Three Steps to Growing High Quality Lapins and Sweetheart

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In the mid-1990's Pacific Northwest (PNW) cherry growers began to expand their variety mix to include more than just Bing and Rainier. Lapins was the first cherry planted in quantity at this time and it held great promise to expand the harvest season, provide increased rain protection and supply the market with a larger, more attractive cherry.

In The Dalles District of Oregon, Lapins plantings expanded until they became the second most popular cherry grown in the region at 17% of the total by 2005. At the same time, interest grew in 'Sweetheart' another late variety from Canada. It too was heavily planted in the mid- to late-districts of the PNW and grew to nearly 14% of the total harvested acres in The Dalles District.

PNW growers had good reason to hope for the success of both varieties. Their Canadian neighbors spoke of over two decades of nearly trouble free production with shipments successfully arriving at their destinations throughout the world.

So when the first crops of Lapins were harvested and shipped in the late-1990's many expressed surprise at the reports of badly pitted fruit arriving in international markets. Although efforts were made to determine the reason for the pitting, storage and shipping problems for both varieties continue to this day.

Recently, however, Juan Pablo Zoffoli of the Catholic University of Santiago, Chile has conducted research that may help PNW growers overcome some of the pitting problems associated with these varieties.

In the belief that a later harvest would help to reduce pitting, Oregon growers in particular have been harvesting Lapins at a mahogany to dark mahogany color. In a recent presentation at the Oregon Horticulture Society meeting in Portland, Zoffoli showed research results that indicated that Lapins and Sweetheart had significantly less pitting when harvested at the light mahogany as compared to more mature stages. These data are confirmed by observations made by Bob Bailey of Orchard View Farms in The Dalles who followed shipments of their cherries to London, England. He observed that Lapins cherries harvested at light mahogany had less pitting then those harvested at a mahogany or dark mahogany.

These Lapins cherries, grown in the Pacific Northwest, exhibited typical pitting damage upon arrival at their destination in London, England. (photo by Bob Bailey)

In addition, in a trial conducted with Van, Zoffoli determined a direct relationship between post-harvest pitting and a low leaf to fruit ratio. As the crop size went from overset to a more balanced condition, the incidence of pitting dropped significantly.

Both Lapins and Sweetheart are very productive varieties and can overset even when grown on Mazzard rootstock. While pruning, growers need to consider how to reduce the fruit load so that the leaf to fruit ratio on the tree is balanced.

The first step to properly prune these varieties is to remove any weak and pendant wood. Weak branches tend to overset and lose their vigor. It is not unusual to see only spur leaves on these branches as new growth has ceased. Ayala and Lang (2004) have shown that mid-way through the final fruit growth stage, characterized by final fruit swell and ripening, the majority of the carbohydrates that supply the fruit are coming from non-spur leaves located on one year old wood and new shoots. In other words, without new shoot development each year an important portion of the assimilates needed to properly develop and size fruit would be missing.

Untipped branches in this photo display an overabundance of flower buds at the shoot tip. By tipping one year old branches during the dormant season the future fruiting potential of the branch is reduced.

The second step to balancing crop load on Lapins and Sweetheart trees is to reduce the future fruiting potential of newly developed branches. This is done by tipping all new branches throughout the tree and by removing some of them completely. Basal buds are spaced farther apart then those closer to the tip. In addition, when the branch matures, basal buds will have fewer flowers per bud. Since our goal is to reduce fruit on these productive trees we want to tip all new branches removing the most productive part of the branch. All one-year-old shoots, therefore, should be tipped by one-third. By doing this, we will also reduce the clumping of fruit that is so prevalent with these varieties and so difficult to pick without damage.

Finally, it is necessary to remove some of the current season's crop as well. A portion of the branches should be stubbed back, leaving a five to 20 inch stub. The length of the stub is dependent on its position in the tree. If light strikes the stub and there is a balanced crop load, a new branch will replace the old providing younger fruiting wood and the potential for larger, higher quality fruit. By stubbing back large branches in the tree top shading is reduced and a smaller branch can grow in its place. All fruiting wood in the tree should be renewed every five years.

By adjusting our harvest timing, properly pruning our trees to balance the crop load and carefully handling our fruit, it is possible to grow high quality Lapins and Sweetheart cherries that consistently arrive in good condition in distant markets. After all, our Canadian neighbors have been doing it for years.

Literature cited:

Ayala, M. and G. Lang. 2004. Examining the influence of different leaf populations on sweet cherry fruit quality. Acta Horticulturae 636:481-488.