

The Easy Way to Grow Mammillaria from Seed

by **P I Moakes**

I use a "Sankey Propagator", approximately 22" x 15", heated, but without a thermostat and supplied with a capillary mat on the bottom. The best situation for it is in a south facing window, indoors.

Propagators can be purchased half seed tray size and I would recommend this size to start with, otherwise so many seedlings will be produced so that what is now a hobby will soon become a burden.

Seed compost is mixed as follows: 2 parts John Innes No 2 and 1 part Arthur Bowers Potting Compost. This is passed through a 24g sieve (normal kitchen sieve is about this gauge); add grit to suit! I always use 2" round pots, cut small pieces of capillary matting about 50mm long by 12mm wide, and tuck the ends in two holes in the base of the pots. This ensures a rapid take up of water and also seals the two holes off against the compost running through. Put about half an inch of compost in the bottom and tamp down, fill the rest of the pot to the neck and just tap to settle the compost level. Place in a small container containing boiled rainwater, if the compost is wet in about three minutes, the amount of grit added is O.K., if not, more grit needs to be added to the mixture. Make a note of the quantity of grit added for future reference. Having now got the correct mixture in this trial pot, we can continue.

Having made out your label and inserted it into the pot, sow the seeds, trying not to get them too close together, by gently tapping the packet they will roll out one at a time. Then place the pot into the container (boiled rainwater only) and leave to soak for about 10-15 minutes. Place the pot in the propagator having wet the capillary matting with, of course, rainwater. Wedge a Max/Min thermometer in the centre of the pots.

Switch on, if the day is sunny then shade (two sides of a Tesco shopping bag is exactly the right density of shading). I do find using chemicals like Chinosol and Benlate is not conducive to good germination and I never have trouble with damping off. This is probably due to the fact that I raise the propagator lid for a few seconds three times a day, this changes the air; in the mornings to check on germination, lunch times to check temperature, if 115oF or over I switch off until the next morning, if not I don't switch off until tea time. It is important that the night temperature does not fall below about 58oF. It is a myth to say that the best germination occurs between 72oF and 80oF, there should be a marked drop in daytime to night temperatures, as occurs in habitat, hence no thermostat.

After germination the pots are left in the propagator as long as possible. However, before the seedlings become leggy they are removed to another propagator with top ventilators open, for a further fourteen days. They are then transferred to the greenhouse, the pots placed in full sized seed trays which are placed on a shelf, the glass above being shaded with bubble glazing. The trays are lifted down for watering from the bottom with half strength Chempak _8 at every watering. Within a week or two the results are fantastic. Do not be in a hurry to prick out; leave as long as possible i.e. just as they are about to compress.

There is no Mammillaria seed which I have been unable to grow. Problem seeds I sow on the surface and the germination is often erratic. I leave the pots as long as possible, then remove from the propagator and remove ungerminated seeds with tweezers and resow in

fresh compost. I repeat this process until most of the seeds have germinated, which can take up to six or nine months with difficult species. However if there are no germinations after say 30 days, the surface of the compost will have become alkaline, due to alkaline salts being deposited on the surface during the process of evaporation, thus hindering the process of breaking down the inhibitor on the seed coat. Remove the seeds and sow on fresh compost (do not shake in rooting compound second time around). Plants from the Saboae group are a problem, but this lies with the seed. If seed of this group is harvested in October after that years pollination, it will not germinate as the seed is immature. I always leave the seed until well into the following year before harvesting; in fact two years is a good time. In the wild I think that the seeds are not released from their internal pods until they are at or about ground level and that may be two or three years. *Mammillaria goldii* I always sow at this time of year (November) as I get good results.

I will end with a few cultivation tips:-

- *Mammillaria goldii* give a light spray on warm winter days, it encourages the fine roots not to dry up.
- *Mammillaria herrerae* mix a teaspoonful of horticultural Gypsum per pot when pricking out and grit around the base of the plant.
- *Mammillaria wolfii* leave as long as possible before pricking out, use 50% grit and grit around top of root and base of plant, keep on top shelf or high up in the apex of your greenhouse. They like quite a reasonable amount of water during hot Summer weather but must have plenty of light. I always run a fan which I keep about 3 feet from the door and put the plants right up in the apex at the far end so that they get the warmer air. They do not mind low temperatures in Winter but if coupled with high humidity - it is disastrous!!
- *Mammillaria mainiae* keep underpotted in the smallest possible pot, grit around the top of the root and base of the plant. Place larger grit in the bottom of the pot for drainage.
- *Mammillaria tetrancistra* I find quite easy, careful when potting not to damage the tuberous roots - a favourite for red spider mite!
- *Mammillaria thornberi* repot every year into a shallow pan or half pot, and put large grit in the bottom for drainage.
- If you want really good plants repot every year, even if they go back in the same size pot - it works wonders!!