



THE OHIO STATE UNIVERSITY

COLLEGE OF FOOD, AGRICULTURAL,
AND ENVIRONMENTAL SCIENCES



Dear Farmer Cooperator (HOPS_____):

This is your 3rd package (out of 4 total this year). This step is going to examine how consistent your portable nitrate meter values are to values generated in a commercial analytical lab. We will also analyze your hop leaves for total nutrient content to better understand other nutrients aside from just looking at nitrogen.

Your package contains the following items:

- Plastic UPS mailer with prepaid shipping label (to Spectrum Analytic) for hop leaf nutrient analysis
 - Labeled sample collection paper bags
 - Sample submission form already in mailer
- Standard stamped envelope (to Bethany Herman)
 - Datasheet for recording nitrate values

We originally requested that you start petiole nitrate around June 15th and do it approximately every 2 weeks after this. We understand that life happens, and some did not start immediately, but we'd like to maintain this ~2-week interval until the end of July/ early August. Please do your best to keep up with this schedule. It's very important that you log your dates and note anything unusual throughout. As a reminder, complete project information, as well as instructional videos, can be found online: go.osu.edu/hops-trials

We greatly appreciate your participation in this project and look forward to sharing the results with you!

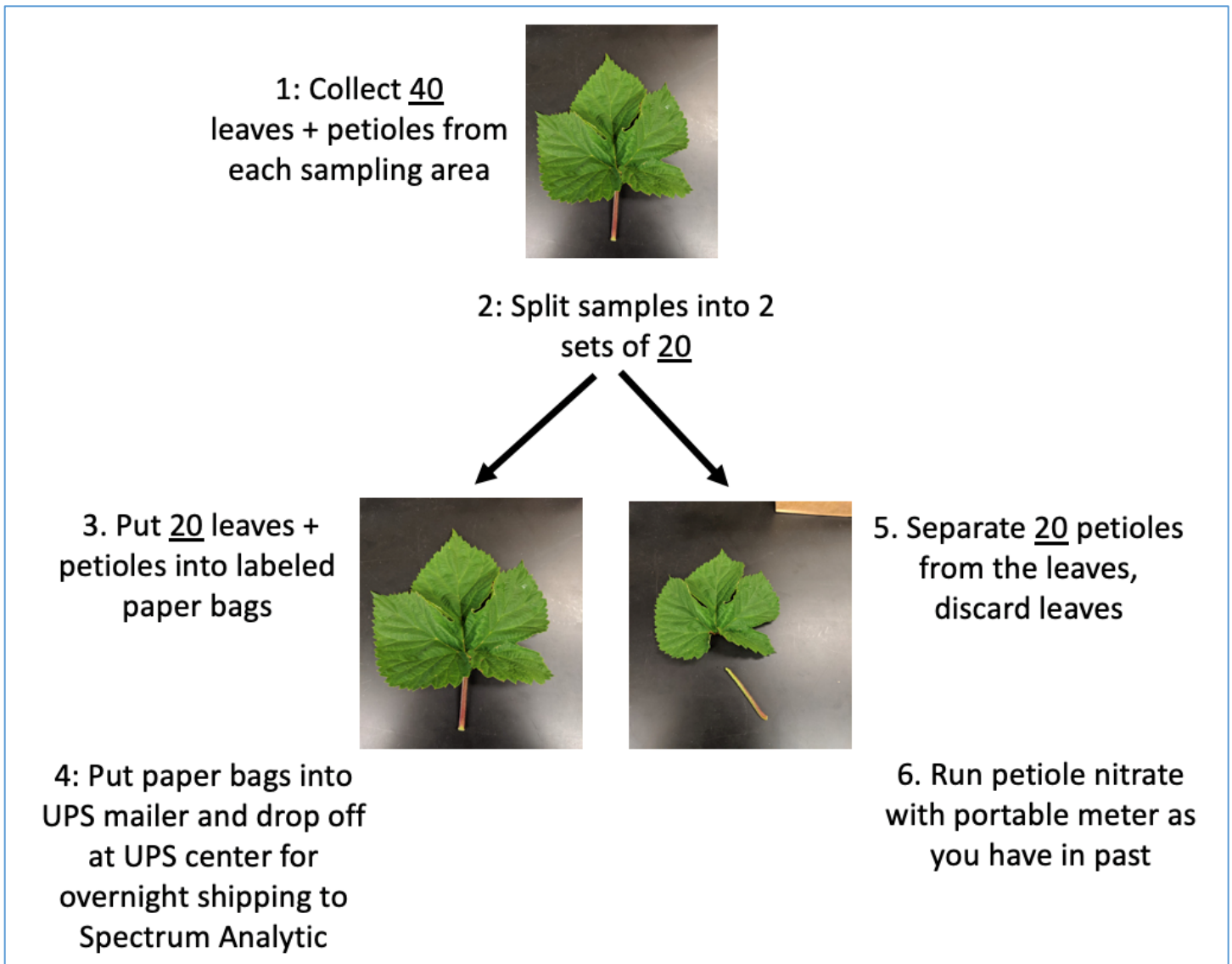
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Overview of Leaf Analysis Sampling Protocol



