

Growing Arisaemas from Seed

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Arisaemas are easy to grow from seed. The simplest way is to plant the seeds in a pot of Promix , or similar mix, put the pot outdoors, and let nature take its course. Or, you can plant the seeds directly into a bed. However, this often means a four year wait for a flowering plant, and also means that you won't have anything to keep you occupied in the winter!

Unlike many genera, Arisaema seeds do not require a cold period for germination, and the plants can easily be manipulated into a growing "year" of only 8 or 9 months. This allows for a considerable shortening of the time from seed to flowering, if one wishes to get into the process of growing under lights and has refrigerator space adequate for "artificial wintering". Over the past five years, I've evolved a system for this which I hope some will find useful.

When arisaema seeds are removed from the ripe berries, they are covered with something that inhibits germination. Under natural outdoor conditions, this inhibitor is washed away from the seed, usually over the winter, and germination can occur when warm weather returns. However, it's also possible to remove the inhibitor artificially. Soaking for a week, with daily changes of water, works, and some have even gone so far as to recommend suspending the seeds in a mesh bag in a toilet tank, where the water is changed frequently. However, the simplest method, devised a few years ago by Ray Stilwell, is to put the seeds into a glass of water with a drop or two of detergent (I use "Dawn"), soak for 1-2 hours, and then rinse thoroughly (I use a strainer).

The next step is to put the seeds in a thrice-folded, damp (not wet), paper towel (white, no dye) which is then placed in a polyethylene food storage bag, closed by folding. (This is the method for seed germination originated by Marjorie Edgren and popularized by Norman Deno.) Several folded towels can be placed in one bag, which is then kept in a warm place and checked once or twice weekly. As soon as one or two seeds show a radicle, it's time to move to the next phase. I give the seeds as long as three months to germinate, but most will do so within a few weeks. Infertile seeds will rot quickly, and I am convinced that rotting is primarily due to non-viable seeds, not fungal contamination. I tried prophylactic fungicides for a while, but have stopped, fearing that they might be causing more harm than good.

When a few seeds in the towel germinate, I plant them all. I have been using pure Turface (calcined clay) as a medium. The germinated seeds are placed into small holes in the wetted Turface, and the pot is placed in an inch of standing water with a small amount of standard houseplant fertilizer added (Schultz Plant Food, 20-30-20). Don't try this with potting soil. Plants will rot. But Turface allows enough oxygen throughout for the seedlings to develop normally. The pots are kept in standing water, in flats, under lights in my basement.

In a few weeks leaves appear, and the seedlings grow on for several months. When they turn brown and wither, it's very easy to separate the small tubers from the Turface. They are then placed in a food storage bag with some slightly moist Turface, and refrigerated for about three months. (The Turface from the pots can be rinsed and recycled.)

After three months of cold treatment, the bag containing the tubers and Turface is placed at room temperature. If the Turface is dry, a small amount of water is added. The bags are checked once or twice weekly and as soon as a sprout begins to elongate, the tubers are ready to be replanted. Occasionally the tubers will have started to break dormancy while still in the refrigerator, and can be planted immediately.

Tubers in the second growth cycle do NOT do well in the wet Turface, but tend to rot. I formerly grew them in a mixture of promix and Turface, watering as needed, and this worked well. However, As the pots became more numerous, watering became quite a chore. Also, when the next dormancy occurred, finding small tubers in a potting mix was difficult, and I'm sure I discarded quite a few. Last year I was introduced to another soil modifier called Permatill. This is a fired slate product somewhat similar to Turface, which will absorb some water, but the particles are considerably larger. (It's what those light-weight "asphalt" blocks are made of.) I decided to try wet Permatill as a growing medium, again putting the pot in standing water, and so far it works like a charm. I've seen no rotting, the plants grow well, and finding even small tubers after dormancy occurs is easy.

After the second growth cycle, three more months of refrigeration is used (damp Turface in a bag again), and then comes another growth cycle in wet Permatill. After this, management depends on the size of the tubers and whether the season is right for outdoor planting.

During the various stages of this process, there is always some problem with loss of tubers. A good rule to apply is that small tubers are more likely to be lost by being too dry, and larger ones by being too wet.

The above method generally creates about an eight-month "year". If I start with seed in the late fall, I can usually compress three growth cycles into two years. At that point, most species are ready to plant out, and will flower. I have had quite a few plants flower unexpectedly under lights, and in the past year had some *Arisaema ringens* flower in their second growth period, only eight months after starting the seed.

Now for the bad news! Not all *Arisaema* species are this easy. My experience has been largely with Japanese and Chinese species. Limited experience with Himalayan species has been less successful, but I think that this has been frequently due to non-viable seed.

Some of the Japanese species (*A. thunbergii*, e.g.) will only produce a radicle in their first growth cycle, needing a cold period before the first leaf appears. This, of course, means that if you plant them in a pot outdoors, nothing will appear until after two winters. I handle them the same way initially, planting in wet Turface when radicles appear, but leave them in the pot for refrigeration, first allowing excess moisture to drain and then placing the entire pot in a bag.

Arisaema elephas remains a puzzle to me. I have tried many different batches of seeds from multiple sources, and have yet to succeed with it. It appears to sometimes produce a tiny tuber, but most of my attempts end up with rotted seeds.

The system that I have described works well for me, but it's important to go back to my first statement, that Arisaema seeds are easy! If you don't have access to Turface and/or Permatill, you'll do fine with the usual potting mixes. It's just a bit more trouble to keep the proper moisture levels, as well as to find small tubers when pots are emptied. And I'm sure that others, particularly some of the professional growers, have some shortcuts that I've not considered.

Information about this subject and other aspects of growing Arisaemas is exchanged regularly on Arisaema-L, and I would encourage all interested in this genus to contact Ray Stilwell in this regard.

I'm available by email (jimmcclem@aol.com) if anyone has questions about my method.