

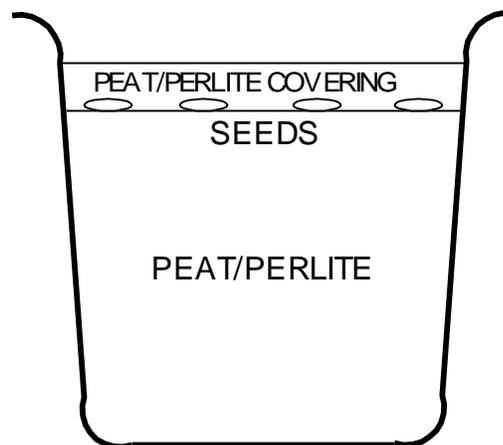
GERMINATION OF THE WESTERN LILIUM SPECIES

Gene Mirro
Oregon Wild Lily Sanctuary

The western lilies are commonly referred to as delayed hypogeal germinators. A delayed hypogeal seed requires about three months of warmth and moisture, during which it develops a tiny underground bulb. About four months of cold are then required, after which root and leaf growth appear. This is NOT how western lilies germinate.

It is true that western lilies have distinct below-ground and above-ground germination phases. But the below-ground bulb development occurs during the cool, moist days of Fall and early Winter. No warm period is required. In fact, I have found that several months of warmth and moisture will seriously delay germination, often for a year or more. The above-ground leaf development begins after a period of chilling during Winter. The chilling period varies from a few weeks to a few months, depending on species and age of seed. *L. humboldti* and *L. ocellatum* require only a few weeks. It is very difficult to generalize further, since many of the species are very widely distributed, and their needs will be a function of their local adaptation.

Here is my step-by step method for germinating these lilies. This will work for all western species, although you may find that some seeds of *philadelphicum* and *maritimum* will germinate almost immediately. I recommend planting these seeds in early Fall as the temperatures are cooling to the 60 degree (F) range.



1. Make a potting mix of 50% sphagnum peat and 50% perlite. To each gallon of mix, add a teaspoon of dolomite lime and a teaspoon of bone meal. Place in a plastic bag with a little water. Close the bag and knead vigorously until the medium is uniformly slightly moist.
2. Select containers at least 3 inches deep. Fill with mix to the top. Firm the mix. Refill to within 1/2 inch of the top.
3. Distribute seed on the mix, no more than 9 seeds per square inch.
4. Cover seed with mix. Firm the mix.
5. Water lightly to settle the mix around the seeds. Do not soak.
6. Label the containers.

7. Place the containers in small plastic bags, preferably the type that uses tie wraps.
8. Seal the bags closed with tie wraps or whatever.
9. Place the bags outdoors in a shaded place, protected from birds, mice, etc. Light is not necessary.
10. As winter approaches and the temperature drops, do not expose the seed to temperatures lower than about 28 F. If the outdoor temperature gets too cold, move the bags into the refrigerator. Do not place the bags in a heated room. Optimum temperature in winter is 40 to 45 F.
11. Check the containers every week or so for above-ground growth. Also make sure the mix is not getting dry. When growth commences, feed with a dilute liquid fertilizer and place in a cool (50-60 F), bright location, such as under fluorescent lights in the basement, or in a cool greenhouse. Do not expose lily seedlings to full sun.

Some growers mix the seed with some moist medium in a plastic bag, which is then placed in a refrigerator until germination takes place. It works, but it means that you have to transplant the germinated seeds into a container. Why not just plant the seeds in a container in the first place, as we have done here?

If the seed does not germinate by Spring, do not discard. Keep the container in the sealed plastic bag in a shaded, protected place over summer, and repeat the cooling process the next Fall and Winter. Keep the medium moist. I have had *L. washingtonianum* and *rubescens* come up 3 years after planting. Good luck!