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Hello Fruit Growers!

In the February 16, 2025 edition of the Anchorage Daily News, there was an article titled, "[Alaska, one of two states without a cabinet-level agriculture department, is planning to create one.](#)" Currently, the state regulates and supports agriculture through a division of the Alaska Department of Natural Resources. Governor Dunleavy in January issued an executive order that will automatically authorize the new department unless the legislature specifically votes down the motion by March 22. The legislature appears willing to support the motion.

The creation of a department solely focused on agriculture is an important first step. Along with this however, the University of Alaska's footprint regarding its extension capabilities and agricultural research needs to be vastly expanded. Alaska's growing environment is unique and research is desperately needed to identify and advance best practices while quantifying the economics of growing as is done in other states.

We may also need to broaden what we consider when we think of agriculture in Alaska. In the Spring 2025 magazine of [inside-grower](#) (a free publication) there was a story about a new indoor strawberry farm in Richmond, Virginia that is designed to produce annually over 4 million pounds of strawberries for Driscoll using less than 40,000 square feet. The strawberries are grown vertically on 30 ft. towers. This grow facility is run with artificial light and is not location dependent on a place with sun.

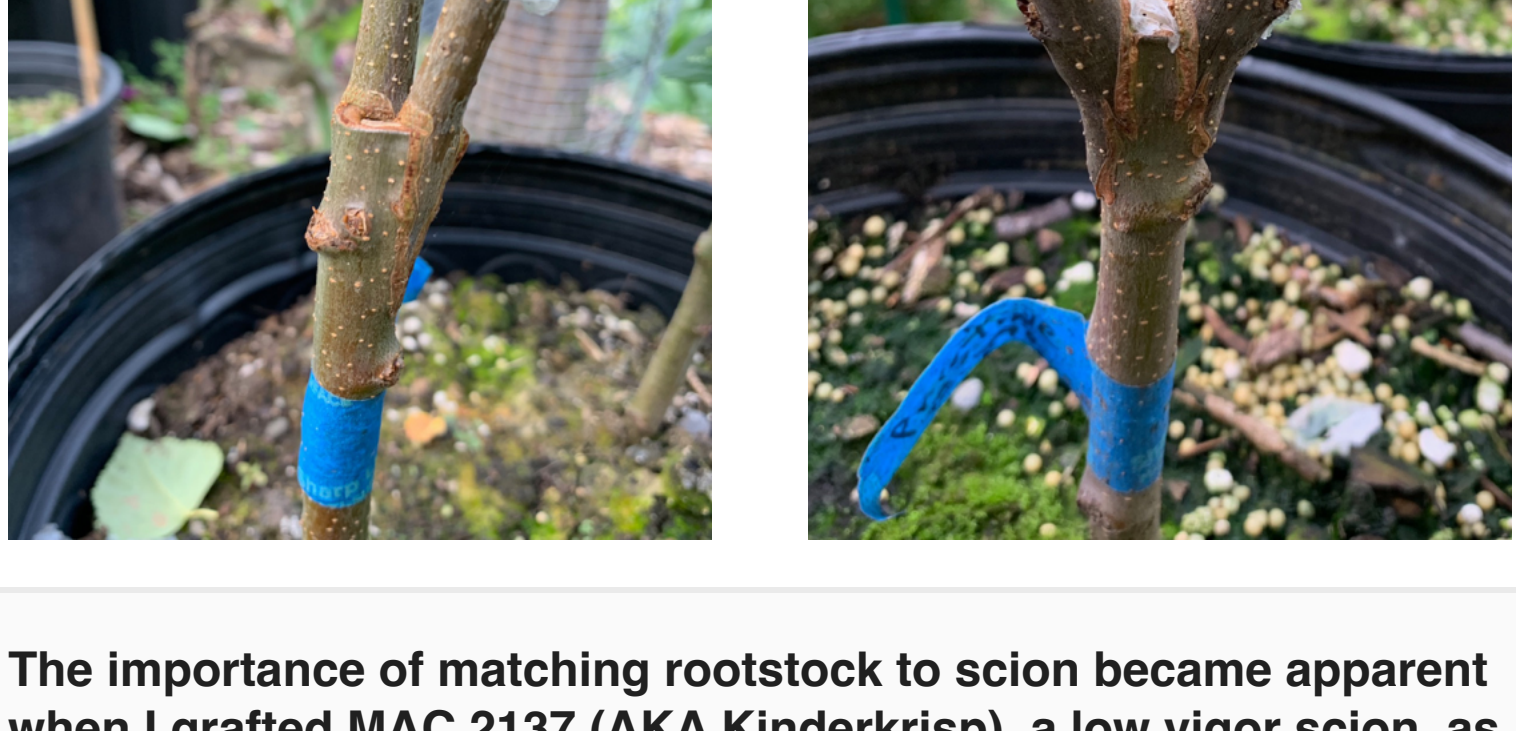
Much of the produce you buy in the store is no longer grown outside. Peppers, cucumbers, strawberries, tomatoes, leafy greens, and herbs are just some of the crops grown in controlled environments that could be grown with artificial light in highly insulated buildings in Alaska. Using artificial light may add an expense, but Anchorage and Fairbanks International Airports can move product quickly to overseas markets for less. And we should remember that true food security for Alaska only comes from being able to grow a wide variety of foods.

