Hop Quality

COMPONENTS AND CONSIDERATIONS

Charlie Rohwer, U of MN SRDC, Waseca, MN

Chemical components of hop quality

- Bittering
  - Alpha and Beta acids
- Oil
  - Flavor and aroma components
- Residue
  - Pesticides

Physical components of hop quality

- Undesired material
  - Leaf & Stem
  - Seeds
  - Metal
- Color
  - Indicator of chemical quality

Hop Quality

- Mites, mildew, mold

Mites, mildew, mold

<table>
<thead>
<tr>
<th>% Alpha Acids</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15.8</td>
<td>14.6</td>
<td>14</td>
</tr>
</tbody>
</table>

Doug Walsh, WSU
Mites, mildew, mold

D. Gent, USDA-ARS

Harvest timing
- Location
- Cultivar
- Customer?

Gahr and Hansen, MBAA Convention, 2010

Wait for the oil!

Murphey and Probasco, J. Haas
Wait for the oil, but...

Post-harvest quality changes...
- Moisture
- Heat
- Oxygen
- Light

Everything changes quality

Don’t make things worse

Don’t make things worse

Val Peacock, Hop Quality Group (Loftus, Steiner, & Haas)

Forster, 2001 IHGC

Forster, 2001 IHGC
Don’t make things worse

[Image of hop pellets]

http://www.yeastboundanddown.com/

Don’t make things worse

[Graph showing changes in Alpha Acids over months of storage at different conditions]

You think that’s it?

[Image of Flavoredge packaging]

Don’t make things worse

[Graph showing drying time (h) for different airspeeds and temperatures]

Val Peacock, Hop Quality Group (+Loftus, Steiner, & Haas)

Other information

USDA inspection procedures
Traceability
Packaging & labeling
HARVEST PROCESSING STORAGE

Perfect world
Reality
There’s always next year!

Wait for the oil, but...

Indicators of Degradation 2010 Harvest

What’s an MRL?

Don’t make things worse

Ann George, HGA