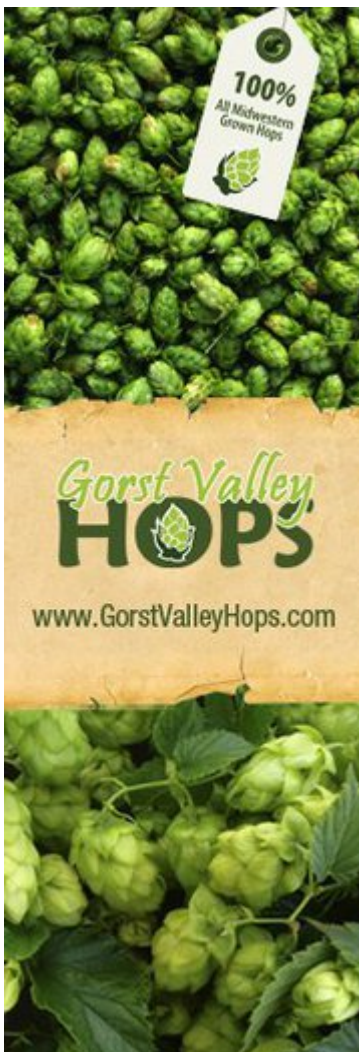


All Hopped Up

INSIDE THIS ISSUE:

Workshop Updates	2
Hop Ripeness	2
Harvest Schedule	3
Processing Queue	3



Defining Quality – It Starts on the Farm *part 3*

Finally...after hours of weeding, watering and swearing the hops are ready for harvest! We've received several questions from brewers asking about how cone maturity impacts alpha acid levels and when are oils at peak. In days gone by growers used their experience and senses to judge ripeness. To some extent we still do this but we do not rely on sight and smell alone. Now hop maturity is gauged in the lab.

So, what are the largest factors in determining final hop quality at harvest?

Maturity

As mentioned above, monitoring maturity is critical to optimize acids and oil levels. Growers should sample cones from the high line as these are usually the most mature flowers. The cones are dried (carefully) and tested in the lab for alpha/beta acid levels. Oils

develop last, just prior to harvest so if the alpha level is low due to immaturity the oils will be very, very low.

Immature harvest will result in cones with little to no aroma and abnormally low alpha acid content.

Drying

We like to call hop drying "how to ruin a crop in 30 minutes or less..." Yes, it is that critical to quality. The four factors in proper hop drying are 1) air speed, 2) temperature and relative humidity, 3) hop bed depth, and 4) proper fan selection. All of these factors impact how quickly, uniformly, and soundly the crop is dehydrated.

Wet hops cannot wait for dryer space or in a queue...therefore drying space must be ready for wet hops immediately. This is the single biggest draw-back to a communal based drying operation.

Storage

Proper storage goes hand-in-hand with proper drying. If the hops are 8% moisture content and are placed in a cooler intended for fresh produce they will quickly gain back enough moisture to rot. Likewise, if the hops are over 12% they will begin composting if compacted into a bag, bale, etc.

Lot Control

For very small farms keeping track of variety and location may not be a big issue. However, anyone processing hops on a larger scale must provide tracking information such that each sale can be traced back to the source. In Wisconsin it is the law. It is the food recall requirement of all licensed food processors. Frankly, it is just good business. Look for lot numbers or some other proof of inspection and tracking.

Brewer News

Potosi Brewery in Potosi, WI is making a strong revival. Among one of the oldest breweries in WI it has been restored as an example of vision and commitment to community for which WI is famous. As new beer

varieties are added more people are seeking out the brewery as a day trip and adding the brew to their home collections.

Gorst Valley is proud to help support the only non-profit brewery in the country. This autumn

brew master Steve Buska will craft a cream ale with Gorst Valley hop pellets. Expect nothing less than a fantastic beer from Steve!

Workshop Updates

Keep the dates in mind for upcoming workshops.

Sept. 17th – Madison, WI

Hops 101 Introduction to Small Scale Hop Production

Oct. 8th – Madison, WI

Hops 201 Technical Production Workshop

Both courses will be held at the Radisson Madison West. Registration is open on-line at www.gorstvalleyhops.com

Hop Ripeness...How do you Tell!?!?

