

Tech Tips – Pruning

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Pruning, unlike other areas of blueberry management, is more subjective given the many factors that play into this. Key factors include varietal differences, non-uniformity of individual bushes, as well as geographical location, which affects harvest timing and the length of the growing season. Rather than being a definitive guide, the following are general principles to consider when pruning.

Principles for pruning mature plants

- Note – please see the following links for pruning video examples for [Eureka](#) and [First Blush](#).
- For Eureka and similar varieties (e.g. Sunrise) with more of a bushy type of growth habit, aim for a vase shape with an open centre to maximise airflow, light, and spray penetration. First Blush, being more vertical in its growth, can be pruned with less of a vase shape.
- The aim of pruning, from young plants over the successive years, is to create a multi-layered or multi-tiered structure with lots of ‘complexity’ (branching) from which bushes can maximise fruit production.
- To achieve this, aim for a first-tier of 4-6 main canes from the base of each Eureka plant and 7-10 for First Blush if available. For the second-tier, prune so that there are one or two canes on each of these main canes. For the third tier, prune so that there are one or two canes on each of the second-tier canes.
- A very general guideline is to reach the point where there are up to approx. 20 growing shoots/canes after pruning (see right hand side plant in photo below). Please note however that the fundamental structure or age of some plants may not allow this.



4-year-old Eureka with good structural complexity achieved over successive years. Note that some of the growing shoots are green (current season's wood) and others are lignified/brown (older wood)



First Blush with more of a vertical growth habit



Other examples of good structural complexity achieved over successive years

- When pruning, it is important to remove all the following shoots:
 - Small spindly growth in general and low branches from base of plant
 - Any branches that cross from one side of the plant to the other
 - Last season's old fruiting wood and any late flowers
 - Any dead or diseased wood (and then sanitise pruning equipment accordingly)
 - Note that smaller shoots can be pulled off and larger shoots cut with secateurs
- Shoot length and thickness – prune new shoots to approx. a secateur length (20-30cm) and pencil thickness. New First Blush shoots can be slightly thinner. If new shoots are too thin prune down into older season's lignified wood.

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Early vs late and light vs heavy pruning

The relationship between pruning timing and intensity is most influenced by the length of the growing season after harvest. The less growing degree days (GDD) a region has after harvest (e.g. more southern regions), the lighter the prune will need to be for there to be sufficient fruiting canes for the following season. Conversely, for more northern regions where there are higher GDD after harvest and where harvest generally finishes earlier, pruning could be heavier, or to some extent later.

For a given orchard, every season provides an opportunity to refine the pruning technique according to the observed yield and vegetative regrowth from previous season's prune. It is also advisable to prune a small number of plants at different timings (at 2 weekly intervals post-harvest) and intensities (light and heavy) to observe the yield and vegetative response and thus optimise the pruning technique for your given location.

BerryCo growers in the Bay of Plenty and North have generally found there to be no effect on plant growth and production if plants are pruned within the mid-December to mid-January window. Pruning earlier may lead to more flushes of vegetative growth and pruning later, less flushes of vegetative growth.

Tipping new regrowth to promote branching

Once regrowth has occurred after pruning, tipping these new soft shoots is an important tool to cause further branching. If for example on a mature bush there were 20 growing shoots after pruning (see initial photo) and each of these produce 2-3 shoots after an approx. 5-week flush of growth, if these shoots are tipped, they may in turn produce another 2-3 shoots each, resulting in an overall approx. 120 shoots which can bear fruit.

Generally, when new shoots are at approx 30cm, the top 5cm can be tipped off. The number of tipping rounds required will depend on the variety, timing of pruning and the geographical location (GDD). Some important tipping considerations are:

- Eureka generally requires a single round of tipping and First Blush two rounds. Between rounds of concentrated tipping, selective tipping (as part of regular plant monitoring) will be required as shoots reach the sufficient length.
- Tipping shoots too early may reduce branching. The preferred scenario is to allow a new shoot to 'self-terminate' (stop growing and branch by itself). Growers have observed better branching from self-terminated shoots. Self-terminated shoots can be observed when a small 'black tip' forms (see photo below). Eureka is more likely to self-terminate compared to First Blush, which requires more regular tipping.
- It is preferable to tip softer shorter shoots than longer harder shoots.
- Tipping too late in the season (after approx. mid-February subject to region and variety) can send a signal to the plant and potentially reduce the number of flower buds that form and thus reduce yield.

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Self-terminated shoot with a black tip

Structural pruning for young plants

Note – please see the following link for a pruning video example for [young Eureka](#).

It is very important to set up young plants with the correct structure in order to maximise productivity in the future years. The timing of initial pruning will vary subject to region and when seedlings were planted, but once young shoots are approx pencil thickness pruning can begin. If available, aim for 4-6 canes from the base of each plant for Eureka (7-10 for First Blush) and cut each to approx. 15 cm in length. Then when new growth is at approx 20-30cm (10-12 leaf), tip the top 5cm off. Tip as many times as possible through the growing season. If fruit is present on first season plants, the decision needs to be made to either forego all fruit and prune, or to harvest the initial portion of this fruit and then forego the rest and prune.



Example of structural pruning on young plants (left, before pruning, and right, after pruning)

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Reset pruning for large plants

'Reset' pruning is basically a very heavy prune, cutting back into old wood to reduce plant height. Some plants may only require a partial reset to lower individual longer limbs. Generally, BerryCo growers are not yet at the stage of requiring a full reset prune but may require the occasional partial reset of individual longer limbs.



Examples of reset pruning

Other general pruning tips and considerations

- Basic pruning tools include secateurs, loppers for larger base cuts, gloves make it easier for pulling off smaller shoots, and knee pads are also helpful if pruning the lower part of the bush from the ground. A sharpening stone is also essential to keep cutting blades sharp.
- Disinfection of pruning equipment is important after pruning out diseased wood. Some growers also choose to disinfect equipment at the end of each row.
- Remove any diseased wood away from the orchard and burn.
- Remove as much disease inoculum as possible (e.g. Botrytis, Rust) but finely mulching (if there are grass rows) or removing all pruning's and either burning or mulching them outside of the orchard.
- Remember appropriate spray applications after pruning – Carbendazim (Chief, Protek, Goldazim) combined with Captan (ideally at the end of each day of pruning), followed by copper (Nordox, Kocide Opti) a few weeks later. For more information see [Spray Options](#) in the BerryCo Grower Manual .
- Plant nutrition also plays a role in vegetative regrowth after pruning. Ensure you change to a vegetative fertigation mix and if necessary, adjust EC levels to fine tune the desired growth response. P
- Although bushes with more vegetative growth may carry more fruit, they may be less economic to pick from.
- Tunnel temperatures in the summer can become very hot and so to avoid any negative impact on regrowth after pruning consider venting the sides or even deskinning the plastic completely.
- Regular supervision of pruners is important to ensure pruning uniformity.

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- Make pruning cuts flush with a cane and do not leave short 'stubs', from which unwanted growth can occur (see photo below).



Unwanted short stub cuts (circled).

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