TIMELY *hints*

OCTOBER 2017
STONE FRUIT PRODUCTION

SOIL

A mulch can be applied when soil temperature is adequate and your first significant irrigation is applied. The mulch will buffer temperature and soil moisture so make sure the correct conditions are buffered. Do not place the mulch against the trunk of the tree. This may promote conditions for pathogen infestation. (In the event of a dry season, the mulch layer may be laid earlier to preserve winter moisture.)

Soil preparation can be done from October, provided the soil moisture is correct. This moisture status is the same as the "1 to 5" ratings as described in the irrigation section of the September Timely Hints. We can prepare heavier soils at a "3" and sandier soils at a "3 and 4" rating.

Important points before soil preparation can take place:

- The area must be cleared of plants, old roots, old structures, drains, old irrigation lines, ridges, etc.
- Any ash piles that remain following the burning of plant material must be spread out to ensure that the ash is not concentrated in specific areas.
- Any old roads within the area must be ripped to relieve compaction. Sample and ameliorate these roads separately.
- A systemic weed killer can be used to kill weeds.
- Apply ameliorants according to your soil scientist's recommendations.

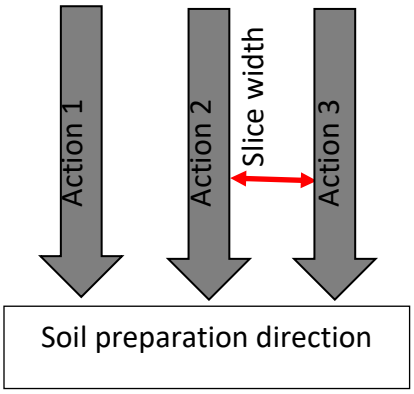
Two main implement options exist for deep soil preparation actions: a mixing and ripping implement. Depending on the soil conditions and the crop that is to be established, different techniques are recommended. In general, these actions can be described as follows:

- The **loosening action** is generally recommended as the initial action to loosen the soil before a mixing action is implemented. A ripper is generally used.
- The **mixing action** allows for mixing of the soil horizons to make the soil physically uniform. This helps to incorporate the applied ameliorants to a specific depth and so make the soil chemically uniform as well.

Before soil preparation takes place the following points should always be considered:

- Only cultivate the soil at the correct soil moisture content. This is between field water capacity and the lower plastic limit. In a more practical sense, at the correct soil moisture content a ball of soil can be made in the hand and when it is lightly squeezed with the thumb it will crumble. Sandy soils can be slightly wetter than clayey soils, but after the sample is squeezed, no free water must remain in the hand.

- Ensure the slice width between the actions is 2/3 of the working depth. Applying this principle will ensure that the soil across the total area is prepared. Wider slice widths will result in pockets of soil that have not been loosened and ameliorated.



- If cultivating the land in two directions, these actions must always be at a 30-40° angle to each other, with the final action being in a downhill direction.
- Never work deeper than recommended, and never allow clay to come to the soil surface.

- Always make sure to work to the edges of the block during ameliorant and soil preparation. Failing to do so may cause the crops at the edges of the block to not perform well.

- After soil preparation no wheel traffic must be allowed over the land.

These basic descriptions are for the producer's understanding and do not replace the soil scientist's evaluation or recommendation. Executing the incorrect action could drastically reduce the soil's potential for cultivation of fruit crops.

IRRIGATION

- Keep monitoring soil moisture as described in the September *Timely Hints*.

- Be aware of the phenological stage of the cultivars on your farm. From pip hardening to 3 weeks before harvest is the critical period for cell enlargement. Incorrect irrigation during this period will lead to smaller fruit with sub-optimal internal quality. (The pip hardening period is less sensitive for controlled water stress.)

NUTRITION

- For early cultivars, especially nectarines, potassium (K) needs to be available. The period for highest K demand is the same as the critical irrigation period. This is why K availability is often mistaken as the cause for small fruit, resulting in greater K applications the following year with no significant impact on fruit size. The opposite is also true if K is deficient and irrigation optimal.
- Adequate Nitrogen (N) should now also be available. Select the correct source of N:
    - LAN is great for sand and clay soils. Urea should not be used on sandy soils. Calcium nitrate leaches easily and should only be used in sandy soils if the Ca is needed for improved internal quality and should be applied in smaller quantities more often (2 weekly).

- Convert fertigation to granular conventional fertilizer if soil moisture does not allow for the required irrigation.

SUMMER PRUNING

The principles of Summer Pruning are as follows:

One would like to invest in growth where one wants it and convert the photosynthetic energy into fruit enlargement and not into wood production. At the same time as achieving this through summer pruning, one will improve the light management in the tree so that the leaves, especially leaves near the fruit can intercept enough light to photosynthesize to their full potential. Judicial summer pruning is an art and when well executed can make a significant difference to stone fruit production.

Peaches and nectarines

Summer pruning of peaches and nectarines should focus on controlling vigorous water shoots in the tree that we often refer to as “leaky pipes”. They are called leaky pipes because they use up a great deal of the trees energy created by photosynthesis. The main aim of summer pruning in peaches and nectarines is to put as much of this energy into the fruit and not into wood production.

