Seed Germination Cabinet

Testing Seed Viability

Effectively storing seeds throughout the off- season is a cost- effective way to access crop seed for future planting. However, before famers invest time planting seeds of potentially poor quality, they must know the viability of their seeds.

Germination conditions fluctuate when using soil, pots, and outdoor resources, which can cast doubt on the true viability of the seeds. Perhaps seeds failed to germinate because they were dead, watered erratically, infected, too hot, or another unknown variable.

A seed germination cabinet accurately tests germination rates by creating a controlled environment.

Materials

- A cabinet (wood, metal, plastic) that can be sealed
- Small sheets of insulating foam for the inside walls
- A light source to produce heat and light
- A 3- outlet power strip
- A wall timer

Instructions

1. Insulate cabinet's inner walls with insulating foam.
2. Connect a compact fluorescent lamp above each shelf to regulate light and temperature. (The seed germination cabinet manual has a wiring diagram (Figure 4)).
3. Leaving the lights on all of the time would add too much heat to the chamber and dry out the seeds. Moderate the lighting so that it shuts on and off to maintain a relatively constant temperature. Wire both of the fluorescent fixtures to a power strip that connects to a wall timer to aid in this process.
4. Monitor temperatures in the chamber using a thermometer and adjust the timer as necessary to maintain a constant temperature. (Turning the fluorescent lights on for ½ hour and then off for ½ hour over the course of the day maintains a fairly constant temperature in many conditions.)

A small aluminum kitchen cabinet (122 cm tall, 77 cm wide, and 41 cm deep) transformed into a seed germinating cabinet

Seeds germinating in packets under regulated conditions and overhead lights

Basics of Seed Germination Testing

Place seeds on moistened sterile paper towels inside of loosely fitting plastic baggies. Put the baggies inside the seed germination cabinet and observe daily for signs of germination; the easiest sign to observe is the emergence of the radical.

Developed by Abram Bicksler, Rick Burnette, Vinny Ricciardi, Mark Bell and Peter Shapland

This fact sheet is made possible by the generous support of the American people through the United States Agency for International Development (USAID) under Award No. EPP-A-00-09-00004. The contents are the responsibility of Hort CRSP and do not necessarily reflect the views of USAID or the United States Government. Edited by Amanda Crump 08/2011