In a related discussion about tree fruit, I wanted to share some small exploratory efforts regarding apple rootstocks and growing techniques. This can't be called research as my efforts are too small and limited. But it represents a start that I hope other members will embrace and experiment with to help build our knowledge of what works.

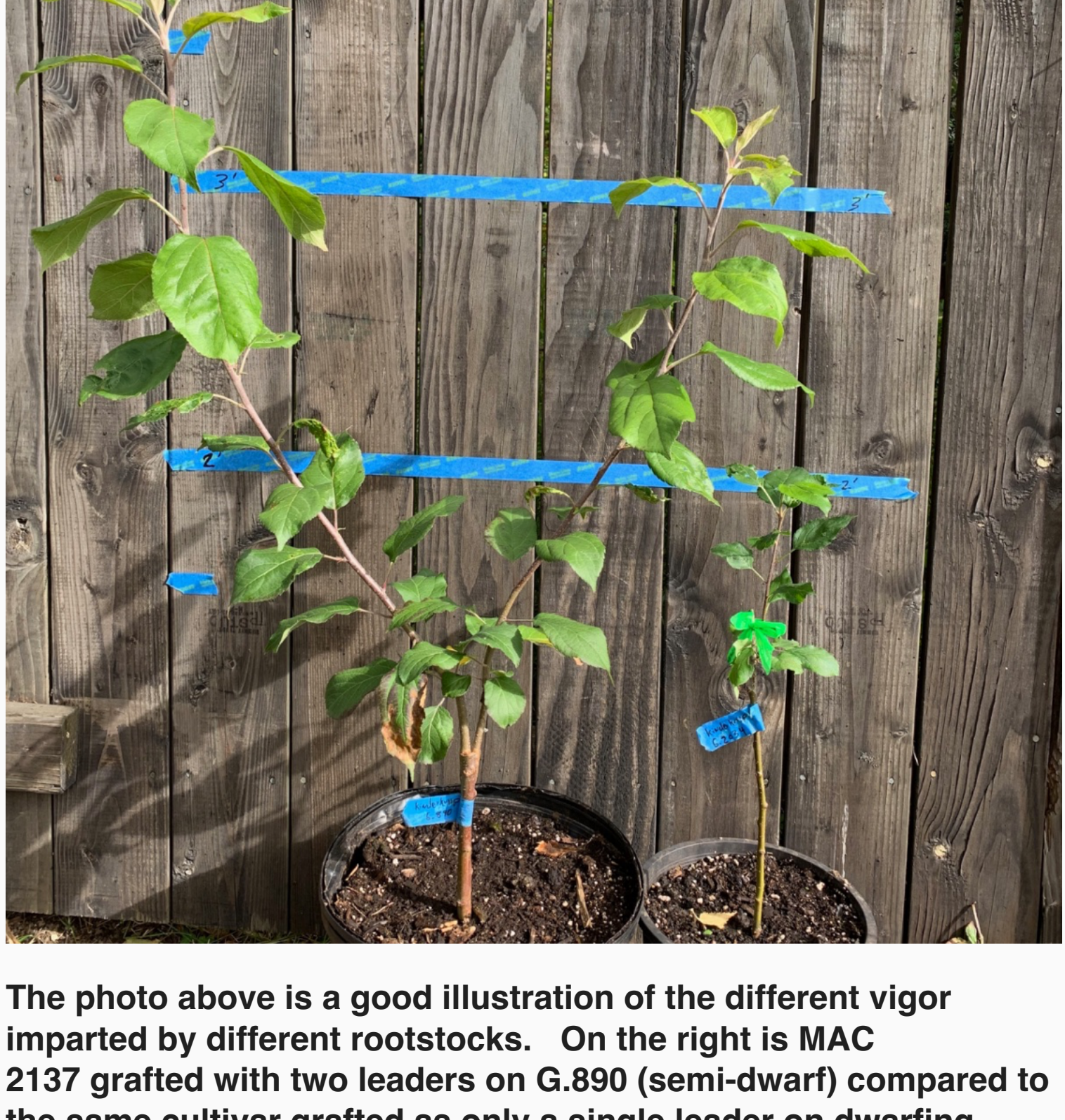
There were two goals that we hoped to meet by working with clonal Geneva apple rootstocks. One was to find a viable substitute for seedling rootstock should it no longer be available as there is only one remaining nursery in the U.S. producing seedling baccata apple rootstock in quantity. The second goal was to spearhead efforts to develop more productive systems for growing apples both outside and under cover.

