

Growing Agaves from Seeds

Charles F. Merbs

December 1976

Agaves are not the most popular of succulents, as it takes a certain kind of personality to wait 25 years or more to see a plant flower, then immediately die. To the true agaveophile, the different species are very exciting, even if not always identifiable. Most agaves are relatively easy to grow although some, such as *A. attenuate*, seen so frequently along the California coast, are unable to tolerate Arizona's extremes of heat and cold without assistance. Ninety-nine percent of the agave growers in the Phoenix area seem content to grow only *A. americana*. The true agave fan will have 20 or more species, and is always searching for new ones.

Many agaves produce clones quite readily, and some even produce bulbils on the inflorescence (the seeds actually attached to the flower stalk). Another, but rather drastic way of getting agaves to reproduce, is to remove the center of adult plants. Just as with cacti, this stimulates the plant to produce multiple heads, each of which can then be rooted. All of these methods of reproduction have disadvantages however. Not all plants produce clones (some of the most beautiful such as *A. Victoria-reginae* and *A. ocahui* rarely ever do), and even for those that do, the offsets may be poorly shaped or attached too tightly to allow separation from the parent without injury or, the offset may contain a disease gotten from the parent.

Reproduction by means of bulbils gives you many plants in a hurry, but it tends to be a rare event and characteristic of just certain species. *A. murpheyi*, an Arizona native, regularly produces bulbils.

In many cases the best way to reproduce agaves is to grow them from seed. Agave seeds are flat (usually) and black in color. I have occasionally gotten off-color (brownish) seeds to germinate, but they are usually not worth the effort. Agave seeds vary considerably in size usually reflecting the size of the mature plant. The smallest seeds I have worked with (several species) measured less than 2 mm. in maximum diameter, while the largest from a Mexican giant, *A. franzosini*, measured more than a centimeter in diameter. As with most plants, the fresher the seeds, the greater the percentage of germination.

My soil mix for agave seedlings is very simple: equal parts of commercial soil mix and sifted (through a regular window screen) crushed granite. I cover the seeds with a depth of soil measuring half the diameter of the seed, but I doubt that such precision is necessary. They should be below the surface, but not very deep. I then set the pot (usually plastic) in a pan of distilled water or rain water until a wet surface indicates that the soil has become thoroughly saturated. After the pot is removed and allowed to drain for several minutes, I spray the surface with a fungicide (whatever is handy—agaves do not appear to be very susceptible to damping-off), and cover the pot with plastic wrap secured with a rubber band. I then set the pot on a warm windowsill (I do not have artificial lights) where it receives diffused light and wait for nature to take its course.

Some seedlings have appeared as early as 4 days after planting, but 6 to 8 days is more typical. If plants have not made an appearance by the end of two days, they probably never will.

The seedlings begin with a single leaf, approximately round in cross-section, thicker near the base and tapering to a point at the top. The empty seed husk perched on the top of the plant obscures the actual tip. This seed remnant may remain on the plant for several months until it falls off or I get tired of looking at it and remove it. Seedlings vary considerably in size during their first weeks of life, usually reflecting the size of the seeds that produced them. Within a few days of germination, however, even the smallest of the plants will have reached the surface of the plastic wrap if it has not already been removed. The wrap is to keep the soil damp during germination. In the case of agaves, it can be dispensed with right after germination.

Some of the seedlings have a tendency to fall over, and I add some coarse sand to the pot to shore them up. After two to four weeks of development, a slit develops near the base of the first leaf and out of it come the second leaf, this one looking much more like an agave than the first, but still elongated and devoid of marginal spines. The third leaf, when it appears, tends to be wider than the second is, and it does contain small marginal spines. By the time the third leaf has made its appearance, the initial leaf has begun to turn yellow and dries out from the tip. It has done its job and it proceeds to disappear. I try to keep the soil moist, but pots of seedlings have dried out completely for several days through my neglect with no apparent damage. The seedlings will let you know if they are receiving too much light or too little. In the first case, they take on a purplish tinge. In the second, they turn pale. Try not to change their light regimen abruptly; do it in easy stages.

By the time the third leaf arrives, the plants begin to bear some resemblance to their parents, but they still have a long way to go. The worst part is over, however, and the prognosis for continuing development is excellent.