August brings thoughts of finally harvesting your hard work...but the hard work is yet to begin! Rounding up labor and talking to brewers seem like the logical steps...but how do you know when to harvest?

Not everyone is fortunate enough to have a spectrophotometer handy but it really is the only sure-fire method for determining hop ripeness. How? Ripeness is a misnomer. Since hops are flowers and not fruit there is no "ripening" but instead there is lupulin maturation. Measuring the alpha acid content is the best indicator of maturity and therefore the most accurate determination of harvest timing.

There are a few labs that will test your hops for harvest (Gorst Valley is one...) but if you only have a few plants and not enough cones to

spare...there is always your nose.

Hop oils are the last to develop just prior to maximum maturity. First the lupulin must be vivid yellow and clearly formed into what looks like tiny balls. Second, the cone must have a strong odor of hops when crushed. If there is any aroma reminiscent of cut grass or lettuce they are not yet ready to harvest.

But we need to also dispel some of the folklore around judging hop harvest maturity.

Papery Feel

"If they feel light and papery they are ready to harvest." Sorry gang...a few days of dry wind can make a young flower dry out and feel brittle and papery.

Bract Position

"When the bracts can be pushed back and do not return to their original position they are ready to harvest."

Sorry again...this can also be accounted for by a dry cone. Internal water pressure (called turgor pressure) is responsible for tissue rigidity. If you have not irrigated for a week the cones will do this anyway...regardless of maturity.

The Truth about Texture

There is some truth to using texture and shape to judge cone maturity. As the strobile develops a more robust strig (stem), the whole cone takes on a square shape when viewed from the tip. Young cones tend to be very round (oblate) and dense.

The bracts will also become a bit more leathery as the cone matures. Young cones will have a silky delicate texture and oftentimes be very light green to greenish-white. But don't use cone color as a guide...some varieties are not very dark.



Ready for harvest

Harvest Schedule

Harvest has begun! Our southern-most growers (Illinois, Indiana) are well into harvest and the south and central Wisconsin farms are getting underway.

The cold spring and hot summer delayed harvest by nearly 3 weeks with some varieties much farther behind. We now have a good understanding of how growing degree days impact various varieties and what 100 degree days do to the plant during burr stage.

For this season, we are expecting the following harvest schedule:

- Perle
- Willamette
- Brewer's Gold
- Cascade
- Goldings
- Centennial
- Sterling
- Mt. Hood (late)
- Chinook
- Nugget
- Newport

Granted, this schedule will be different for varying micro climates and from south to north. Expect a one week shift for every 150 miles northward. (Exception for locations directly adjacent to large bodies of water where microclimate affects the horticultural zone.)

"This new [hop growing] adventure has brought my family closer together as we have worked through each step in the growing process. For this opportunity I am sincerely grateful."

- Mike Bronk,
2011 Charter Grower

Processing Queue

Do your hops need processing this year? Don't wait until the last minute to contact your closest processor.

Processing is an involved operation requiring a good

deal of planning. Typically it is a first-come, first-served type of arrangement. As production volumes increase the processing window expands. Soon we'll all be processing for

months instead of weeks.

[Gorst Valley Hops](#) can handle most any volume, from 25 pounds to 25,000 pounds for the Midwest. If you are located in the Northeast, contact our partners at [Atlantic Hops](#).

Phone
608.228.3117

Web
www.gorstvalleyhops.com

E-mail
info@gorstvalleyhops.com

Gorst Valley Hops is working to reintroduce hops in Wisconsin business is to provide farmers with a high-value crop that th small acreage within a system that returns the majority of the value of the crop back to the grower.

Gorst Valley Hops is committed to providing high quality pelletized and leaf hops to everyone from craft brewers to home brewers while maximizing environmental stewardship through sustainable growth and processing of our product and that of other hop growers throughout the upper Midwest.

We are continuously adding workshops and training sessions around the country. We love the enthusiasm and are doing everything we can to educate those interested in growing hops.

