

GERMINATION

After many years of gardening and as a nurseryman, there are two things which never fail to thrill me.

The first show of seeds germinating, bringing new plant life into the world is number one in my book. When I had nurseries in the past this would often be a daily event with trays of seeds sprouting out of the growing medium seeking light to sustain their growth.

The other event is when a crop reaches maturity to be harvested and the pride one has from seeing the results of your care from germination to harvest.

This not only applies to food crops it can apply to annuals, ornamentals and trees.

When plants are a bit more difficult to grow and reach maturity then the reward of seeing the final result is even better.

I remember how I used to germinate hundreds of cyclamen in a hot water cupboard during winter for growing on later in the nursery..

Cyclamen germinate best in warm dark situations and once they sprout, they produce a round bulb about 2mm in diameter with one baby leaf protruding from the top.

As soon as this happens the seedling tray is taken out of the dark and placed in a shaded area of a glasshouse to prevent stretching of the foliage.

Its the middle of winter and the day light hours are short so very little growth is seen till the spring.

With increased light hours the bulb expands to 3 or 4 mm and more tiny leaves join the one.

More leaves means more energy from the sun and its not long before each tray with say about 300 baby cyclamen become a bit crowded.

Time to prick out and place each baby plant into a 'grow' tube. In its individual small pot the cyclamen bulb will grow on to about 10mm diameter with a nice number of leaves, progressively getting bigger.

Cyclamen do not like heat and full sun; they need to be moistened down but not over watered which would cause rots and loses. About the beginning of summer they are ready to pot up into a 8 cm pot where they will grow to the size of a miniature cyclamen.

The danger of over watering in the heat of summer is a problem and there is the chance the crop with be attacked by grass grubs (who love eating the bulbs from underneath) along with possible attacks from aphids and mealybugs. The plants are kept in a shaded, cooler area and given sufficient water to prevent drying out.

As summer days start to shorten about February to March the cyclamen are repotted into their final pot size of 20cm. Its a big pot which allows ample root room for development making for a mass of

foliage.

The cooling temperatures and the shortening day light hours trigger the plant's need to reproduce so flower buds are produced.

The need for shade is not longer applicable so the full autumn sun can bath the plants in a well ventilated glasshouse. The first flowers open and the sight of a few thousand cyclamen ready to be sold is a real thrill. There often has been losses along the way and that is just part of the game and is expected, but hoped that most of the crop would reach maturity.

The final pleasure would come from customers that would phone to proudly say that their cyclamen now has over a hundred flowers and is also a pride and joy to them.

All from a little seed about 1mm in diameter and one year in the making.

If the plant is placed in a breezy situation many of the flowers will set seed and the large seed pods can be harvested later on to start the cycle all over again.

Successful germination depends on a number of factors which can vary greatly from species to species.

Some species must have stratification prior to germination.

This means in nature that these plants will flower in summer/autumn, drop their seeds onto the soil where wind and rain will help cover them. There they sit through winter in a cold to very cold soil which is their prompt to prepare to germinate.

When the soil temperature warms to 10 degrees or more then germination will happen.

For us to achieve the same results we need to store the seeds for a number of weeks in the fridge. The length of time will depend on species and information of the time needed can be found in propagation tables.

I prefer to place all my seeds into a fridge inside sealed glass jars to store. They always germinate better after their artificial winter. I even have tomato seeds over 30 years old stored in this way and when taken out they still have a 25 to 50 % strike rate.

When you come to germinate seeds the first rule is; They will grow a better plant if germinated in the soil where they will mature.

The reason for this is that the initial germination sends out a tap root (in many plants) which is very fine and will penetrate deep into friable soil.

If germinated in a seedling tray that root does not go very far and the resulting plants will never be quite as good as they could be.

When grown in the garden the initial root/s will attract beneficial fungi which greatly improves their development.

If we take an extreme example of say a carrot or parsnip seed and germinate in a container to transplant later we would end up at maturity with a short stubby carrot if we are lucky.

Beans, peas, pumpkins, zucchini, carrots, parsnips are all best germinated where they will mature and it is amusing for experienced gardeners to see seedlings of these for sale.

Buy a packet of seed as its a lot better and cheaper or collect your own seed when able to.

If you allow plants to mature and seed then collect the seeds to grow the following season. This can be repeated again and again, year after year then you will produce a strain of plants they have adapted completely to your growing conditions and will produce better plants every year. Choose only the best plant to allow to go to seed.

All vegetable plants should be direct sown from seed for best results.

If you compare a self sown tomato plant to a seedling purchased and transplanted into the garden you will notice a marked difference in most cases.

If you want to germinate seeds in a seed tray then your success will be increased if you have a propagation heat pad to sit the seed tray on. The underneath heat with ample moisture are a must for good strike rates. Spray any seeds you wish to germinate in the garden or in a seed tray with Magic Botanic Liquid (MBL) it can help reduce the germination time by half obtaining a better strike.

As soon as the seeds send up a shoot get the tray out into good over head natural light otherwise the plant will stretch and fail.

Use only non chlorinated water (filtered water) and talking about chemicals in water "A recently-published Harvard University meta-analysis funded by the National Institutes of Health (NIH) has concluded that children who live in areas with highly fluoridated water have "significantly lower" IQ scores than those who live in low fluoride areas." The poison contributes to behavior problems as they grow also.