Across the world, apples are now commercially grown in high density plantings. High density means trees and/or their leaders are spaced quite closely together. Dwarfing clonal rootstocks with single leaders are planted as close as 2-3 ft. and are supported on wire trellises (Photo at top). Semi-dwarf rootstocks like G.890 that can support more than one leader are planted farther apart but the leader spacing will remain 3 or so feet, depending on the cultivar's vigor. The most productive wood of an apple tree is young wood, and the branches are pruned to always provide good fruiting wood. By having a lot of leaders in a given space with productive wood, you produce more fruit more efficiently. This growing method is not only more efficient outdoors but could also be done under cover (CE).

The question for Alaska is how this might be accomplished regarding rootstock selection in combination with scion selection with our unique growing environment in mind. The goal in high density plantings is for the whip to grow vertically to "fill the space" within a couple of seasons and then be producing fruit. It will take twice as long outdoors in Alaska than in the lower 48 to accomplish this because our climate is cooler and thus our growth is less vigorous. There may be a role for greenhouse growers like MidValley to graft and grow trees for growers under contract. You can put twice the growth on a newly grafted tree by growing them in a greenhouse or high tunnel. Then the tree could be planted at the end of one season rather than two. In any case, it is important to find the right match between rootstock and cultivar vigor.

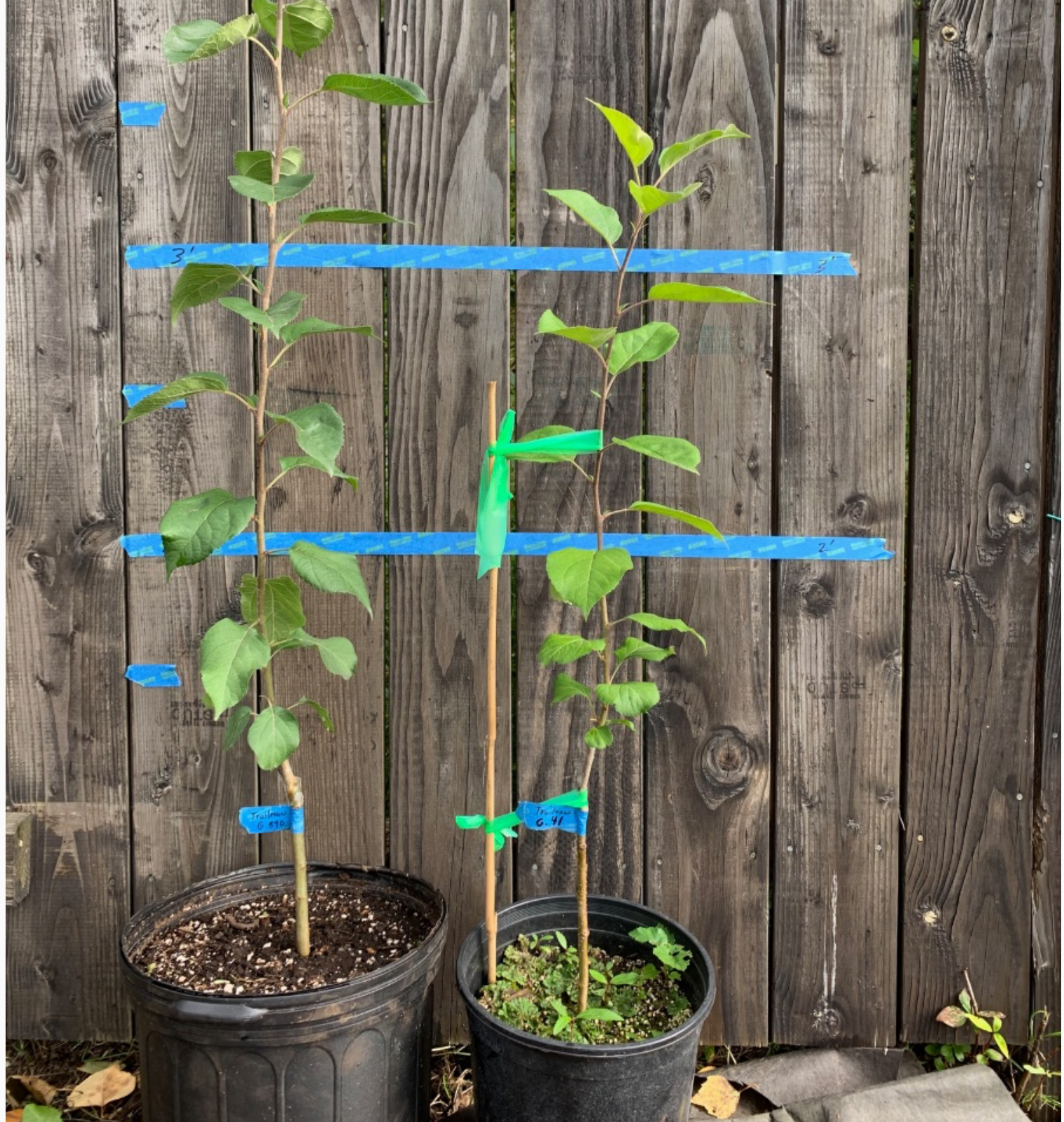


The importance of matching rootstock to scion became apparent when I grafted MAC 2137 (AKA Kinderkrisp), a low vigor scion, as a single leader onto G.41, a dwarfing rootstock. Low vigor rootstock + low vigor scion in a cool environment equaled low seasonal growth. So, I experimented with 2-leaders on G.890 and compared them with single leader trees of the same cultivar on either G.41 or G.935. A high vigor scion like Simonette