TIMELY *hints*

JULY 2021
STONE FRUIT PRODUCTION

REST BREAKING SPRAY

For many of the stone fruit varieties that we grow, we do not have enough winter chilling for the trees to be able to break dormancy naturally. For this reason, we have to help the trees break dormancy and we basically have two products at our disposal namely Hydrogen Cyanamide (Dormex, Deurbraak or similar Generic) and Mineral Oil (Bud Break, Citroil etc., or similar Generic).

If we do not apply rest-breaking agents, the trees will blossom over a long period, worst cases up to 3-4 weeks blossoming which makes thinning and harvesting very difficult because of the huge range of fruit sizes and mixed maturity and we do not have good vegetative breaks with a lot of vegetative buds remaining dormant, resulting in strong growth, especially at the base of the trees, from those shoots that do break rest, as all the energy goes into these few growing points.

By not having adequate vegetative bud break, one also reduces the number of flowers, and spurs, especially for plums the next year and the number of good-quality one-year old bearing units for peaches and nectarines for the following year.

Delayed foliation upsets the entire tree physiology and it is almost impossible to get maximum yields of good quality fruit when one has delayed foliation. Often the biggest effect of delayed foliation is the crop in the following year, through the lack of good quality spurs or bearing units produced for the next year.

The author avoids giving a recipe for rest breaking sprays in these Timely Hints because each fruit kind, each variety and each orchard site will have its own recipe and the grower is strongly urged to discuss the rest breaking for each individual site with his/her representative to determine the best recipe for the situation. The grower should also check what is registered for which fruit kind.

While there are a number of other rest breaking products around, the author believes that Mineral Oil and Hydrogen Cyanamide are the only two products that have been fully tested and proven under South African conditions.

Depending on your site and depending on what is registered, one can spray neat Mineral Oil or a neat Hydrogen Cyanamide or a tank mix of both reducing the rate substantially in the tank mix of Mineral oil and Hydrogen Cyanamide, especially the Hydrogen Cyanamide.

The other big plus of good rest breaking is it is much easier to synchronize the blossom of the pollinators especially for plums where one can manipulate the timing of the blossom with rest breaking sprays. Where one is more aggressive with rest breaking spray recipes, synchronizing the blossom and the pollinators is just that much easier.

Practical hints regarding rest breaking sprays:

- Be wary of applying rest breaking sprays too early, one wants to see signs of bud swell before the rest breaking spray is applied. The author's colleague, Frikkie van Schalkwyk has the saying, which holds true, "it is much easier to jump start a motor car that is rolling than one that is standing still". To jump start a stone fruit tree when it has started sap movement and bud swell, is a lot easier than something totally dormant.
- Apply rest breaking sprays at between 70-90% of tree row volume. Very important especially with the winter oil that one puts a film of oil right around the bud.
- Do not apply oil sprays with Albuz Nozzles but with old Spraying Systems nozzles. You will need to have a course droplet to create the required oil film.
- The weather conditions after the oil and/or Hydrogen Cyanamide spray is very important. Ideally you would like 3-4 days of good warm weather immediately after the spray, especially for the oil spray. The longer the bud can sweat under the film of oil the better the rest breaking will be.
- Where applying oil sprays, avoid applying oil to trees that are water logged as this will cause severe dieback to the shoots as the tree cannot get oxygen through the aerial part of the tree because of the film of oil and cannot get from the roots as the tree is water logged. This results in dieback. If in doubt, rather use Hydrogen Cyanamide as your rest breaking agent in water logged situations.

PEST AND DISEASE CONTROL

Stone Fruit Pests and Diseases:

- **Bacterial Diseases & Gumspot – All Stone Fruit.** Spray at **First signs of bud movement** Copper Oxychloride @ 350g/hl. Last copper spray for the season whilst fruit is on the trees.
- **Scales and Mealy bug – All Stone Fruit.** At **first signs of bud movement**, apply 2nd (final) 100ml/hl Lirifos plus 500ml/hl mineral oil for scale control. Where rest breaking sprays are applied to apricots and plums, rather apply this treatment with the heavier oil spray, effectively negating the 500ml/hl mineral oil requirement. If no rest breaking sprays are

applied, add this spray to the copper. The desired droplet size needs to be in the 100-175 micron range for effective wetting of the targeted trees, specifically in the tops to control scale and mealy bug. It is important that the correct nozzle choice (do not use Albuz nozzles or non-axial fan spray machines for dormant winter sprays) and pump pressure are selected to deliver the required droplet size.

