Hop Harvest Timing

Dr. Lily Calderwood

Cornell Cooperative Extension
Capital Area Agriculture and Horticulture Program
Who thinks they know when to harvest their hops on time?

2017 Update
Hop Chemistry Development

1. Alpha (bitter)
2. Beta (aromatic)
3. Essential Oils

“... because oil synthesis is slower than resin synthesis, the time of picking is important especially if the hops are to be used for aroma purposes. “

Sharpe and Laws 1980
Tool #1: Percent Moisture (Dry Matter) Testing

Goal 1: Harvest wet cones at 21-27% (variety dependent)
Goal 2: Process and store cones at 8% moisture
Hops will dry down approx. 1-2% each week

UVM Hop Harvest Moisture Calculator
Tool #2: Test Samples BEFORE Harvest

• Alpha Analytics, Yakima WA
• AAR (Advanced Analytical Research), WI
• Universities
• Carr Labs no longer does hop analysis
Factors Influencing Harvest Date: Fertility

- Too much N → Late Harvest (too much vegetation)
- Too little N → Early Harvest (not full chemistry)

The Sweet spot is specific to YOUR farm and varieties.

Typically fertigating 150-200lbs N/acre
Factors Influencing Harvest Date: Training Date
Training and harvest dates:
- Variety dependent
- Regionally specific
Vermont Variety Trial Harvest Dates

August 10th

September 18th
Sensory Evaluation in the Field... eh

Good Brewer-Grower Collaboration
Shellhammer et al. 2010
Tool #3: Hop Trichomes
- Leaf
- Bine
Cone Trichomes
Flat Disk $\rightarrow$ Full Acorn
Starting to fill but not full yet.
These are not GOLD!
September 4, 2017
Four Star Farm

Cascade

Nugget
September 7, 2017 (Cascade, not ready yet)
Starting to fill but not full yet.
Starting to shine.
September 7, 2017
(Diseased Cone)
Harvest when Cheeto color and smell STARTS to set in.

DON’T harvest Cheetoes!
Flat disk
Starting to fill
Almost full
Cone Disease Can Determine Harvest

Hop Downy Mildew
Phoma sp.
+ wind damage
+ sprayer damage
Alternaria sp.
Marketable (pellet)

Not marketable
Ready or Not?  Thank you! Questions?