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Growing Hazelnuts with the Birkemeiers

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Growing Hazelnuts & Trees with the Birkemeier Family

Giving Back for the Yamhill Miracle

By Matthew Malcolm, Assistant Editor

Many growers will know the Birkemeier family as the source of their new hazelnut trees; however, Rich and Nancy Birkemeier were growers long before they got into the nursery business. In fact, Nancy shared that it was sort of by accident and industry demand that they moved from not only farming, but raising trees for other growers as well.

As multi-generational growers, the Birkemeier family started in the “filbert” industry many years ago with Dick Birkemeier, Rich’s father on four acres of hazelnuts. They enjoyed what they were doing and continued to purchase and plant more acreage, leading up to today where they farm about 300 acres. Over the years they have been very involved in the industry; Rich served as President of the Nut Society in 1979 and was honored as Nut Grower of the year in 1988. He has also served on the Hazelnut Commission for many years.

“In the early 80’s, we were among the first in Oregon to find Eastern Filbert Blight in our Ennis orchards,” Nancy shared. By 1990, the blight had spread throughout the industry, and the trees continued to lose productivity, so the Birkemeiers turned to Oregon State University (OSU) for help. They consulted with Shawn Mehlenbacher and got permission to plant an OSU experimental variety 243.002 (later released as Lewis) and a couple others as replacement trees on their blight-stricken Ennis orchard. Obviously the numbers weren’t there, so they were compelled to learn to propagate these trees. It was a team effort and they all became experts at it after grafting so many trees. Unfortunately, Lewis proved to have only intermediate resistance to blight, and got infected before it could even mature. “If the blight pressure in our orchard hadn’t been so overwhelming, Lewis would

have performed better,” Rich explained. “Lewis just was not strong enough. We got pretty desperate and turned again to OSU for help.”

The Miracle of Yamhill

By the late 1990s, Oregon’s hazelnut industry was in a state of emergency due to the blight infestation. Shawn Mehlenbacher at OSU had many new experimental breeding lines they had been researching for +40 years. In the 70s, they had identified an obscure pollinator variety in Washington that had a single dominant gene known as Gasaway that provided blight resistance (this is what has been used in all the recent hazelnut releases for blight resistance). Mehlenbacher had some promising varieties and the industry needed them badly, but they had no way of reproducing them in mass quantities. The Hazelnut

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Commission determined that they needed to investigate micropropagating hazelnut trees, something that had never been done before.

Rich was serving on the Commission at the time and worked with Shawn in picking out the four most promising varieties to experiment with micropropagation. They picked four out of thousands of numbered varieties, and by the year 2000, micropropagation was proven possible. Rich then asked Shawn if he could take one of the four selections to North American Plants to demonstrate that micropropagation could be done on a commercial scale. He agreed and they signed a memorandum of understanding and got to work on variety 542102. They bought the micropropagated trees, and used them to raise more; and things just took off from there.

"Five years later, this variety was released as the winner of its advanced selection trial and named as Yamhill," Rich shared. "With its resistance to blight, Yamhill was the miracle that



This orchard was Yamhill planted on 10x20 spacing (double/high density planting). "We planted this way to get an earlier return, which we really needed at the time. When we got to the point when they were really crowding and shading each other, we decided to cut every other tree down and harvest new trees off of the stump to sell and meet the growing demand for Yamhill. Fortunately, Yamhill was not a patented variety, so we were able to do this and help supply the industry with this much needed blight-resistant variety." – Nancy Birkemeier

saved us at such a desperate time in the industry."

There have since been more varieties released through advanced selection trials, and all of them have been very good; but Yamhill will always have a special place in Rich's heart. Plus, although Yamhill produces a smaller nut, it is a pretty hot commodity in

the growing kernel market right now.

Due to their learned propagation skills at such a desperate time in the industry, the Birkemeiers began raising new blight-resistant trees for other growers as well, and Birkemeier Nursery just naturally came about. In 2015, they officially separated the nursery from their own farming operations, forming Birkemeier Nursery LLC.

They are still working feverishly today to meet the strong industry demand for blight-resistant trees,

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Yamhill produces a smaller nut and has more horizontal growth habits, but it is very desirable for its strong resistance to filbert blight.

Planting Trees as Fast as a Spreading Wildfire

In addition to working on the family farm and nursery, Loren Birkemeier runs a custom planting business that he's been doing for several years now. With the great demand for replanting hazelnut orchards, Loren leads a crew of six in custom planting orchards all over the valley. They've got it down to a science now and plant 5,000 – 6,000 trees per day. The most strenuous part about it is probably digging the holes; but Loren has a great connection with the forest fire service through his cousin Dan, which provide some great seasonal help. When wildfire season ends and these strong, fit firefighters are out of work in the fall, planting season begins. "These fire fighters are really tough guys that can generate 1,000 – 1,500 holes each in an eight-hour period," Loren shared. "It's great working with them, because they are also very responsive and disciplined. And when the planting season is finished, they are off again to fight fires somewhere around the country."

