

Seed Propagation Techniques That Work for Me

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The Morris Arboretum of the University of Pennsylvania has been actively involved in many seed collecting trips in Asia over the years. Because of these trips and our goal of growing plants of merit from all over the temperate hardy regions of the world, as much as 75% of my propagation has been with seed—usually wild collected.

There are many obstacles to overcome to get these seeds to germinate. With the exception of well organized collection trips, these seeds come with many unknowns, such as when they were actually collected, if they are viable, and how they were stored. Sometimes I've never even heard of the genus, and can only track down the plant family to give me some clue as to how it can be processed. If possible, I do a cut test to determine seed viability when I have enough seeds.

There are two techniques I use which I will share with you. These have dramatically improved my germination rates with seed from species that require stratification.

The first technique involves the use of coarse perlite as a stratification medium. I previously used sphagnum moss, but always had it too wet and everything rotted, or it was too dry and the seeds dried out. Perlite after wetting is the perfect medium for germination because it doesn't absorb water, it only covers the surface after excess water is drained off. Seeds also need oxygen while in stratification. Since perlite doesn't compact in the bag like sphagnum moss, there is always air space. If seeds need to be soaked before placing in stratification, I let the bag sit at room temperature for a week before placing in a refrigerator or on a shelf. Since seeds don't get oxygen when they're soaking in water, there is less chance of rotting in the perlite. It is important to check the moisture of the perlite after the one week of sitting—you'd be surprised how much water the seeds imbibe in one week. I use a spray bottle to remoisten the perlite if it is needed. After that, I check all bags once a month for moisture, shake them, and do not press air out of the bag. This is also a good time to see if any seeds germinated in the bag, since many stratification times are variable. This use of perlite was suggested by Bill Barnes (Lorax Farms, 2319 Evergreen Ave., Warrington, Pennsylvania 18976), my thanks to him.

The second tip I'd like to share is the use of granite grit on the tops of seed flats after sowing to suppress moss, algae, and weeds. I use the same grit that is used for raising chickens. Grit is commonly used in England, but I don't see it used often in the States. I don't routinely use chemicals because many of the plant species I grow are relatively unusual and I'm concerned that chemicals might kill the seeds or seedlings. I simply place a ¼-inch layer of grit over my seed flats after sowing. This can be done over the media, or used alone over the seeds. I also use this method when I plant very small seeds that are too small to sow in plastic bags.

If you've been having trouble germinating seeds after stratification in sphagnum or peat moss and algae growing into an impenetrable barrier, I hope you'll try my tips.