SAMPLE COLLECTION (Steps 1 and 2 from above picture)

1. This is the same sampling strategy as before, except you will collect twice as many leaves (40 instead of 20).
2. For each sampling area, collect 40 leaves, do not separate leaves from petioles in this step.
3. Split sample into 2 sets of 20, by randomly selecting from the 40 samples. Do this for each sampling area.
4. Refresher video of collecting hop samples: go.osu.edu/hop-sample

MAIL SAMPLES TO SPECTRUM FOR LEAF NUTRIENT ANALYSIS (Steps 3 and 4 in above picture)

1. For each sampling area, take 1 set of 20 and place leaf + petiole in corresponding pre-labeled paper bag. Leave leaf and petiole attached.

2. Place bags in pre-labeled mailer with the sample submission form. There is a sample submission form to Spectrum Analytics already in the mailer. It is essential that this is mailed with the hop samples or Spectrum will not know what to do with the samples/ who to charge/ etc.
3. Drop off at UPS location for overnight shipping. You can find the closest location here: www.ups.com/dropoff. The provided labels will charge us when they are scanned in, so no need to pay for postage.
3. Note that we should try to keep these samples cool and get them to the lab for analysis ASAP. It's ideal to time the sampling/ drop off so that samples are not sitting in a hot environment (ex, inside a car in full sun). The lab, Spectrum Analytic, and UPS generally do not operate on the weekend, so shipping sometime Mon - Thurs is best. If your sample will sit overnight before shipping, please refrigerate (not freeze) the samples.
4. Spectrum will run nitrate on your petioles as well as a complete nutrient analysis on your hop leaves.

RUN PETIOLE NITRATE WITH YOUR METER AS BEFORE (Steps 5 and 6 in above picture)

1. In order to determine how closely lab values align with the values your meter provides, it's essential that you run petiole nitrate on this set of samples.
2. You will run them just as you have the previous 2 sampling times.
3. Please remember to calibrate the meter first (**refresher video: go.osu.edu/hop-calibrate**)
4. Extract the petiole sap and measure nitrate values (**refresher video: go.osu.edu/hop-petiole**)
5. Please record your data on the original data sheet provided in the last mailing. We have provided you a new data sheet (provided) to record the values of your next sampling.

MAIL DATA AND ANY OTHER MATERIAL TO US

1. Your package contains a stamped envelope addressed to Bethany Herman. Please use this envelope to mail back materials to us including:
 - Original datasheet that we mailed you in the last mailing
 - If not already turned in:
 - Management survey
 - Soil health knowledge survey
 - Map of your sampling areas or any additional information you'd like to share with us