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Final Harvest Protocol

1. A plant is ready to be harvested when it has not produced a new flower in 5 days, OR at its scheduled final harvest date, whichever comes first.
2. Bring the plants to be harvested to 162 Crawford and hot sync the PDA being used. Record this on the hot sync log sheet. (All PDAs should be available for final harvest so that there is no sharing)
3. The file name on the PDA will be "final harvest run x_x" (the first "x" is the run, the second "x" is the number assigned to the particular palm pilot).
4. Labels must be made prior to harvest. Every label associated with the particular plant must have the following information on it four times across one sticky sheet: pot #, nutrient level, run #, block #, tray # (e.g. NHL421, 1694). These labels are to be color coded (highlighted) according to plant part. The color key can be found in the weighing room.
5. Write the Julian date of harvest on the paper bag in which all the plant parts go, and prepare the bag sets for the first few plants. (4 label types: repo/inflor. label on brown paper bag(blue); shoot/rosette label on parchment envelope(green); silique label on glassine bag(pink); root label on cookie sheet(orange)).
6. All data collected from the harvesting is to be entered into the Final Harvest run "X" (what ever run it is) data sheet on the PDA.
7. All measurements MUST be done in centimeters.
8. Separate the shoot (rosette, or remains + the supporting rachis) and inflorescence from the root, and place with the appropriate bags along with the pot tag. Clip the repo from the shoot, counting the number of basal branches as they are clipped. Basal branches are those, which originate just above the rosette. Enter this number into the "RB"column. If there is no inflorescence, make a comment in the data sheet (one of the "COM" columns). After ALL turface has been removed, place the shoot in a parchment paper envelope bearing the plant's label. Place the envelope aside for the moment.
9. Find the main branch or the longest branch and stretch it out. Once it is elongated count the number of siliques per 5 cm, starting with the lowest silique; enter this number in the "S5CM" column.
    a. If there is no branch that reaches 5 cm, count the total number of siliques that the plant has and enter it into the Total # of siliques column ("TS").
    b. Make a comment in one of the comment columns that the branches were short, comment number 25.
10. Cut off 5 different full siliques being sure to cut off only the silique (seed pod) and NOT the pedicel. The siliques should be yellow in color (i.e. neither fully dehissed nor immature). After finding the length of each silique, calculate the average length and enter it in the "ASL" column. (Note: "ASM" is average silique mass, and will be computed later after drying and weighing of siliques.) *Note: Dehissed siliques may be used for the average length measurement but should NOT be put into the glassine bag to be weighed.
11. Place the 5 siliques in a small labeled glassine bag to be dried and weighed, folding the top of the bag and taping it shut with the label. If five full siliques

cannot be collected, write the number collected on the glassine bag, and enter appropriate comment (#62) in the palm.

~~12.~~ The plant's metal tag can then be used to pinch together the rosette envelope and silique bag.

~~13.~~ Separate the inflorescence branches from one another and measure all branches and sub branches using a planwheel/mapwheel device. (Suggested technique: Tear apart each branch and then lay them out end to end in rows along several parchment sheets on the table. By doing this, the branches can then be measured in one relatively constant motion of the wheel.) Once the total length of the plant's inflorescence has been determined, enter it in the total length column in the data sheet. ("Total Length")

~~14.~~ Condense the reproductive material over a piece of parchment paper, ball it up some, and place it in the paper bag. Make sure that the outside of the bag is labeled and dated correctly. Dump the remaining pieces on the parchment into the paper bag too. Then put the other bags pinched together by the clip in on top, and twice fold over the top of the paper bag.

15. Thoroughly flush the turface in the pot with warm water; then turn the pot upside down over your hand, shaking it until all the turface/roots come out. Try to get it all out in one motion. Wash the root in warm water being sure to remove ALL turface, and place it on a cookie sheet above its label.
16. At the end of the day carry the cookie sheet and bags down to 137 Crawford to be placed in the grey refrigerator-sized drying oven for at least two days (set at 60 degrees centigrade).
17. Hot sync the PDA(s) and log the sync.
18. Once dried get the cookie sheet from the drying oven to bag the plant parts. The shoot, siliques, and repo should all have their own bags labeled the same way as the roots do on the cookie sheet. Bag the roots in small glassine bags writing the info from the tag onto the bag. Match up all roots with their appropriate bags, and pinch root bag together with the silique and shoot bags.

~~19.~~ Place the assembled bags in order in their respective labeled banker boxes, marked according to treatment. Each treatment (e.g. RHH) should fit into two separate boxes. Store these for later processing (grinding, dry weight, CHN).

~~20.~~ Clean the cookie sheet when clear of all roots. Wash and wipe off the paper labels under hot water in the sink. Then, working under the hood, wipe away the sticky glue and residues with paper towels/cotton and mineral spirits. (You should wear latex gloves for this.)