The following is recommended:

- Two weeks before harvest or just before Christmas, whichever comes first, cut back all one year old shoot growth thicker than knitting needle thickness to a 10cm stub. This will stop the shoot growing for a while and the energy can then be allocated to the fruit. It also helps with light management and especially with nectarine’s colour development etc. Where the summer pruning has been well executed, we have seen an improvement in fruit size and the sugar content of the fruit, as the light management is much better.

- One should also keep the bowl of the tree, especially at the base, clean of all new water shoot growth right at the base. To remove most of this growth entirely and higher up one can keep it short by stubbing to 10cm as well.

- In young trees (which you still are want to fill the area allocated to them), pinching out the growing tip of the lateral shoots coming off the central or closed vase leader so that the terminal shoot remains dominant is important. This probably has to be done a few times during the summer.

Apricots

Apricots are spur bearers and bear on 2 year old wood. One wants to create as much one-year-old wood as possible that one can convert the next year to bearing units. It is recommended that all apricots be summer pruned two weeks before harvest by heading back all one year old shoots knitting needle thickness and thicker to a 10cm stub. After harvest, these shoots will put on a little bit of regrowth. These shoots can be left until the winter pruning, which for apricots should be when the trees are in blossom.

Plums

There has been much debate about plums' summer pruning and there are probably more than 10 recipes out in the field and many consultants will have their own strategy.

The following is recommended:

- For willowy growers like Pioneer and Laetitia, consider a double summer prune, removing strong upright one year old shoots two weeks before harvest, this is to give the trees a so called haircut by cutting back one year old shoots knitting needle thickness and thicker to a 20cm long stub.

- For spur type bearers such as Sapphire and also varieties that tend to give blind wood: prune two weeks before harvest by stubbing all knitting needle thick and thicker one year old shoots to 20cm in length.

All Plums: For all plums that are showing excessive vigour, as soon as possible after harvest, come through and remove those very strong pencil thick and thicker one year old shoots with a 2cm stub ("tappie") cut. Especially if these shoots are growing after harvest, they should be removed. One does run the risk of stimulating shoot growth but in my experience, if you make the stub cut short enough, one normally does not get re-growth and then the photosynthetic energy goes into building up reserves for next year and not into the tree producing more wood.

PEST AND DISEASE CONTROL

- The latest flowering cultivars of all stone fruits may be progressing through the phenological stages of development as depicted in the September "Timely Hints". Please refer to that document to cover the pest and disease strategies that are to be applied, given those phenological stages of development.

- As the fruit approach maturity, one must be very aware of complying with the required withholding periods to prevent chemical residues being detected on the fruit destined for both the export and domestic markets.

- In addition to the powdery mildew, thrips, oriental fruit moth (OFM), false codling moth (FCM), fruit weevil, brown rust, freckle and gum spot, one must also bear the following in mind:

- **Pernicious Scale – Peaches, nectarines and Plums:** This should basically be controlled in the dormant winter period, when there is very little impact on the predators as well as getting better cover onto the leafless tree, where the scale is situated. In the event of needing to apply a summer treatment, the newly registered product Closer 240 SC @ 12ml/hl could be applied at 100% petal drop and repeated 6 weeks later. This timing is aimed at getting as much coverage of the wooden tree structure as possible, before the foliage gets too dense. The safety period on peaches and nectarines is 14 days for both local and export and on plums, 14 days local and 35 days for export fruit. This application of Closer will also control green peach aphids. The registered dose on aphids is 5ml/hl.

- **Fruit Fly – All Stone Fruit:** Monthly baiting should be done throughout the winter (May until August inclusive), irrespective of trap catches. In September and October, fortnightly baiting should be undertaken. For the period, November till April, weekly baiting needs to be complied with, early in the morning. "Hotspots" on the farms (home gardens), should have the intensity of baiting doubled – 2 weekly in the winter and weekly in the spring. When baiting, it is critical to apply 1L/Ha of attractant per bait application. Hymelure OR Loklure at a 2L/hl rate, mixed with 175ml/hl Mercaptothion, applied at 50L/Ha of solution, applies the 1L/Ha. The ph of the water solution should be buffered to 4.5 – 5.5 for optimum efficacy of Mercaptothion. When one applies GF120 closer to harvest, again the rate is 1L/Ha of GF120 in 10 to 20L of spray solution/Ha.The lower the volume of water, the better it works. Alternate rows need to be sprayed, effectively wetting 1 side of every tree when baiting. The bait solution needs to be aimed into the top third of the trees, wetting the underside of the leaves. Application of baits in harvested orchards is also critical.

- **Postharvest decay – All Stone Fruit.** Apply 80ml/hl Indar, 21 days before expected harvest to cover for Monilinia (Brown rot). Indar has a 5 day export safety window and 1 day local. Apply 2L/Ha Protector, 3 days before harvest, covering for Botrytis and Monilinia. A 3 day safety window

applies to both export and local. In the event of the weather being conducive to decay, one could consider rather applying 2L/Ha Tutor, 3 days before harvest, covering for Botrytis, Monilinia and suppression of Rhizopus. Tutor also has a 3 day safety window for both the export and local markets.

TIMELY HINTS CONTRIBUTORS

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