Getting Started with Hops-Trellis Construction

Natasha Cerruti
Research Assistant, Purdue University
March 5, 2015
## Estimated cost for trellis construction

<table>
<thead>
<tr>
<th>Short- 1/4 acre</th>
<th>1-acre</th>
<th>Tall- 1/4 acre</th>
<th>1-acre</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>quantity</strong></td>
<td><strong>notes</strong></td>
<td><strong>Cost $</strong></td>
<td><strong>Cost $</strong></td>
</tr>
<tr>
<td>Poles</td>
<td>16</td>
<td>8@15'; 8@14'</td>
<td>240 (15x)</td>
</tr>
<tr>
<td>netting</td>
<td>9x1000ft</td>
<td>used 200 ft</td>
<td>492</td>
</tr>
<tr>
<td>hog clips</td>
<td>box</td>
<td>adhere net</td>
<td>42</td>
</tr>
<tr>
<td>Turnbuckles-working load 2250lbs</td>
<td>8</td>
<td>5/8' x12''</td>
<td>106</td>
</tr>
<tr>
<td>earth anchors</td>
<td>8</td>
<td>5/8&quot; X 48&quot; X6&quot;</td>
<td>101</td>
</tr>
<tr>
<td>wire-top</td>
<td>400</td>
<td>3/16&quot; galvanized</td>
<td>132</td>
</tr>
<tr>
<td>wire bottom</td>
<td>300</td>
<td>1/8&quot; galvanized</td>
<td>42</td>
</tr>
<tr>
<td>wire clamps-bottom</td>
<td>16</td>
<td>1/8&quot;</td>
<td>7</td>
</tr>
<tr>
<td>wire clamps-top</td>
<td>64</td>
<td>3/16&quot;</td>
<td>26</td>
</tr>
<tr>
<td>eye screws</td>
<td>16</td>
<td>stainless steel</td>
<td>30</td>
</tr>
<tr>
<td>thimbles</td>
<td>16</td>
<td>3/16&quot;</td>
<td>18</td>
</tr>
<tr>
<td>hop plants</td>
<td>175</td>
<td>spaced 3.5’</td>
<td>525(3.00x)</td>
</tr>
<tr>
<td><strong>total</strong></td>
<td><strong>$1,911</strong></td>
<td><strong>$5,479</strong></td>
<td><strong>$7,724</strong></td>
</tr>
</tbody>
</table>

Additional considerations: Equipment to auger holes and place poles. Come along and haven grip to apply tension. Cable cutters. Man-lift for tall trellis. Land and tractor

*can use 'w' clips 36.00 and coir string 48.00
Labor

- Spring
  - Plant
  - Fertilize
  - Pruning
  - Stringing
  - Training
  - Scouting/spraying
  - Weed control
  - Petiole testing

- Summer
  - scouting/spraying
  - Weed control
  - Fertilize
  - Pruning
  - Sampling

- Fall
  - Harvest
  - Drying
  - Hilling
  - Propagate
  - Plant
Land

- Flat land
- Avoid areas with low lying spots
Land

- Full sunlight
- Well drained soil
Land

- Test soil
- Adjust pH
- Add amendments as needed
- Plant cover crops
Irrigation

- Drip irrigation
  - Avoid overhead irrigation
  - Get irrigation in early!
- Fertigation
Irrigation

◊ ½” drip tape
Irrigation

- Emitters:
  - (1) 2GPH per plant
  - (2) 1GPH per plant
Poles

- Tamarack
- Cedar
- Douglas fir
- Lodgepole pine
- Larch
- Telephone Poles
- Black Locust
• Set poles about 4 feet in the ground
• Angle outside poles
Galvanized cable: 3/16”- working load 4,000lbs
• Earth anchor: 5/8” x 48” x 6” - 6,000lb working load

• Galvanized Turnbuckle: 5/8” x 12” - 3,500 lb working load
Trellis designs
Trellis designs

- Outside poles are anchored and angled
- 2 strings per plant form a ‘v’ shape
- 18+ ft
- Spacing 3.5’ x 14’
Trellis designs
• End poles (weight bearing) are anchored and angled
• 1-2 strings per plant
• 18+ft
• Spacing 3.5’x14’ (3.5’x18’), 7’x7’
Trellis designs

Royfarms.com
Trellis designs

- Netting secured to top and bottom wire by hog clips
- Bottom wire: 1/8” galvanized cable
- Top wire: 3/16” galvanized cable
Plants

- Disease free
- Local
- Plants or Rhizomes
First Year Yields at Purdue Hopyard (2014)

avg lbs per plant at 8% moisture

Cascade | Chinook | Nugget | Zeus | Galena | Centennial
---|---|---|---|---|---
![Tall Trellis](0.05 lbs)<br>![Dwarf Trellis](0.05 lbs)