appeared to work great on G.41 as a single leader tree. The trick seems to be finding the balance between enough growth to fill the space relatively quickly, but not excessive growth that makes the system labor intensive to maintain. For multiple leaders, Genaro Fazio recommended grafting directly to the Geneva rootstock as opposed to the more common technique of heading the whip. Above is a 2-leader cleft graft (L), and 2 leaders grafted with a side whip/tongue(R), both on G.890.



The photo above is a good illustration of the different vigor imparted by different rootstocks. On the right is MAC 2137 grafted with two leaders on G.890 (semi-dwarf) compared to the same cultivar grafted as only a single leader on dwarfing G.2034. It should be noted that the G.2034 was a pretty scrawny piece of root stock, so it may not be a fair comparison. The blue tape is at 2, 3, and 4 feet from the ground.

Below is Trailman grafted as single leader on semi-dwarf G.890 (L) and dwarf G.41 (R). Trailman is a vigorous cultivar. If one wanted to grow it in a high density system, it could probably be as a single leader on G.41, or a double leader on G.890 to absorb the excess vigor.



The vision for my experimental planting consists of about 20 ft of high-density row using electrical conduit to support each leader rather than a wire trellis. Although the recommendation in the lower 48 is to plant G.890 at 6 ft. spacings with 3 ft. between leaders, I will experiment and space my trees every 4 ft. with leaders every 2 ft. due to the lower vigor of growing outside in a short, cold environment. The remainder of my leaders on other rootstocks will also be spaced at 2 ft. So far, G.41 looks promising, as does G.935 although G.935 is virus sensitive (best to use virus free scion). Both seem almost as hardy as G.890 which appears to be the best all-around choice for outside use. G.890 appears to have enough vigor to support 2 leaders on most cultivars, is not virus sensitive, can be free standing, has good disease resistance, good grafting compatibility, and seems to grow great roots in colder/wetter soils.



