



BEGONIA SOCIETY OF WESTERN AUSTRALIA

Growing Begonias

Info. Sheet 1

Pruning and Re-potting

Depending on how many plants one has, this can be quite a chore; but if the grower has an adequate supply of potting mix, a range of clean pots and prepared propagating mix, the task is easier, because a few plants can be tackled when time and/or weather allow.

It is a time for growers to closely examine their plants. The shape, health and vigour of foliage, new and potential basal shoots and, most importantly; the condition of the root system.

Cuttings or seedlings which were potted up late last season may not need any attention. If they are looking good and putting forth new growth, they can be left as is until they need re-potting and perhaps, tip-pruning. If they seem reluctant to grow, fresh mix may solve the problem.

Most of the rhizomatous and spring-flowering trailers are pruned/re-potted when they finish blooming - about November.

SHAPE

This is your choice. The intermediate canes (Bs. Mandarin, Orange Rubra, Lois Burk etc.) and many shrub-like ones lend themselves to a low-growing bushy style. Very suitable for a hanging container or squat pot. The bonus being that there is no, or very little staking needed. Severe pruning and early pinching is required to achieve this shape and to force out lower growths to cover the container rim and balance the shape of the plant.

The tall-growing elegant canes should be well pruned and stems staked early so they can be trained into a classical shape.

We sometimes lose Begonias because of unsuitable mix, saline or contaminated water, wrong environment or over-fertilising, but it would be very rare for a plant to die because it was pruned. Be adventurous and have a go. Remove all large leaves, ugly, diseased or spindly growths to give a good view of the plant. Now prune the remaining stems. You may not achieve the shape you desire first off, but experience is a great teacher.

ROOT SYSTEM

Healthy mature plants from last season should have filled the pots with roots. There will be little excess mix and the roots will be a healthy brown, showing cream growing tips. If the plant is to be placed into a larger pot, the sides and base of the root-ball can be lightly teased to encourage the roots to grow into the new mix. When the plant's size needs reducing so that it will fit back into the same sized pot, the root-ball can be reduced or the plant divided. The old mix should be teased or washed away and a third or even half of the old roots removed. This will stimulate fresh root growth, just as stem-pruning does to the plant. The smaller root-ball will enable the plant to be placed deeper into the mix than previously. Always being careful not to damage any emerging basal shoots.

On the other hand, if the exposed roots are very dark, with few, if any, fresh growing tips and there is excess boggy mix, drastic action is needed. Wash the roots clean of the old mix and prune back depending on how large the root system is. The top growth will need to be pruned to compensate for the loss of roots, so that the new root system will have less foliage to service. Plant into a fresh proven mix with extra Perlite to allow more air-spaces for the emerging roots. Do not fertilise until fresh foliage growth indicates that the new root system is functioning.

L.Kilpatrick



BEGONIA SOCIETY OF WESTERN AUSTRALIA

Growing Begonias

Info. Sheet 2

Potting Mixes

Here in WA it seems the biggest problem for Begonia growers is finding or producing a suitable potting mix. Just when we are confident with a particular brand, something in the mix changes and we have many unhappy Begonias. If you have found a mix which is suitable and reliable, keep right on using it.

A FREE DRAINING MIX: That is, when a potted plant is watered, it drains immediately. No water is left standing on the soil surface.

If a mix is allowed to become too dry it may temporarily resist added water. The solution is to stand the pot in a tray of water and continue watering until there are no air-bubbles escaping from the drainage holes. Of course, ideally no mix should ever be allowed to become so dry.

Most commercial mixes have excellent drainage because of the pine fines and gritty sand used. If an extra loose mix is required for special plants, Perlite can be added. This does not change the pH or chemical make-up of the mix.

THE Ph OF A MIX: A measure of the acidity or alkalinity of a mix. Most Begonias prefer a pH of 6.5. That is, slightly acid. The pH of some mixes is suitable and stable. Others are not. Depending on the original pH of the mix, the quality of water used and the type and frequency of fertiliser used, the soil pH will gradually reduce. If or when a healthy plant stops growing and looks 'tired' the grower should firstly check the pH of the soil. If this is acceptable, then look for other reasons. The mix of a plant which is potted up in spring and is in the same mix six months later will possibly have a lower than desired pH. This can be remedied by watering with a solution consisting of one teaspoon of lime (hydrated or dolomite) in nine litres of water; being careful not to over-do it, because an alkaline soil can be very damaging. Unfortunately, the only way of measuring the pH is by testing the soil - which is tedious.

Some commercial mixes contain fertiliser and a wetting agent. The fertiliser is usually short-lived because of leaching and the wetting agent could be detrimental. The roots of a newly-potted cutting or seedling need to be searching for moisture and nutrients, so that the roots soon fill the small container and the plant can be potted on. If the soil is evenly and continually moist, the roots will have no need to be adventurous. Also, in the cool months of spring and autumn, the mix may stay too damp for too long. Slow-release fertiliser was a wonderful invention, but is not activated until the soil warms - sometimes in late spring. In the meantime, we can liquid feed except that this may keep the mix too wet. The alternative is to add some fertiliser to the mix to nourish the new roots until the slow-release kicks in.

A recommended mix of nutrients is:-

5	parts by volume	blood and bone	180 g into a total of 4 x 9L buckets of potting mix.
3	parts by volume	superphosphate	After mixing, if necessary, add enough lime
1½	parts by volume	potash	to bring the pH up to 6.5.
1¼	parts by volume	sulphate of iron.	