Reviewing the planting process, Loren explained that growers should start by preparing the ground and making sure it is level. It is much easier to level the ground before when there's nothing in the way. Once it is level, someone comes in with a scribe line using a GPS to mark the ground directing where to plant each tree. "I like to start by spraying the areas where we will plant with roundup in a 6-8 ft. band," he added. "After the herbicide has taken its course, we go in to flag the pollenizers. OSU typically will recommend three varieties of pollen to meet the orchard's needs."

Loren prefers using an auger for digging the tree holes rather than a shovel, because it is much faster. He estimates that with a shovel they can dig 200 holes/day per each, whereas with an auger, they can drill 800-1,000 holes/day. For growers that plant their own trees, he recommends making sure that roots are loose and facing down, so

they don't "tea-cup" (hitting the bottom of the hole and deflecting back towards the sky). When filling the hole around the plant, it is good to peak up the soil about an inch or two taller than ground level because the soil will settle down. After planting, Loren and his crew top each tree down to 34 inches, leaving a uniform whip across the entire orchard. "The four buds below will develop into your future scaffolds," he said. "The last step would be to place a two-inch mulch media around the base of each tree about the size of a large pizza. That helps with moisture retention and may aid in pre-warming the ground as the spring sun hits the dark media, initiating root growth." Then it goes back to orchard management practices, but it is good to keep the weeds down, especially in the first few years while the trees get established.

Loren enjoys planting new orchards and the opportunities it brings, meeting and working with growers all around.



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Birkemeiers

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such as Yamhill, Jefferson, Wepster & McDonald. Like other growers, the Birkemeiers are still in the process of phasing out their older blight-infested varieties with the new plantings. "Having struggled with blight for +25 years, I have a very low tolerance for it on the farm and we're working to get rid of it as fast as we can," Rich said.

Giving Back

The Birkemeiers continue to work closely with Shawn and the staff at OSU, and still have experimental plots with research being conducted on their farm that growers often come to check out. They are very open about working together and sharing information and experiences (both the successes and failures) to further the industry.

The Birkemeiers were so grateful for OSU helping them out at such a critical time of need; they wanted to find a way to give back. Because Yamhill was not a patented variety and they benefited so much from it, they decided several years ago to take 50 cents per tree that



Rich & Nancy Birkemeier started out as growers, but began their nursery out of necessity to propagate new varieties resistant to Eastern Filbert Blight.

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gets purchased from them, and sending it all back to the OSU Ag Research Foundation for Shawn to continue the program. It's nice too because their clients get a 50-cent/tree tax-deductible donation claim from it. They do the same thing whenever they sell their Jefferson variety. With the strong demand for Jefferson and Yamhill, it added up to a lot of money for the hazelnut-breeding program last year.

The Next Generation

Rich has been the driving force of the business all these years, and his wife Nancy has always been right beside him. While he's out in the field preparing for harvest, she manages the office and takes care of the paperwork; although that doesn't keep her from coming out to help with the propagating and protecting the young trees from the deer that sometimes find their way into the nursery.

Rich and Nancy also enjoy boating, crabbing and shrimping, so they try and get away every now and then for some fun. Fortunately, they've got quite the retirement plan with their kids beginning

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to take the reigns. “Our ‘nuts’ don’t fall far from the tree,” Nancy shared. “We have three children who are deeply involved in our farm and the hazelnut industry.”

Their sons, Aaron, Loren and Tim Newkirk (in-law) do a great job taking care of day-to-day operations, and their nephew Dan Nelson, joined them a few years ago. Tim is also general manager of Willamette Hazelnut Growers processing facility, and daughter-in-law, Juliana Birkemeier works with him and Nancy. They each have their individual responsibilities, but like any family business, it is a team effort and they take care of whatever needs to be done.

Plant Early!

The Birkemeiers have the unique perspective of being both growers and nurserymen. From both points of view, they encourage growers to plant as early as possible. Planting is best done in the fall after harvest. “November is best,” shared Rich. “The weather is usually better then, and it gives the trees a little more time to get established over the winter, so they take off better in the spring. In the past, nurserymen didn’t dig until December or January, and then the trees weren’t planted until the spring. We have found they actually do better



Rising generation hazelnut growers Dan Nelson & Loren Birkemeier

if they can be planted in the fall, prior to the distraction of the holidays and rainy/freezing weather that follows.”

“I do a lot of custom planting for growers, and weather dictates everything,” Loren Birkemeier shared. “People tend to wait too long and procrastinate until the same few sunny days of early spring to plant. We can’t plant all their orchards at the same time, and what if those sunny days don’t come until later in the spring?” Such was the case this year with all the stormy weather. Some growers planted in April this year, but that is just too late in the

season and will follow with issues, such as delayed budbreak. There really was only two good weeks in November last year to plant, and then the weather pretty much made it impossible for the rest of the winter. With the deep freeze they experienced last winter, there were weeks that the Birkemeiers couldn’t even provide trees to growers because all the trees they had boxed in sawdust were frozen solid. The trees were still good and protected; they were just inaccessible. So if there is one thing that growers can do better this year, it is planting early.

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New hazelnut trees just before they were planted last winter in the Birkemeiers’ orchard. “If I don’t pull them out of the nursery, they’ll be sold. I have to set aside these trees to replace our older varieties on the farm.” – Rich Birkemeier