





Sowing in... baggies

By [Alain Laroze](#), 2003/04/22. Translated by [Willy Bovis](#). 

The first edition of this article was published on the "Cactus Francophone" in 2000. A second edition was published in the magazine "Succulentes" (May 2001). Since then, I received many comments, suggestions and questions. Moreover, I have sown much more, giving me the opportunity to note some further details. Based on the 2nd edition, this 3rd one should give you a closer view.

When catching the virus of cactimania, usually a secondary infection of sowing seed will follow.  There are various reasons for sowing seed. First of all, there is the huge choice of genera, species, and varieties. For the most demanding collectors, seed suppliers may offer field collection numbered seed. Seed suppliers often have a much larger selection compared to the choice offered by the plant producers. Secondly, there is the lower price of seed compared to the price of plants. For most of the species, for a packet of 10 to 30 seeds, prices vary between 0,5 and 2 euros. In that way, within a couple of years, one can obtain a nice collection for little money. The third reason is the interest presented by a seedling coming out of the seed and developing its first areoles, its first spines, growing step by step from youth to adult form. A fascinating sight.

 Sowing cacti is a little more delicate than sowing tomato or bean seed. Why ? The main reasons for this are their slow growing and their sensitivity to fungus (melting of the seedlings which results in liquefying all the young plants in a pan within a couple of days). For the first months, waterings should be applied carefully ; on the one hand enough to avoid the seedlings dying from thirst (at this stage, they only have very little stems and very small roots), and on the other hand not too much in order to avoid fungus development. That means daily surveys with a touch of ability and know-how. Sufficient moisture can be maintained and fungus development avoided by using a fungicide. However, that does not stop the development of alga, which theoretically are without danger for the seedlings but which does tend to choke them anyway. (Also, that does not avoid accidents such as forgetting to water or too much watering). In order to avoid all that trouble, there is a method named "baggy". The idea is easy : the sowing is to be kept in an absolutely closed environment, free from pathogenic agents, and at a constant, quite high degree of moisture. Setting up the baggy requires a minimum of preparation and difficulty, but once the sowing has been done, one can just watch them grow and supply suitable quantities of heat and light.

Soil : As a basis, I use a good quality, fine earth bought in a shop, to which I add vermiculite  (expanded mica), perlite or any other draining material, as well as possibly some sand. The important thing is to have an open draining soil. The presence of a quantity of peat does not matter as long as the seedlings are in the baggies. Once out of the baggies, it is better to repot the sensitive species into a more mineral soil.

Treatment : All pots and soil are treated by micro-wave, 15 minutes at full force, and moistened with fertilizer at a normal amount. Use water that is sterile (osmosed, boiled or mineral water). After microwaving, the soil should remain wet enough but not sodden.

Sowing : As soon as the soil and pots are back to room temperature, the seeds are sowed and buried at a depth of their own diameter. Then the pots are put in deep-freeze bags, hermetically closed and placed in an self made "piece of furniture", nicknamed "Breizh Bed". No watering whatsoever is necessary as long as the pots are in the "baggies", i.e. several months. Some people may recommend wiping off the condensation that occurs inside the bags. I strongly recommend this not be done. This condensation causes no harm. And the less often the bags are opened, the less risk there is for contamination. If it is absolutely required to operate inside a bag (for example, seedlings

arranged in an untidy manner...), all used tools such as forceps are to be sterilized (passed through a flame for instance).

After :When the seedlings are big enough (after 3 or 4 months, but possibly more, up to 1 year) the pots are taken out of the bags and the plants are given the normal cactus treatment of applying times of dryness. I have never noticed any losses due to the sudden fall of moisture degree after seedlings are removed from the baggy, even where very often the seedlings loose volume in a very visible way.

Some remarks :

- The cleaner the work is done (avoiding contaminating agents), the longer the pots can stay in the bags. For instance, before any handling of the pots, wash your hands with alcohol at 70° (or any other disinfecting solution : hydrogen peroxide, an oxidizing disinfectant...)
- Some kinds of pots or labels do not support heat. They melt. Therefore, first of all, make a test. For instance, black square pots of 5 x 5 cm do not resist, whereas the 6 x 6 cm ones do. In that case, lacking a heat resistant pot, sterilization can be done with bleach, but do not forget to rinse with sterile water.
- Take care, as the soil should be soaked in the beginning and should only start to dry at the end of the sterilization. The water, by evaporating, regulates the temperature. If no more water is left, the temperature may increase enough to roast the soil, melt the pot and labels or even burn all of it.
- Adding fungicide is optional,. It is not necessary to add these if you work in a very clean way.
- Also, the addition of fertiliser is not strictly necessary. In sowings executed without fertilizer, I have not noticed a real growing difference.
- It may happen that the seeds themselves carry micro-organisms. Some are harmless and do not attack the seedlings. But it also may happen that there are pathogenic fungi present. In that case a fungicide is used, or the seeds can be decontaminated with hydrogen peroxyde, diluted bleach, etc...)
- Since deep-freeze bags are made for food storage, they are free from micro-organisms.
- Bags of 18x20 cm are perfectly suitable for two square pots of 6x6 cm.
- The seeds are sowed after the sterilisation, not before !
- This method is applicable to all cacti, but it is particularly recommended for the so-called difficult slow growing species : Blossfeldiana, Strombocactus, Geohintonia, Aztekium, some Parodia... In that case, one year in the "baggy" is needed.
- The use of artificial light is not really necessary, but then, attention must be paid to provide enough light without full sun.

The Breizh bed

This is a kind of table-box, made by myself, from material I recovered here and there. It is simply made of 5 wooden boards. 2 upright (100x30 cm) making the sides and in between 3 horizontal ones (160x30 cm). Under each of the upper 2, there is a ramp of 2 fluorescent tubes of 1m50 (58W, but it is not necessary to get them that strong) so as to have about 20 cm between the upper side of the pots and the tubes. Better is to use 2 kinds of tubes, 1 Home light (red) + 1 cool white (blue), in order to get the light spectrum the plants need. They are sold in any "do-it-yourself" store or supermarket. There is no need for heating, since the fluorescent tubes already heat very much (almost too much). Correct air circulation is required to keep the temperatures beneath 30° C. In my opinion, ideally one should maintain a temperature around 24 to 28° C at day and lower at night - around 15 to 20° C. A timer gives 12h30 as a day and 11h30 a night. That should be the same as the luminosity during the

month of May.

Pictures :

- [Sight of the baggies](#) (17ko)
- [Pots inside the baggies and outside.](#) (25ko)
- [Sowings taken out of the baggies](#) (21ko) : the seedlings are 4 months old, in 6 cm square pots.
- [Seedlings](#) (48ko) : some months later, time to repot !

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