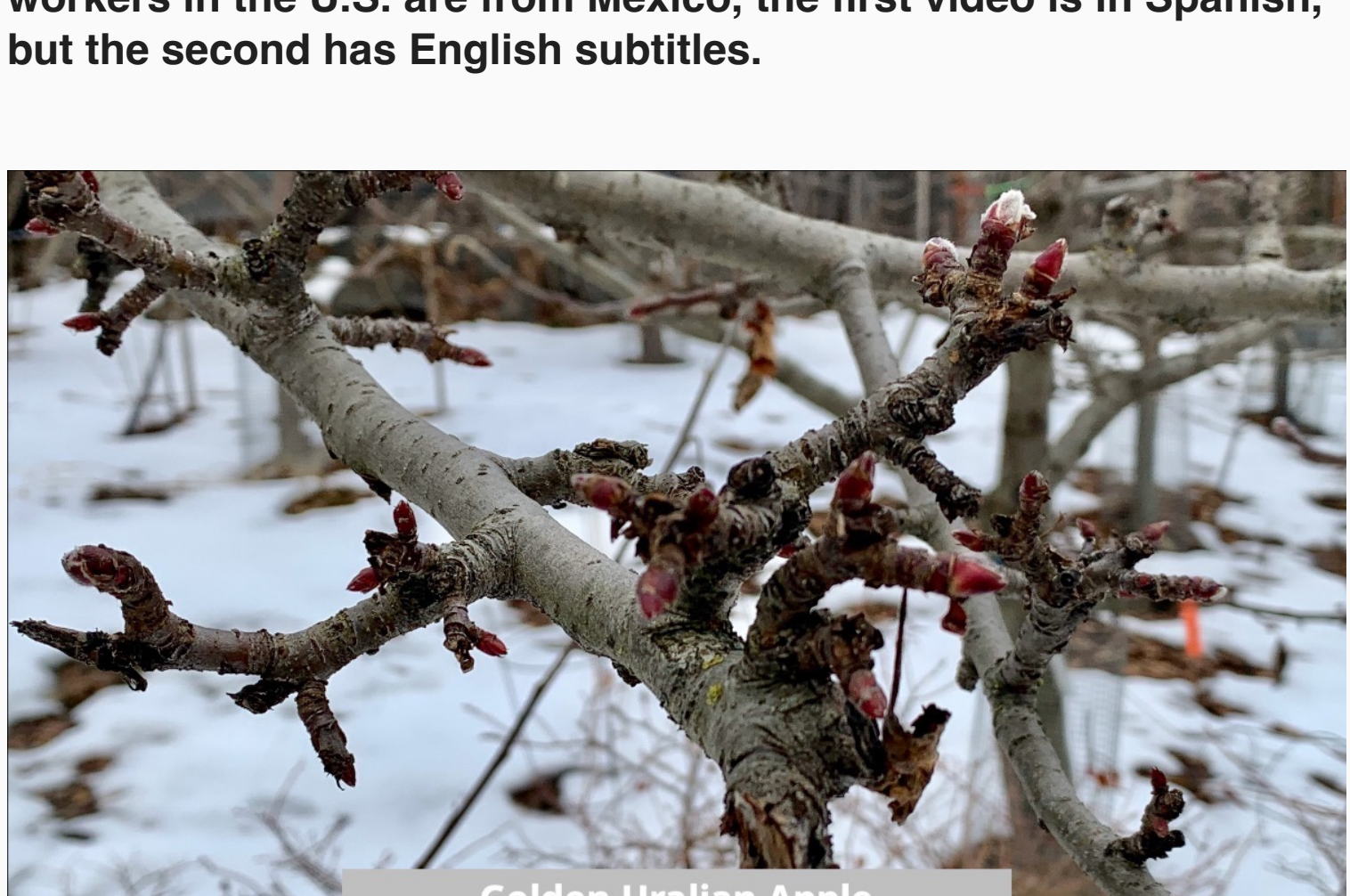
Above is a photo of the root development on G.890 grafted with Trailman at the end of one summer. Often the G.890 comes in and the roots look pretty bare. This tree was potted after grafting and grown outside. Before potting I like to soak the bare root G.890 for no more than an hour in a bucket with some Hormex B-1 vitamin and a mix of mycorrhizal fungi and beneficial bacteria. By the look of all of the fine feeder roots, this seems to get the trees off to a good start. I repotted this tree into a larger pot. However, if I were planting this tree, I would gently remove the remaining soil and spread the roots out laterally before back-filling.

