



EMILY FREEMAN

## So Hoppy Together

Hops and science find wedded bliss in Corvallis.

BY EMILY FREEMAN

**B**eer without hops would be something like Kool-Aid without sugar: just plain bad. The art of hop cultivation, which has developed over hundreds of years, began with 10th century era home brewers. In those days, the most common brewers were monks, who brewed beer for their lodgers, and used the wild, often low-quality hops native to Bavaria.

Hop growing spread to England, where the plant mainly served as a preservative for beer on long voyages. India Pale Ale, a local favorite, was invented when English brewers added more hops and alcohol to their original ale in order to keep the brew fresh on the British voyages to and from India. Within the last 100 years hop cultivation spread to the Pacific Northwest of the U.S., specifically Washington, Oregon and Idaho, where the climate proved ideal for hop cultivation. Today Oregon is home to more than 15 growers, the majority of which are based in the Willamette Valley.

Oregon is not only one of the major producers of hops but also home to one of the publicly funded hops research facilities in the nation — the USDA—ARS/OSU Hop Genetics and Breeding Program, located right here in Corvallis. As head of the facility, John Henning is concerned with breeding high-yield and disease resistant hops that add the unique flavor to your favorite beer.

But before we get into the importance of the research Henning and his colleagues are doing, let's first explore the importance of hops in beer brewing and look at the qualities hop geneticists and growers look for when researching them.

The hop plant (*Humulus lupulus*) is used primarily for the purpose of bittering in the brewing process. Without hops, beer would simply be a sweet alcoholic drink that tastes a little bit like oatmeal. Not too appetizing. A high concentration of alpha acids in hops is commonly what brewers look for when analyzing the quality of a certain hop plant.

A high percentage of alphas mean that the brewer can use fewer hops in the process, thereby lowering their costs. Henning's predecessor as project leader of the facility, Dr. Al Haunold, threw much of his research effort into creating a hop plant that would yield this desirable high alpha acid concentration.

Beginning with a standard hop variety and breeding it with other less extensively grown varieties, Haunold developed the Willamette, Nugget, and Cascade hop varieties — just to name a few. The Nugget variety of hops is extensively grown and used in the brewing process today.

As if to reinforce this point, Dave Wills, owner of Oregon Trail Brewing, says he uses the Nugget variety of hops as the stock hop base for all of his microbrews. Also the creator of local hop outlet Freshops, a company that sells a wide variety of hops for homebrewing use, Wills says he often uses Cascade, Mount Hood, and Willamette varieties of hops in his brewing process for their bittering properties.

Haunold laid the foundation for hop research during his 30 years with the facility, and as current head of research, Henning is expanding on that foundation while making significant progress in the breeding and development of new hop varieties.

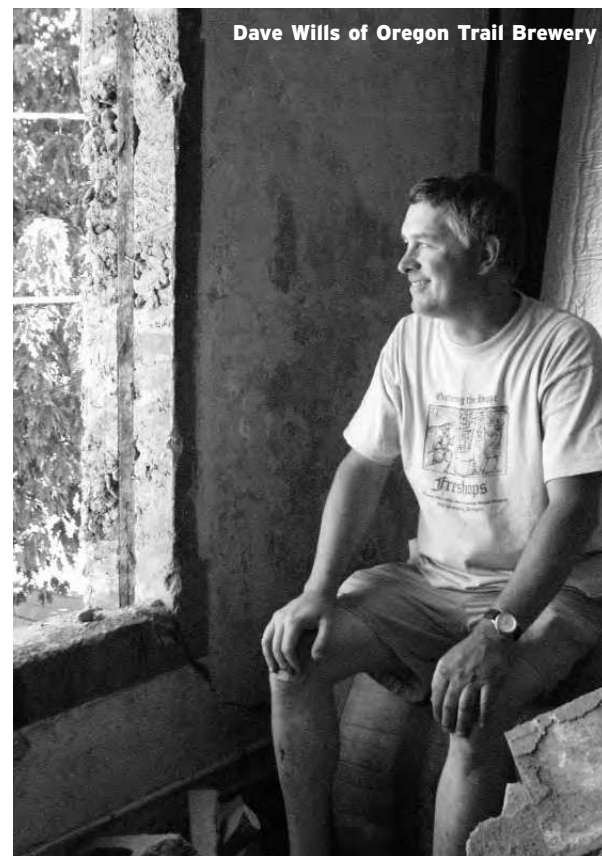
Although Henning's team carries out research and development of high alpha varieties of hops, they are also making remarkable progress in another area of hop usage. While adding bitterness to the brew, hops also serve another function in the brewing process — they can add a distinct flavor and aroma to your beer. Henning is focusing much of his efforts on flavor and aroma types of hops in hopes of developing vari-

eties that have a better yield and are more disease resistant than the current flavor and aroma hop plants on the market. "My primary research is the development of superior hop lines for the American grower," Henning says. "I like to say we're building a better beer for tomorrow."

Henning, who confesses that he'd never seen a hop plant before taking his current position, says the research he and his colleagues do is groundbreaking, especially in terms of the detailed genetic approach they're taking to develop a hop plant that is both disease resistant and has a high yield. "We're determining what is related to what, and making sure the hop plant has genetically different parents so that the offspring that comes from them isn't inbred. That's never been done in the past," Henning says.

Bet you didn't know there was so much science behind your favorite lager or stout. And although science probably isn't what's on your mind when you sit down to a cold pint, people like Henning, Wills, and the researchers at the USDA hops facility are working hard to make sure you have the best beer experience possible, one hop at a time. ■

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Dave Wills of Oregon Trail Brewery

MELISSA BEARNS

## Small Batch Beer

Oregon Trail brews with the best.

By Melissa Bearns

**I**t's brewing day Oregon Trail and owner Dave Wills stands enshrouded in a cloud of steam, stirring a vat of malt with a ladle as long as he is tall. His assistant, Chris Haveman, keeps running up and down the stairs of the small brewery, checking on a bubbling pot of wort. And in between sterilizing everything from kegs to little metal fixtures, Ken Day, who apparently helps brew in exchange for free beer, periodically checks out back for the grain truck that's supposed to be bringing in 10,000 pounds of pale malt. The truck is four hours late.

It's just another normal day at Corvallis' locally owned and operated brewery. Walk into Squirrel's and you can sample the Oregon Trail wit on tap, one of the more popular brews. Better yet, just stop by the brewery for a taste of everything they've got on hand including the wit, kolsch, IPA, brown ale, ginger porter (if you're lucky) and their seasonals. Or stop in any day from 4-6 pm when you can get a whole pint for just \$2.

Wills started the brewery in 1987. Last year he brewed just 280 barrels, or about 8,680



gallons. His concoctions have won numerous awards including the People's Choice award at the Newport Microbrew Festival last October. And his brown won a silver medal in both 1994 and 1995 at the Great American Beer Festival.

Originally from Minnesota, Wills, 49, started brewing his own beer after he followed his then girlfriend, now long-term partner, to England and says he discovered that "over there, there was no such thing as a microbrew. I started drinking all the good beer and I learned what good beer was."

After he got back he moved to Eugene then up to Corvallis to finish his degree. He took a home-brewing class because Bass and Guinness weren't cutting it after his European tour and has been brewing ever since.