

BLOSSOM BLESS™

Blossom Bless (P10c) is a wettable powder containing the nonpathogenic bacterium *Pantoea agglomerans* for use as protection against Fire Blight (*Erwinia amylovora*) infection of pip fruit flowers.

Blossom Bless acts as a protectant, pre-colonising susceptible flower parts and thus preventing the establishment of fire blight causing bacterium *E. amylovora*.

TIMING:

- Blossom Bless must be applied before infection occurs.
 - Application should commence when 10% of flowers are open and bee hives are present in the orchard.
 - Repeat applications to maintain beneficial populations should be made at 40-50% and 80-90% bloom, or prior to a period conducive to rapid bacterial growth.
 - Application timing should be assessed in conjunction with Cougar Blight model risk in your area.
 - Blossom Bless application should be delayed when the Cougar Blight model is reporting low infection risk, or advanced when model is reporting high infection risk periods.
 - Applications should be timed 72-48 hours prior to an anticipated high infection period.
 - All susceptible flower hosts should be sprayed not just the target crop.
- ⚠ Late flowers are still very susceptible to fire blight, and without hives or if there has been a break in flowering the transfer of Blossom Bless will be very limited. Watch out for late infection periods, even with low flower numbers.

FROST:

Numbers of Blossom Bless bacterium will be greatly reduced after frost, also there will be increased risk of fire blight infection through micro lesions in plant tissue, therefore reapplication is highly recommended.

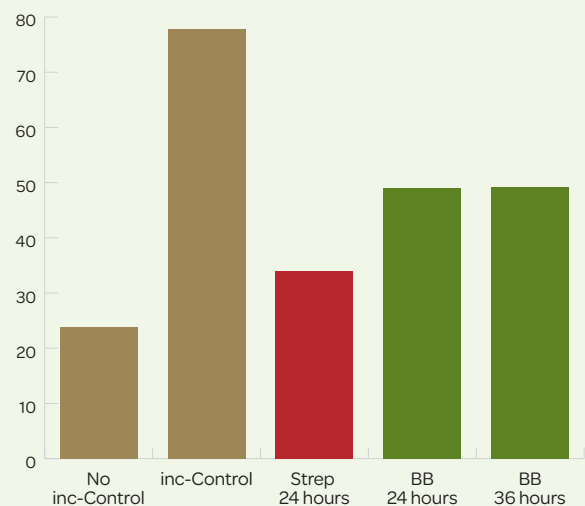
COMPATIBILITY:

- It is recommended that Blossom Bless is applied alone, but can be mixed with Streptomycin or bee pollination pheromones such as Bee-Scent™.
- ⚠ Blossom Bless should NOT be tank mixed with Polyram or Manzate, but can safely be sprayed 48 hours before or after applications of these fungicides.
- ⚠ DO NOT apply coppers during the flowering period when using Blossom Bless.

BEES:

Good bee activity is vital to transfer the Blossom Bless onto newly opening flowers. Bees should be introduced to the orchard before the first application is made and kept in the orchard as long as possible.

2020 FIRE BLIGHT TRIAL



- Extremely high pressure!
- 78% flowers in inoculated control with Fire blight!
- 24% flowers without inoculation infected!

The difference in efficacy between Streptomycin and Blossom Bless applied at 24 or 36 hours prior to inoculation was not significantly different.

Note: Streptomycin is the gold standard treatment and under severe pressure situation is the first choice for fire blight management.

DOSE	SITUATION	PRODUCT/HA	APPLICATIONS
Low	Older more fire blight tolerant varieties on non-dwarfing rootstocks	300g	Two applications, one at 10% and 50% flowering
Medium	Older more tolerant varieties on semi- or dwarfing rootstocks	450g	Split into two applications at 225g/ha at 10% and 50% flowering
High	Pears, or new more susceptible varieties (such as Pink Lady) on dwarfing rootstocks	750g	Split into three applications. Apply up to 300g/ha per application if conditions favour infection.

APPLICATION:

- Blossom Bless should be applied in temperatures above 10°C with slow drying conditions – late afternoon, evening.
 - The rate at which Blossom Bless colonises flowers is driven by temperature and bee activity. Colonisation will be greatest in temperatures above 18°C.
 - Sprayer must be in good condition, and well calibrated.
 - Ensure spray tank is thoroughly cleaned and free from any chemical residues, in particular Polyram, Manzate and Copper as these fungicides will kill or dramatically reduce bacteria populations.
- ⚠ Coverage over all flowers is critical, for best results spray every row if possible.

TANK MIXING:

1. Clean your spray tank with a suitable cleaner (such as CP Clean or Citric) to ensure no residues are present that may harm the Blossom Bless.
2. Half fill a clean 10L container with cold water (do not use hot water).
3. Add full contents of bag, apply lid securely and shake vigorously for 30 seconds.
4. If using less than a full bag ensure it is well mixed prior to opening.
5. Leave for 5 minutes and once again shake vigorously.
6. Half full the spray tank with water and then pour in the above suspension.
7. Any lumps should be washed through the sieve into the spray tank.
8. Add the balance of the water to the spray tank and apply immediately. Do not mix more than can be applied within 2-3 hours.

WATER RATE:

- Blossom Bless bacteria require free moisture to move around and position on flower stigma, therefore water rates must be sufficient to thoroughly wet flower parts.
- Applications in fast drying conditions should be avoided.
- Water rates in the range of 700-1000 litres/ha are generally sufficient under slow drying conditions.
- The rates suggested are for application per hectare and should be diluted with the correct volume of water in the spray tank for application to one hectare.
- Application prior to forecast infection events should be targeted, and application rates increased if severe infection events are forecast.
- The table above shows suggested application plans. These should be modified to address infection forecasts, higher rates at earlier timings may be required in high risk situations, and timings may need to be brought forward or delayed to match conditions.



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