

ReTain[®]

For Better Performing Cherry Orchards

Technical Manual



SUMITOMO CHEMICAL
AgroSolutions Division

Improving fruit set in cherries

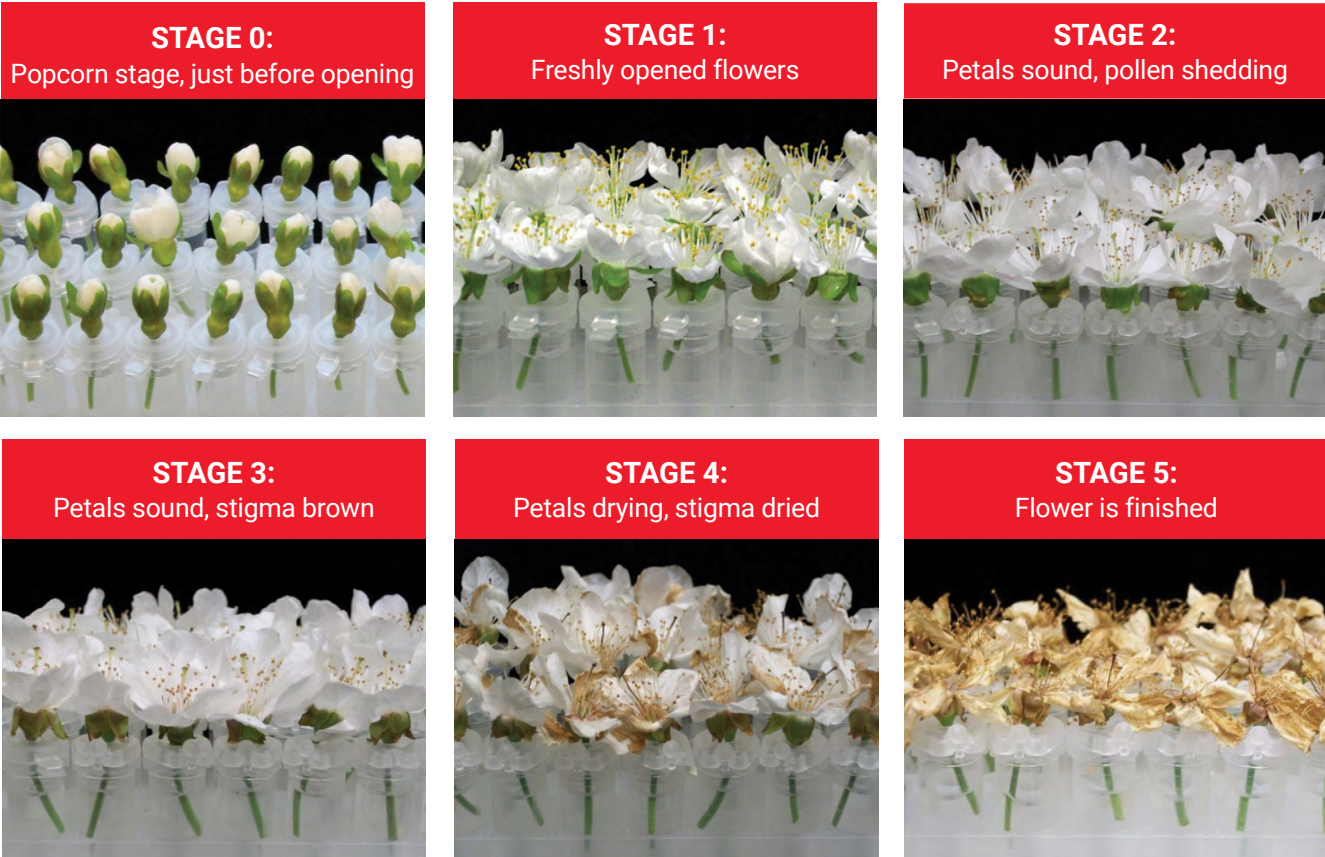
Some varieties of cherry, notably ‘Kordia’ and ‘Regina’, are notoriously poor at setting fruit. Research has found that one of the contributors to this problem is the short period that the cherry flower is viable, and therefore able to be pollinated. By extending the number of days that the flower is viable ReTain can help improve fruit set.

What is ReTain?

The active ingredient in ReTain is aminoethoxyvinylglycine (AVG), a naturally occurring fermentation product that blocks ethylene production in plants. ReTain has been used by apple and stone fruit growers in Australian since 2001 to help manage harvest, increase fruit size and improve the storage potential of their fruit.

