logging, nutrition deficiencies
- Frost
- Rate of herbicide
- Environment

There are a number selective Group A herbicides that can be used in canola. Trials have shown a relatively narrow safety margin during certain growth stages and this is reflected on most product labels. Of these group “A’s” the “Fops” (Fluazifop, Quilazifop etc) appear to offer the greatest level of safety in canola. The “Dims” (clethodim, Factor etc) on the other hand can cause both leaf damage and yield penalty if used at incorrectly.

Crop Care has done extensive trial work to help understand the potential risk in using Factor in canola. The following guidelines should be taken into consideration before any application.

Growth Stage

DO NOT APPLY FACTOR PRIOR TO THE 4TH TRUE LEAF STAGE (5TH LEAF EMERGING) OF THE CANOLA CROP

Application of Factor prior to the 4th Leaf stage can increase the risk of foliar damage. Small canola plants do not have the ability to metabolise Factor.

If applied prior to this stage common symptoms include (Photo 1)

- Leaf colour change
- Margin scorch
- Cupping

Although some of these symptoms can occur even after the 4 leaf stage they normally disappear within 4-5 weeks with little yield impact.

These symptoms are often associated with nutrient deficiencies or herbicide residue issues (Group B) and should be considered if damage is present.



Photo 1: Leaf damage on canola

DO NOT APPLY later than the end of leaf development (Stage 1), and prior to stem elongation (stage 3).

Application after Stage 1 of any Dim herbicide can dramatically affect yield, (photo 2) common symptoms are;

- Paler green in colour
- Flower buds become distorted and club like
- Flowers fail to open
- Poor pod development and reduction in grain yield.



Photo 2: Flower distortion on canola
Reference: Cummins AG Services

Rapid and Variable Growth Rate

The time taken for canola to develop from 4 leaf to stem elongation can be very rapid. Meaning that the window of application in some seasons and districts can be very narrow and should be monitored closely. Monitoring of the crop should be done every 5 days and a final check should be undertaken the day of application to ensure the plant has not commenced stem elongation. **This is critical in warmer districts such as central and northern NSW and Northern WA where canola growth rates are often extremely quick.**

Monitoring of the most mature plants will offer the best guide.

In areas of variable soil type, establishing and predicting growth stage is extremely difficult. Paddocks that contain canola with a very wide range of growth stages can dramatically increase the risk of damage and should be avoided. Note stressed plants may be at a more advanced growth stage than they visually appear and therefore more susceptible to herbicide damage.

Factor when timed correctly may cause leaf damage and this needs to be considered before use.



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Rate

DO NOT APPLY Factor above 80g/ha in canola

Canola is very sensitive to Factor rates above 80g/ha. Increasing the rate increases the potential for damage and this may result in a yield penalty.

If applying in a mix with Havoc (clethodim) trials have shown that rates should not exceed 350mL/ha Havoc + 80g/ha Factor + 1L/100L Supercharge Elite.

Adjuvant

ALWAYS APPLY WITH SUPERCHARGE ELITE AT 1L/100L

Adjuvants influence the absorption and translocation of herbicides, they also have the potential to reduce the waxy barriers that are found on many leaf surfaces.

Using alternative adjuvants to Supercharge can increase the risk of crop effect, reduce the control and cause problems with compatibility.

Supercharge Elite is the only registered and supported adjuvant to be used with Factor.

Environment

DO NOT APPLY FACTOR TO CANOLA OR WEEDS WHICH ARE SUFFERING MOISTURE STRESS (WATERLOGGED OR DROUGHT AFFECTED), INSECT, DISEASE OR NUTRITIONAL DISORDERS, FROST AFFECTED OR IF FROSTS ARE IMMINENT.

A canola plants growth habit, metabolism rate, and overall health is dramatically influenced by the environment. Often it is hard to identify a plant under stress from environmental effects. Frost or very cold conditions are a known high contributor to increasing the risk of Factor damage, these cold conditions slow the metabolism of the canola plant.

All stress conditions should be avoided

“Soft Crops”

Some environments/seasons enable canola to grow without a “toughening” period, resulting in “soft crops”. If conditions have been favourable with faster than usual growth rates, application of Factor can induce a more severe crop effect. In these circumstances the crop will normally recover after 4-5 weeks as long as no further stress is experienced

Previous Herbicide

DO NOT APPLY MULTIPLE APPLICATIONS OF HERBICIDE WITHOUT A FULL RECOVERY PERIOD

Multiple application of “Dim” herbicides can have a cumulative effect, for example;

500mL Havoc followed by 500mL Havoc can be like applying 1L Havoc in a single application

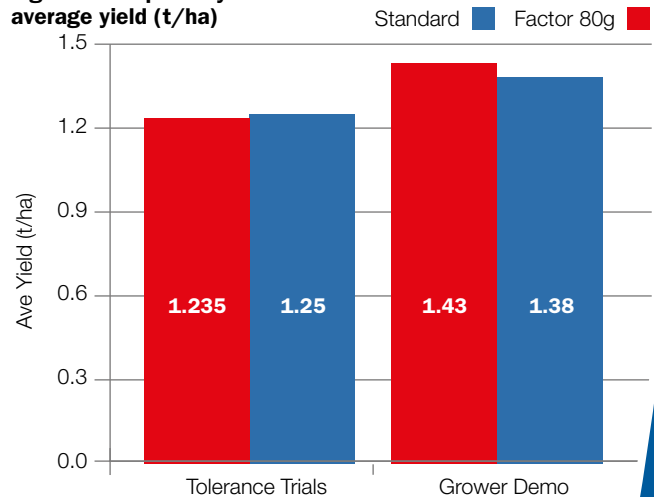
500mL Havoc followed by 80g Factor can have the same effect as 500mL Havoc + 80g Factor applied in a single application.

Any residual herbicides that may be present even if no visual stress is evident, may reduce the canola plants ability to metabolise the application of a “Dim” herbicide and cause increased crop affect.

How To Get The Best Out Of Factor

36 tolerance trials have been conducted by Crop Care and contract researches over a period of 16 years. And these demonstrate that yield penalties can be minimized as long as Factor is applied at the correct rate, timing and with no stress or influence from previous herbicides.

Figure 1: Crop safety trials average yield (t/ha)



4-5 leaf stage. Mean of 36 trials
14 varieties, 70 observations - WA x 11, SA x 2, Vic x 6, SNSW x 13

Method of application

Good spray coverage is essential for maximum results. Spray equipment must be checked and calibrated accurately prior to application.

Boom spraying

Ground application: Check height of boom above the target weeds to ensure the spray is evenly distributed and a double overlap pattern is obtained. An even distribution of droplets with a FINE to MEDIUM spray quality category according to nozzle manufacture specifications that refer to ASAE S572 Standard or the BCPC Guideline is recommended to maximise efficacy and minimise the likelihood of spray drift.

Water volumes per hectare will depend on nozzle selection and ground speed but should be in the range of 50-100L/ha. 110° flat fan nozzles are preferred for use with this product. Use higher volumes of spray to achieve better coverage of dense, vigorous weed infestations. A minimum water volume of 80L/ha is recommended where a Coarse spray quality is being used.



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