How to organize and support a high density planting will also be unique to Alaska. Unlike in the lower 48 where V trellises are popular, the low angle of our summer sun would not make those the best choice for light interception. Better to grow in a planar architecture like the photo at the top. Even if the row was not oriented N-S (the ideal), the canopy is thin enough (2-dimensional) that fruit should still get good sun exposure unlike traditional trees (3-dimensional) in Alaska that have a tendency to shade out the fruit on the North side. Unless there is a need to get equipment in, 8 ft. spacings between rows should be sufficient for sun provided the rows are no more than 8 ft. high.

If we can work out the systems for high density plantings then even a modest urban lot with good sun could produce enough for a small U-pick operation. I will know more in two years as I get more trees into the ground and see how they grow and behave. If I have peaked your interest and you want some G.890 rootstock to experiment with, just [email me](#) as we have about 60 left for the grafting workshop on April 12.

The month of March is the recommended time for dormant pruning in Alaska. To get those pruning skills ready, we will hold our annual pruning workshop in the comfort of the [Boyer's Greenhouse](#) on Saturday, March 8, 2025, at 1:30 pm. After some brief instruction, you will join some of our experienced members who will provide guidance as we prune the trees in the greenhouse. Bring gloves along with your pruning shears and loppers!

Matt Whiting and Bernardita Sallato (WSU), in collaboration with Good Fruit Grower, have put together a great article and video called [Good to Know: Apple Pruning 101](#). In addition to a really informative article, there are two videos demonstrating pruning in a high density Washington orchard. Because most agricultural workers in the U.S. are from Mexico, the first video is in Spanish, but the second has English subtitles.



March is also the time to collect [scion wood](#) for grafting in the spring. Scion wood is best collected while it is fully dormant. I like to harvest one tree (cultivar) at a time and then bag it up and immediately label the zip-lock bag so I don't accidentally mix up the scion wood. Nothing wrecks your day like finding out 3 or more years later that the cultivar you thought you had grafted was not what was growing on your tree! You may want to collect scion wood sooner rather than later. In the warmer areas of Anchorage, some trees have met their chill hour requirement and buds have begun to swell with the warm temperatures. Above are the buds on our Golden Uralian Apple, the first tree in our orchard to show bud development.

Our next APFGA Board of Directors meeting will be on Wednesday, March 26 at 7:00 pm. Just click the link to [join the meeting](#). Click the following links for the [agenda](#), [minutes](#) and full [Zoom invitation](#).

On Thursday, March 13 at 7:00 pm we are delighted to have the final presentation of our Winter Speaker Series. Our speaker that evening will be UAA's John McCormack who will present his results and findings from last summer's pollinator research. John was in a number of our orchards observing and sampling pollinators. Just click the link at 7:00 pm to see [John's presentation](#) or click the following link for the full [Zoom invitation](#) if needed.

Before John's presentation we will have a short membership meeting to vote on the proposed changes to the APFGA Bylaws. You can look over the changes marked in yellow on the [bylaws](#) and view a [detailed explanation](#). In any case, it is important for you to be on Zoom for John's presentation on Thursday, March 13 at 7:00 pm to vote. If you are unable to join us on Zoom and are supportive of the changes, I would encourage you to print and fill out the [proxy form](#). Just snap a photo of the completed form and email it to [apfga.member@gmail.com](#). That would really help us reach a quorum and get the business done in a timely manner.

We had a request from bee-keeper John Helle asking if anyone in the Anchorage Dimond area would like to have a bee box on their property. He would need access to visit from time to time. If you are interested, please [email John](#).

And finally, member Dale Shillington was kind enough to pass along a wonderful interview with APFGA founding member Bob Purvis titled, "[Fruit Trees Thriving in Extreme Cold: 40 Years of Wisdom with Bob Purvis](#)."

All the best,

Mark Wolbers  
President, APFGA

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