

To collect the pollen, the team pulls the catkins off of the stems, to create a pile of catkins. A team member will take a few catkins and rub them around a metal window screen wrapped over a rack, with glass underneath. This is done until the catkin is bare of anthers. The screen is removed the pile underneath is sifted through a number 30 rock sieve. This screen size is the perfect size for anthers. The same effect can be accomplished using a small hand held cooking sifter, but you must be careful. Sift the pile while watching what is falling through. The yellow anthers will fall first. When the green colored filaments and other debris start falling through -stop- toss this in the trash, it is very easy to over sift. Surface sterilize with ethanol flame on metal equipment and wipe down the glass. The anthers are placed into a pill bottle; no more than 1/3 full, and placed **opened** (Paul had placed the caps on) in a can of desiccant. Push the pill bottles down into the desiccant to prevent falling and spillage. Close the can and dry overnight in a refrigerator. After 24-48 hours remove the pill bottles and add desiccant capsules to each bottle, cap the bottle, and the pollen is ready for storage in the fridge or freezer.

Pictures and more information may be found here:

http://www2.volstate.edu/tnchestnut/Pollen_collection_&_storage_Sisco_6_08.doc

<http://ctacf.org/page.cfm/PollenProcessing>

To mail, it should be done overnight, preferably with an ice pack. The pollen then needs to be refrigerated ASAP.

Freezing and Germination-

To freeze pollen, it should be as dry as possible. To achieve this, pollen is stored in medicine bottles and placed in a sealed can full of desiccant for at least 24hrs. Then add a color changing desiccant stick to the bottle when the lid is placed on. For freezing, the pollen is placed in a standard refrigerator freezer at about 0F. There is not a procedure for thawing, however thawing should be avoided until ready for use.

The germination rates of the pollen will go down once the pollen has been frozen. One year old gave good germination rates, enough so that it can still be used. Some pollen will still germinate at two years. I should note that when I was testing I was pulling pollen out of freezer to take samples. I am sure some thawing occurred. At three years germination was rare. I have some data but not enough for a study.

If the pollen was used in the field, the germination rate is dramatically lower. In Meadowview we keep pollen in cold storage (fridge in the lab, cooler in the field) and take what we need out for a pollination. While keeping a stock in the fridge when possible. So, used pollen is not worth trying to freeze.