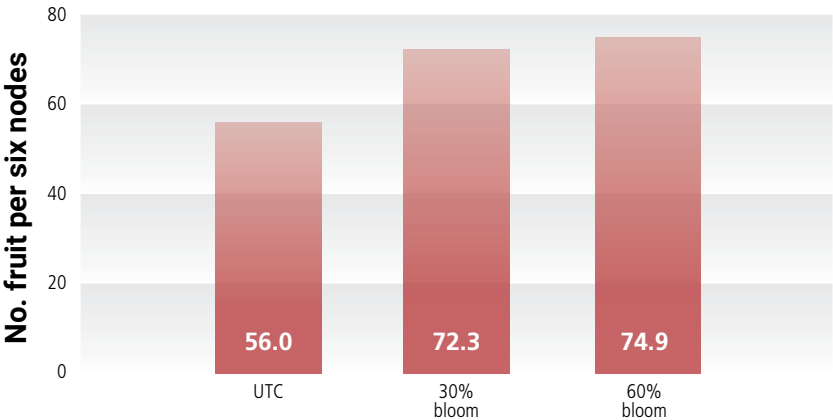
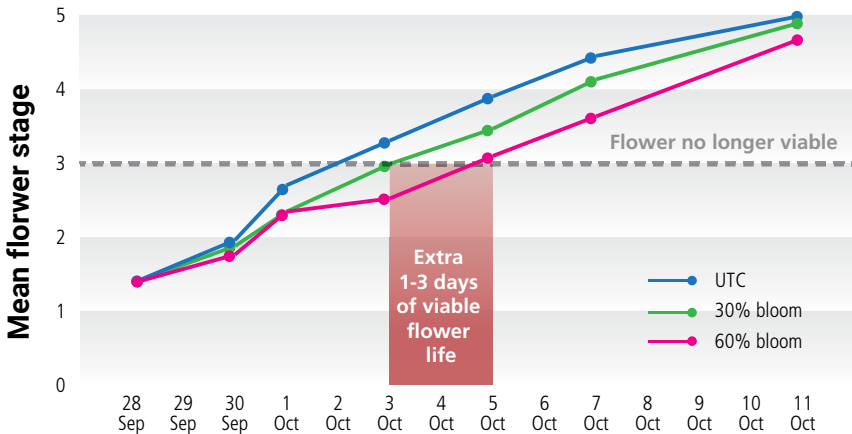
How does ReTain help improve fruit set in cherries?

Ethylene produced by the plant plays a significant role in the senescence of the cherry flower. By blocking this production, ReTain delays senescence and keeps the flower viable for longer. The pictures below show the various stages of the flower life. The flower is ‘viable’, or able to be pollinated, between stages 1 and 3. Extending the period that the flower stays within these stages even by a day or two can have a significant increase in pollination. In years that pollination is difficult this will lead to a significant improvement in fruit set and ultimately yield.



ReTain in cherries:
Wading Vic V13-001

ReTain was applied at 830 g/ha on 24 September (30% bloom) or 27 September (60% bloom).



Fruit set 29 October

The additional 3 days that ReTain kept flowers viable resulted in a significant increase in fruit set. This in turn lead to increase yields at harvest, with the 60% bloom application treatment averaging 1.2 kg additional fruit per tree or 1363 kg per ha.

Directions for use

ReTain can be used to extend flower viability in cherries by delaying flower and stigmatic senescence, thereby offering a better chance for pollination and fertilization under poor set conditions which may result in better fruit set. Timing of ReTain application may impact results as applications too early (pre-bloom) or too late (full bloom or later) will significantly reduce efficacy of the treatment. Application must be made between 30-60% flowering/bloom. Do NOT apply if rain is expected within 8 hours of ReTain application. Do NOT apply ReTain when trees may be nutrient, water, insect or disease stressed.

USE	TIMING	RATE	CRITICAL COMMENTS
CHERRIES			
Do NOT apply to cherry trees after 60% flowering.			
Extend flower life	30-60% flowering	830 g/ha in 1000-1500 L/ha	ReTain will extend flower life which may increase fruit set under poor pollination conditions or in varieties with low natural fruit set. The use of surfactants is not recommended.

NOT TO BE USED FOR ANY PURPOSE, OR IN ANY MANNER CONTRARY TO THIS LABEL UNLESS AUTHORISED UNDER APPROPRIATE LEGISLATION.

Withholding Period:

HARVEST (Cherries): Not required when used as directed;
GRAZING: Do not graze treated vegetation, or cut for stock food for 14 days after application.

PROGIBB® SG in Cherries

ProGibb SG is the world's leading gibberellic acid

- ProGibb trademark is used in 50 countries.
- ProGibb is exempt from MRLs.
- ProGibb is a naturally occurring compound with superior shelf life.
- ProGibb is produced to pharmaceutical standards providing peace of mind.
- Organic: Registered as an allowable input by ACO.

ProGibb SG for use on cherries

With the assistance of the Australian cherry industry ProGibb SG has been registered for cherries to improve size and quality of fruit.

Directions for use

Restraint: Apply in water. Use with a non-ionic wetter. Do NOT apply to plants under pest, nutritional or water stress.

CROP	RATE	CRITICAL COMMENTS
Cherries	2.5-5.0 g/100 L	Apply a single spray when fruit is early to mid straw coloured to produce larger, brighter coloured and firmer fruit. The use of gibberellic acid may slightly delay colour development and harvest.

Withholding Period: Not required when used as directed.

Application: Apply a single spray when fruit is early to mid straw coloured in a volume between 750 and 2000 L/ha ensuring that thorough coverage of the fruit is achieved. Good results depend upon thorough wetting of the fruit and application at the correct timing.

While this is a new registered use for Australia, ProGibb SG has been registered for cherries in Canada and the US for a number of years. That experience and local data shows that:

ProGibb SG improves firmness of fruit.

- ProGibb SG increases fruit size.
- ProGibb SG may delay harvest date by up to 4-5 days (Canadian experience).
- US growers use higher rates than registered in Australia. Australian label recommendation need to be followed for legal reasons as well as avoiding the possibility of adverse effects.
- US and Canadian growers often use split applications, but do not exceed the label rates for the total amount of product applied.

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