Dan,

Thanks again for agreeing to participate in this research. I believe this will be a huge benefit to all of us in the state. Part of the grant is to reimburse you $50 per variety tested to compensate for lost sale of those strings, plus $100 flat rate for your time and effort. That will come later this fall, after I file our first annual report.

As a reminder, you agreed to test four varieties:

Cascade, Centennial, Chinook, Columbus

Here's the timeline and requirements. I am trying to capture usable data that will help growers determine when the optimal time is to harvest, depending on what their brewery customer is seeking from a variety.

1. March through July: Record date and growing degree days (GDD) of
    a. emergence (50% of each variety)
    b. burnback/pruning
    c. training
    d. burring (50% of each variety)
    e. cone formation (50% of each variety)

    on selected varieties using this form: https://goo.gl/wXphZ6 which has buttons and fields to quickly enter the data. You will have to fill out the form for each variety at each event. Please use the OARD GDD calculator at https://www.oardc.ohio-state.edu/gdd/ to find the GDD for your farm.

2. After cone formation, identify 5 healthy strings in the middle of your yard and mark clearly with tape (provided). These five will be your cone sources for the remainder of the project.
3. Four weeks after 50% cone development, do an initial UVM style moisture test. I want to start testing on each variety when it gets to 83% moisture/17% dry matter. Do the UVM test weekly until you hit that target.

Once you are at 83% moisture/17% dry matter, the following steps are critical.

4. On the same day of the week every week, pick two quarts of hops (container provided) of each variety you agreed to test. Pick the two quarts of hops randomly from 8' to the wire, with equal amounts from all five strings until you fill the container. Follow the same pattern each week on the same day. You will need to leave these strings hanging past your own harvest so we can continue to test for up to ten weeks total.
5. After picking, take a picture of each variety of hops in the container and save with the following naming convention: of FarmVarietyDate, then email to me. For example, HopalongCascadeAug5. Please use the same location and lighting each week for the pictures. We will use these to provide to our fellow growers and interested brewers so they have visual cues of what each dry matter level looks like by variety.
6. Immediately vacuum pack half (one quart) of the hops as is (wet) (bags provided), and dry the other half (one quart) in a food dryer to 8-10% moisture content, vacuum pack (bags provided)

and freeze. Label both bags with the variety, your farm name, GDD and date picked using a Sharpie (provided).

7. Finish filling out a lab form (provided) for the week's hops. Put the form and all vacuum packed wet hops from that week into a prepaid/prelabelled shipping box (provided) and ship as soon as you can, preferably that day. If you are unable to ship immediately, please refrigerate until you can.
8. The lab will provide actual dry matter, alpha and beta each week. This will help you determine when you want to conduct your actual harvest, but again, do not harvest your designated five strings of each variety. We will continue to test until we get to 74% moisture content /26% dry matter, or ten weeks, whichever comes first.

At the completion of this, you will have mailed up to ten samples of each variety, and have up to ten dried samples of each variety in your freezer. We will gather these later this fall for a brewer's rub.

Supplies I will deliver in June:

6' marking tape
80 vacuum seal bags (20 each x # varieties)
Sharpie
2 quart container
10 shipping boxes
10 lab forms