- **Aphids – Peaches, Nectarines and Plums.** Spray Closer @ 5ml/hl at the first signs of infestation and follow up later if required. Safety window = 14 days.
- **Late Scale - All Stone Fruit.** Spray Movento @ 40ml/hl from 100% petal drop onwards, at first crawler movement for scale. Repeat 4 weeks later if needed. Safety window = 14 days.
- **Leaf Curl – Peaches and Nectarines.** Spray Thiram @ 150g/hl **5-7 days after early bud swell copper** and **repeat every 4-7 days** (based on how wet trees are – dew and rain) before and after rain. Last spray at Full Bloom.
- **Blossom Blight (Monolinia laxa brown rot) – All Stone Fruit.** Spray Chronos @ 27ml/hl **weekly from 1 week after the copper till full bloom**. In the case of peaches and nectarines add Chronos to the 30% blossom Thiram spray.
- **Powdery Mildew – Peaches and Nectarines.** From **10% balloon on,** apply 60ml/hl Nimrod @ 10-14 day intervals till 90% petal drop. Apply wettable sulphur @ 300g/hl from 90% petal drop onwards at 10-14 day intervals, till 35 days before expected harvest, if required. This wettable sulphur will also control brown rust.
- **Powdery Mildew – Apricots.** From **10% balloon on,** apply 1L/Ha Ortiva **OR** 55ml/hl Obstructo @ 10-14 day intervals, applying no more than 2 sequential sprays and 3 sprays in total, till 90% petal drop.

  From a resistance point of view, one should alternate 300g/hl wettable sulphur with these Ortiva / Obstructo sprays. Wettable sulphur is registered for brown rust control and as such will assist in controlling mildew. In addition to these sprays, apply wettable sulphur @ 300g/hl from 90% petal drop onwards at 10-14 day intervals, till 35 days before expected harvest, if required.
- **Blossom Complex Pests (Bollworm, Antestia, Fruit Nibbler) – Apricots.** Spray Delegate @ 12g/hl. This dose will control thrips. A 20g/hl dose is registered for FCM. Safety window = 7 days.

- **Blossom Complex Pests (Green Peach Aphid) – Apricots.** Spray Aphox @ 50g/hl when pest first noticed.
- **Blossom Complex Pests (Bollworm, Antestia, Fruit Nibbler, Green Peach Aphid) – Plums, Peaches and Nectarines.** Spray Klartan @ 30ml/hl @ 10-30% Flower (before bees are put into orchards), as and where required. Do not spray after 90% petal drop. Safety window = 60 days. Klartan is "safe" for bees.
- **Thrips – Nectarines and Plums.** Apply 15ml/hl Tracer @ 10% balloon and repeat 7-10 days later if needed. If bollworm is a problem, the Tracer can be sprayed at 20ml/hl to cover for both thrips and bollworm. Safety window = 21 days on peaches and plums, 7 days on nectarines.
- **Oriental Fruit Moth (OFM) – Peaches and Nectarines.** Where required, hang traps (1 trap/2 Ha) late July (early August at the latest).
- **False Codling Moth (FCM) – All Stone Fruit.** Where required, hang traps (1 trap/2 Ha) early August at the latest.
- **Brown Rust, Freckle, Gum spot – All Stone Fruit.** Spray 200g/hl Captab at 75% petal drop and repeat 14 daily for 2-3 sprays, if needed (wet conditions). Safety window = 35 days on stone fruit. **OR**
- **Brown Rust, Freckle, Gum spot – All Stone Fruit.** Spray 150g/hl Dithane at 75% petal drop and repeat 14 daily for 2-3 sprays, if needed (wet conditions). Safety window = 63 days on peaches, 42 days on apricots and nectarines and 35 days on plums. At this stage, the permitted future use of Mancozeb on export fruit, is still unclear. Sensitive markets (German supermarkets) may not accept product with any MRL over LoD (Level of Detection). Provisionally, the early to midseason fruit, should be "safe" to be treated with Mancozeb, with possibly an issue on later maturing fruit that enters the market towards the middle of 2022.
- **Fruit Weevil (Snout Beetle) – Nectarines.** Stem bands are the best form of weevil control and should be placed around tree trunks before the trees start to bloom. Must ensure there are no "ladders" of pruning shoots or weeds, allowing access of the weevil into the trees above the stem bands. For chemical control, spray 40ml/hl Steward once weevils are caught in the monitor bands or @ 75% petal drop. Safety window = 28 days. Sensitive markets (German supermarket Lidl) will not accept product with any traces of residue on it.
- **Crown Gall – All Stone Fruit.** All new trees' roots should be dipped in RAS 84, **before planting.** 1 Packet treats 50 trees. Agrobacterium radiobacter, a biological treatment is only preventive and not curative.

TIMELY HINTS CONTRIBUTORS

Soil, Irrigation, and Nutrition	Thinning and Newly planted trees	Pest and Disease control
Mico Stander Soil scientist Agrimotion 021 851 1051	Peter Dall Technical consultant Peter Dall Consultancy 028 272 9671	Andrew Hacking Technical consultant Ad Lucem Agricultural Services 021 880 1905

DISCLAIMER

HORTGRO Stone

Growing Fruit IQ

home of the south african stone fruit producer