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Alaska Pioneer Fruit Growers Association

Hello Fruit Growers!

My wife and I frequently hike through Russian Jack Park where we see the kids sledding on the hill. So, this year we decided to buy a sled and join them. We tried out the new sled on our hill where the fruit trees are planted. Once we packed a trail down, we were going lickety-split. The only trick was stopping before going through our neighbor's fence!

It occurred to me that our plants do something similar. We encourage them to grow fast during the summer and then hope they come to a screeching halt right before the onset of winter. Somehow, the fruit trees need to grow and bear fruit, while at the same time storing up enough reserves for the following spring without being caught actively growing when winter hits.

I recently learned that fruit trees break bud, bloom and petal fall on Nitrogen (N) reserves stored from the previous season. The presenter, WSU Tree Fruit Extension Specialist Bernardita Sallato explained that the roots do not begin to uptake N until the soil temperature reaches 59 degrees. In our orchard, the soil reached that temperature at 6" depth on June 12.

Now, this information seems to me to be useful for a couple of reasons. First, it appears there is no value in putting down N for fruit tree roots before June in Alaska. They can't use it yet, and depending on the form, the N may be lost to the atmosphere before the tree can take advantage of it. Second, if you have a tree that is biennial (bears every other year), there may also be a clue here to correcting that problem.

The issue with a biennial tree appears to be that it bears heavily one year, and doesn't store enough reserves to flower and set fruit the following year. It essentially takes a year off to recover. We generally try to manage this by pruning and limiting the fruit set on the "good" year in an attempt to allow the tree to store reserves for the next "off" year. What Bernardita shared would seem to suggest that during the "on" year, the tree might also benefit from additional feeding to help it build stores for the next season. This could take the form of supplemental fertilizer/manure in June after petal fall, or foliar N applied at the end of the season. (Click the link for more on [foliar N](#))

When root feeding in Alaska, we always apply nutrients in June so that the tree metabolizes those inputs during the summer and is not being stimulated to actively grow in the fall when it should be getting ready for winter. Cells that are actively growing, can be injured or killed by cold through a process called ice nucleation. Ice nucleation can kill plant cells through dehydration or by destroying the cell membrane.

If you have plants that seemed to have been actively growing when winter arrived and you are wondering if they sustained damage, you can easily check. Just cut a branch and slice the branch and the buds open (in half) to see if they had acclimated properly. If the buds and plant cambium are green, then all is good. If you see tan or brown, then they have been cold damaged. As I mentioned in a previous email, cherries are especially susceptible to freeze damage from cold spells in the fall before acclimation, during the winter from momentary warm spells, and in the spring from late cold spells when buds are swelling. You can check flower buds at any time to ascertain cold damage by using the method just described.

Now weather is out of our control, but we can assist our trees and plants with healthy soil. It may be that biennial trees are simply in an environment either due to climate or available nutrients where they cannot sequester adequate resources to produce every year. Trees will respond positively when their annual fruit production is balanced with an adequate supply of nutrients. A crucial component in this regard is how we manage the orchard floor. (nice segue, eh?)

Please click to join our Zoom [APFGA meeting](#) (password apfga) on Thursday, December 10, at 7:00 pm when WSU Emeritus Professor David Granatstein ([bio](#)) shares his knowledge on Sustainable Orchard Floor Management. This is your opportunity to learn about different approaches to managing the ground under your fruit trees, and the impact that can have on your production. We will have an abbreviated business meeting and then get right on to the program. Please click the following links for the complete Zoom [invitation](#) and [minutes](#) from our November meeting.

I would also like to seek your help concerning apricots. There has been a renewed interest in apricots lately. Due to global warming, it seems possible now in some areas to grow something outside beyond a Manchurian or Siberian apricot. If you are successfully growing an apricot cultivar outside, please [email me](#) with the name of the variety, general location, and description of the fruit. With the increase in interest, it will be helpful to know what varieties people are having success with.

Finally, if you haven't emailed [Gary Masog](#) with your rootstock order, you have until January 1, to do so. Remember, the club will provide scion wood for apples, but if you order pear, plum, cherry or apricot rootstock you will need to source your own scion wood. If needed, I would be happy to suggest sources.

Hope to see you online in the Zoom room on Thursday!

All the best,

Mark Wolbers
President, APFGA