Hop Propagation

Julie Kane
Sandy Ridge Farms
Propagation Methods

• Asexual Propagation
• Vegetative Cuttings
  • Stem/Leaf Cuttings
  • Rhizomes
Why Not Seeds?

• Male vs Female Plants
• Plant Characteristics
  • Vigor
  • Disease Resistance
  • Cones
    • Acids
    • Oils
    • Aroma
    • Yields
    • Quality
Why Not Seeds?

- Male vs Female Plants
- Plant Characteristics
  - Vigor
  - Disease Resistance
  - Cones
    - Acids
    - Oils
    - Aroma
    - Yields
    - Quality

Start with clean plant material. Propagation results in an exact duplicate or clone of the stock plant… ...diseases and all
Plants vs Rhizomes

- Question of rhizome viability increases cost
  - A trusted source is critical
Plants vs Rhizomes

- Question of rhizome viability increases cost
  - A trusted source is critical

- Plants have a developed root system and top growth
  - …which results in a faster yield
Plants vs Rhizomes

- Question of rhizome viability increases cost
  - A trusted source is critical

- Plants have a developed root system and top growth
  - ...which results in a faster yield

Ask Questions!!
What To Ask Your Propagator?

• Where do you get your stock plants
  • National Clean Plant Network
  • Verification of Origin

• Are the plants in a preventative spray program?
  • What chemicals are used? Rotation?
  • Can I have a copy of the spray records?

• Do you test plants for virus’/viroids?
  • How often?
  • Where are they sent?
Order Plants In Advance

• When laying out your hop yard…
• When choosing your trellis and irrigation system…
• When ordering your poles and cable…

Don’t forget your plants!

Contact your propagator early in the planning stages. The process from vegetative cutting to finished plant is completed in Mother Nature’s time.
Hop Varieties

Sandy Ridge Farms
What Variety Do I Plant?

- Disease Resistance
  - Brewer’s Gold
  - Cascade
  - Chinook
  - Columbia
  - Fuggle
  - Magnum
  - Newport
  - Perle
  - Willamette

DM Susceptible
- Centennial
- CTZ
- Cashmere
- Nugget
- Glacier
- Cluster L8
What Variety Do I Plant?

- Brewer Demand
  - Proprietary Plants
  - National Clean Plant Network (NCPN)  
    http://www.usahops.org

- Yields
  - Cascade 1,600-2,000 lbs/Acre
  - Centennial 1,500-1,750 lbs/Acre
  - Fuggle 1,070-1,600 lbs/Acre
  - Glacier 2,400-2,600 lbs/Acre
  - Nugget 1,800-2,200 lbs/Acre
  - Zeus (CTZ) 2,500-2,900 lbs/Acre

Data from USA Hops, Hop Growers of American, variety manual 2011, 2013, 2014
Aroma vs. Bittering Hops

- **Aroma Hops**
  - Typically Lower Alpha Acids
  - End of the boil
  - Aroma is maintained

- **Bittering Hops**
  - High Alpha Acid
  - Beginning of the boil
  - Aroma Oils boiled away

- **Dual-Purpose Hops**
  - Provide Aroma &/or Bittering
### Aroma Hops
- Cascade
- Centennial
- Crystal
- Fuggle H
- Mt Hood
- Saaz
- Tahoma
- Tettnanger
- Willamette

### Bittering Hops
- Brewer’s Gold
- Sorachi Ace
- Galena
- Magnum
- Newport

### Dual-Purpose Hops
- AlphAroma
- Cashmere
- Cluster
- Glacier
- Nugget
- Perle
- Yakima Gold
- Zeus
Cheers to the rise in Craft Beers!

Brewery Count
As of 6/30
+ Growth from Previous Year

Brewer’s Association
God made yeast,
as well as dough,  
and loves fermentation  
just as dearly as he loves vegetation.

-Ralph Waldo Emerson