

Brewing with Buck Naked Barley: Worts and All!

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Background:

Principal outcomes of the USDA-NIFA-OREI project “Developing multi-use naked barley for organic farming systems” are (1) developing barley varieties for food, malting and brewing, and feed, and (2) figuring out how to use those varieties.

Naked barley malts - although they are exciting propositions from the standpoints of more beer/unit of malt and unique flavors - have not historically played much of a role in brewing. That’s because of the importance of the hull as a natural filtering agent during lautering. In a commercial setting, mash filter systems can bypass the need for hull filtration. For breweries without mash filters, and for homebrewers, naked malts do have a place, as demonstrated by Joel Rea, the head brewer at, and owner of, Corvallis Brewing Supply. <https://www.lickspigot.com/>.

For the 2019 OREI Barley Day, Joel prepared and shared two delicious beers: his recipes and tasting notes follow. The beers were brewed using Buck malt produced at the OSU malt house. The Buck was grown at Corvallis, Oregon in 2016 and the Copeland (covered barley) was grown at Lebanon, Oregon in 2015. For more information on Buck the Naked Barley, please see <https://www.crops.org/about-crop-science/at-work/patrick-hayes> and <https://dl.sciencesocieties.org/publications/jpr/pdfs/12/1/1>.

Beer recipes and tasting notes:

Buckeroo!

Belgian Wit - Style

5.5% ABV, less than 3 IBU

Malt: 99.9% Buck malt .10% Acidulated malt

Water: Corvallis water with Calcium chloride and Epsom salts

Hops: 3 oz. Golding hops mash hopped

Kettle spices: 1 oz. bitter orange peel and 1/4 oz. coriander added last ten minutes of the boil

Yeast: Imperial organic White Out

Fermentation: 10 days in fermentation tank and kegged with forced CO₂ for serving

For this beer I wanted to showcase Buck malt as much as possible in a relatively familiar beer style (Belgian Wit) so as not to have a yeast, hop or spice profile out-compete the malt. Since Buck malt has no husk (used to help sparging during the brewing process) I knew there would be issues with maltose extraction. I’ve found that hops added to a mash hopped-only beer can produce enough bitterness for a lightly hopped beer, yet provide enough of a filter media to prevent a stuck sparge.

Tasty Notes: This beer has an initial aroma of rising bread dough followed through with soft esters of kettle spices and yeast. On the palate, the beer is soft and silky with tight carbonation

bubbles that provides the beer a long-lasting billowing, white and dense head. The lack of kernel husk plays a brilliant role in helping to create a beer lacking astringent tannins.

Uncle Buckland

Session Pale Ale

6% ABV, 8 IBU

Malt: 48.5% Buck, 48.5% Copeland, 1.5% Chocolate and Acidulated

Water: Corvallis water with calcium chloride and Epsom salts

Hops: Fuggle hops added for light bitterness and for flavor balanced flavor last 5 minutes of the boil

Yeast: Imperial organic Juice

Fermentation: 10 days in ferment tank and kegged with forced CO₂

Showcasing Buck malt but wanting to make it different enough from Buckeroo! I opted for Copeland malt, another OSU product. The emphasis again was to show off the malts so a “session pale ale” was chosen to promote the base malts as much as possible. Small amounts of Chocolate malt and Acidulated malt were added primarily for pH adjustment of the mash.

Tasty Notes: The argument that base malts have no flavor is over! The combination of Buck malt and Copeland has created an easy-to-drink beer that does not rely on exotic hop profiles best left to wine. Toasted biscuits and a hint of toffee radiate from this beer that has a supportive tartness from yeast production.

Malt profiles:

Variety	Extract (%)	Color (°SRM)	β-glucan (mg/L)	Soluble Protein (%)	Protein (%)	S/T (%)	FAN (mg/L)	DP (°L)	Alpha Amylase
Buck	87.8	1.45	208	4.12	9.9	41.6	161	75	37.9
Copeland	81.4	4.15	199	4.5	9.6	46.8	170	72	46.5

Seeing is next best to tasting:

Uncle Buckland, Gertie serving ‘em up at the Barley Day, and Buckeroo!

