

# HOW TO MAKE A MINIATURE HOME SEED BANK

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Although the Royal Botanic Gardens-Kew Mini Seed Bank (for a description, see <http://shop.kew.org/kew-mini-seed-bank.html>) is a fully functional seed storage device, it is currently prohibitively expensive for many prospective users. You can make your own similar home seed storage unit from easily-available supplies.

## WHAT YOU WILL NEED

*See the appendix for mail order information.*

### **Shallow containers with airtight lid:**

To serve as a drying chamber. Rubbermaid 1 gallon or 2.1 gallon rectangular boxes are convenient sizes.

### **Drying agent:**

The most popular drying agent is silica gel. Allow 1+ lb. (2 cups by volume) for each container. Available from craft supply stores, where it is sold for drying flowers. Sometimes available for free in small packets from places that receive electronic equipment. Note: Pure silica gel is white, but silica gel is often mixed with an indicator to show when it needs recharging. There are some health concerns about cobalt chloride, the blue/pink indicator that is widely used. These are most serious for fine grain silica gel, which can be inhaled as dust. Alternatives are to use orange indicator silica gel, plain silica gel with a separate humidity indicator, or silica gel in sealed units such as the Eva Dry mini-dehumidifier. Another drying agent is calcium chloride, sold at Longs Drugstore as "Damp-Rid".

### **Airtight storage containers to store the seeds:**

For seeds stored in a self-defrosting refrigerator, airtight storage containers are not necessary, as the self-defrost unit in the refrigerator will keep the air inside naturally dry. For storage elsewhere, you will need airtight containers.

If small airtight containers are not available, you can store smaller, non-airtight containers inside larger, rubber-gasketed glass jars. Snap-lid vials are available from Southern Exposure Seed Exchange, or laboratory supply companies.

### **Labels for the airtight storage containers:**

If you want to store the seeds for more than a few years, consider getting archival grade labels. Adhesive labels from a stationery store may fall off after a few years.

### **Humidity indicator card:**

Useful to judge when seeds are adequately dried or drying agent needs recharging.

### **Seed drying dishes:**

We recommend shallow, flat containers like jar lids.

## HOW TO PROCEED

See our handout, GUIDELINES FOR SUCCESSFUL SEED STORAGE, for detailed information how to use these use these supplies. If you have any questions not answered here, check the web site on the next page, or contact us.

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Seed Storage Web Site: <http://www.hawaiiconservation.org/conservationresources.asp>.

## **SOURCES OF SUPPLIES**

Southern Exposure Seed Exchange carries supplies for small-scale seed storage operations, including airtight vials, heat-sealed envelopes, and indicator silica gel. Note that indicator silica gel is more expensive than plain silica gel. Their web site has detailed information on handling of silica gel. Contact information:

Southern Exposure Seed Exchange  
P. O. Box 460  
Mineral, VA 23117  
Tel. # (540) 894-9480  
<http://www.southernexposure.com>

Gaylord carries archival storage supplies, including silica gel, humidity indicator cards (item # 62031) and archival labels in many sizes. Contact information:

Gaylord Bros.  
P. O. Box 4901  
Syracuse, NY 13221-490  
Tel. # 1 (800) 634-6307  
<http://www.gaylord.com>

Agoodco sells iron-based indicator silica gel that does not contain cobalt chloride. Contact information:

Agoodco, Inc.  
P. O. Box 12902  
Birmingham, Alabama 35202-2902

Tel. # (205) 251-5400 voice, -5411 fax  
<http://www.agoodco.com>

Long Drugs sells Eva Dry Mini-dehumidifiers with built-in recharger for the silica gel for around \$20. You can see the Eva Dry mini-dehumidifier at:  
<http://www.eva-dry.com/E333.pdf>

The Hawai'i Conservation Alliance seed storage manual lists other sources of supplies. See <http://www.hawaiiconservation.org/conservationresources.asp>

