

New hops due from research programs

By GAIL OBERST
For the Capital Press

CORVALLIS, Ore. — In the future, craft beers and macro brews will taste even better, thanks to two hop research programs based on the Oregon State University campus. Both programs are on the verge of releasing three new hops that could wind up in the beer glass as early as 2018.

The Indie Hops/OSU Aroma Hops Breeding, and the USDA-Agricultural Research Services Hop Breeding and Genetics programs are working separately on dozens of new lines of hops.

USDA's research program has been based at OSU since post-Prohibition in the 1930s. Oregon sought to re-establish itself as the hop center it was before Prohibition, but at first research focused on fighting downy mildew and other pests that often devastated crops, according to John Henning, the geneticist who heads the program today. By the 1950s, the program turned to breeding hops for the re-emerging macro brewing companies.



Gail Oberst/For the Capital Press

Shaun Townsend heads a unique genetic research program that is creating hops better-suited to Oregon's climate.

Since then, the USDA has developed more than 20 varieties, all public and available for anyone to grow, process and use in brewing, free from royalties and restrictions. Cascade, Nugget, Willamette, Crystal — all of these common varieties and more — came from the green thumbs of USDA scientists stationed at OSU. In 2013, four more hop varieties have come into

the public realm. Of those, TriplePearl was developed by the USDA at OSU.

Oregon stays competitive

The recent popularity of craft brews has prompted more research aimed at growing hops to please the broadening tastes of beer drinkers. Oregon, now the second-largest of the hop-growing states after Washington, is quickly catching up.

In 2010, Roger Worthington and Jim Solberg of Indie Hops, both with Corvallis connections, gifted OSU \$1 million to create hop varieties specifically designed for Oregon growing

conditions. The gift supports the work of Shaun Townsend, Henning's former assistant geneticist.

Townsend is working on more than a dozen new hop lines, one of which is close to release. This hop, with pungent aromas of tropical fruit, specifically passion fruit, is currently in its final tests in mid-Willamette Valley fields.

If this hop proves itself consistently predictable in the field, brewers could be using it in beers as early as 2018, Townsend said. The hop has already created a minor sensation following small-batch beer trials conducted by Base Camp Brewery in Portland, Worthy Brewing in Bend and Odell Brewing in Fort Collins, Colo. Those trials created a demand from brewers who want to brew with it — now. But new hops may demonstrate traits — disease, drought or pest resistance, for example — that prove to be inconsistent over time.

"Stabilization just takes time," Townsend said. The hop is in its "baby" year this summer, its first year on the string. Next year, 2017, will see its first full yield, and if all goes well, in 2018 it will be in the glass.

"We simply have to record data on a promising genotype over many years and locations

to get a good handle on how stable the performance will be over the life of the variety," he said. "Some varieties might be quite variable from year to year for various traits while others may prove to be more consistent for the same trait. This way, when we release the variety, we can let the grower and brewer communities know the characteristics of this new variety with some degree of certainty."

Hops developed by the OSU Aroma Breeding Program may assess a fee associated with x331, to help support the program, although nothing specific has yet been decided, Townsend said.

New hops due from USDA

In a greenhouse near Townsend's, John Henning checked his test seedlings and talked about his two hops in advanced trials — x033 and x074, the latest of nearly two dozen lines he is currently evaluating. Both public hops — no fees, no restrictions — could be in the glass within the next two or three years. Again, that's if all goes well in the field — specifically, in test plots and greenhouses at Goschie and Sodbuster hop farms in the mid-Willamette Valley.

The x033, an aroma line

with high alpha (bittering) characteristics, was introduced at the American Hop Convention in 2014, where test batches of beer proved its value in both lagers and ales.

"And, it grows like a weed," said Henning. "It outgrew Nugget this year."

However, x074 out-yielded them all, producing 17 bales per acre. Nuggets typically produce from 12 to 15 bales per acre. This sister to the new TriplePearl has strong apricot and tropical fruit aromas and watermelon flavors.

OSU-based research is not limited to the genome-mapping focus of the breeding programs. Hop pathology research continues into the diseases of the plant and the cultivation practices and pest management that might prevent crop loss. OSU's fermentation program assists research by producing test batches of beers from the experimental hops.

All of these programs welcome public donations large and small, from cash to farm equipment and materials.

Donations can be made to OSU's Agricultural Research Foundation. Information is at <http://agresearchfoundation.oregonstate.edu/donate>, or by calling the foundation, 541-737-3228.



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