A few years ago, Ross Bolwell, a prominent grower and breeder of begonias from N.S.W., trialled a number of plants for salt-tolerance. He found roses had a high tolerance and wouldn't you know it, begonias had one of the lowest. The salt can be in the potting mix, which will gradually leach out (hopefully before it does much damage) or in the grower's water supply. The signs are a build-up of white substance around the drainage holes and/or dried lead-tips. The remedy, if possible, is to saturate the soil once or twice a week with good quality water.

We should all be aware that regardless of brand or price, a mix is only as good as the quality of the ingredients used. Sometimes, for commercial reasons, the process may be speeded up and the mix is not composted for as long as is ideal. This applies particularly to pine fines, which if too fresh can be toxic for begonias. If necessary the grower can leach 'nasties' from the mix by placing same in a large bin with drainage holes and saturating with good quality water every few days over a couple of weeks.

L Kilpatrick
2006



BEGONIA SOCIETY OF WESTERN AUSTRALIA

Growing Begonias

Info. Sheet 3

Watering Begonias

How often shall I water my Begonias? A question so often asked and there is no simple answer. Like all other plants Begonias are watered when they need it. Fortunately a plant's need for water can be assessed by sight or touch unlike problems with P.H. or toxic soil. A caring, observant grower will soon learn to recognise the signs.

There are many conditions which will affect the amount of water a plant requires and how frequently it is required - temperature, humidity, size of plant in proportion to pot size, wind, type of pot (plastic, ceramic, clay), quality of soil.

With low temperatures &/or high humidity the plant will not need to transpire as much moisture to cool and moisten its foliage. In hot or very dry windy conditions the plants will give off and so use much more moisture.

A vigorous plant with a healthy root system will soon fill the soil with roots. Less soil to hold moisture and more moisture needed to service the growing plant. The solution is to place the plant in a larger pot or water more frequently.

When a plant is potted on and so has extra soil or a seedling or freshly rooted cutting is potted up less frequent watering is needed because there is surplus soil to hold the moisture. As the plant grows and the roots fill the pot watering will have to be increased.

The type of container used will make a big difference. Plastic or ceramic pots lose water from the surface soil only, through evaporation and of course that which the roots take up, where as clay pots lose water through the porous clay. Wonderful for keeping the soil and roots cool but demanding in our hot, dry summers. The same applies to hanging containers where fibre liners are used. I use fibre liners because I think they look good and allow good air flow to soil and roots but once the roots have filled the soil they will need extra water. Certainly in our climate they will need watering every day and probable twice on our hottest days.

The quality of soil has a bearing on the amount of water it will retain. Potting mixes which contain animal manure, compost, peat moss, Vermiculite or such will naturally hold moisture longer than those with little humus. Some growers use water crystals or other moisture holding properties to help retain moisture in the soil and this has to be taken into account.

A grower could keep a check list and each morning tot up the points for heat, wind, size of plant, etc, but a loving, observant grower soon gets to know their plants and recognise their needs.

Begonias do require air spaces in the soil to breathe and if these aren't available over a lengthy period, the plant will die. At the same time there must be moisture available which the roots will reach for. So the ideal is to water your plants thoroughly and leave to drain. If the soil is free draining (containing grit, Perlite) and has a proportion of humus (animal manure, peat moss) air spaces will be left between the solid particles as the surplus water drains away while the humus will retain moisture which the roots can use as needed.

L Kilpatrick
1999



BEGONIA SOCIETY OF WESTERN AUSTRALIA

Growing Begonias

Info. Sheet 4

Propagating from Cuttings

Late Spring is a great time for propagating because the weather is warm enough for cuttings to form roots fairly quickly and the plants can be potted up and established before the really hot weather arrives. One of the weapons against our extreme heat is for plants to have good, healthy root systems which enable the plant to take up plenty of moisture to compensate for the rapid transpiration from the foliage.

A recommended propagating mix is: six parts Perlite, two peat moss, one gritty sand, one vermiculite. I find this is excellent for many cuttings but perhaps a 'softer' mix is more suitable for use in closed containers when propagating leaves and wedges.

In closed containers a mix of 50/50 sphagnum moss and sieved Perlite is usually successful. Another method is to place about 1.5 cm of sieved good quality potting mix in the base of the container and make sloppy wet with good quality water. Cover this with the same depth of sieved Perlite. The Perlite will soak up the surplus moisture and may need extra water to ensure that the Perlite is thoroughly dampened. Drainage holes or not is the grower's choice. The wedges or leaf-stem cuttings are inserted about half their depth into the mix. Whether plantlets form more quickly in this latter mix is debatable because of the different varieties of plants used, but the cuttings certainly make much larger root systems, which has to be a plus.

A closed container is a container with a fairly firm fitting clear plastic or glass cover. Plastic is safer and does not conduct heat so efficiently. The plastic containers with clear covers in which cakes and salads are sold are ideal. The containers should be placed in a warm, well-lit situation, but never in full sunlight.

A leaf-stem cutting is where a leaf with about 2cm of stem attached is used. A small leaf may be used as is; larger leaves can be cut down, leaving about 3cm of blade surrounding the stem. A wedge is any piece of a leaf which contains a main vein.

Nearly all rhizomatous, Rexes and distinctive foliage plants will grow from leaf cuttings. In the warmer weather plantlets should appear from four to twelve weeks, depending on the variety. Rex leaves usually seem to be the easiest and quickest to grow, so are good types for beginners to use and be encouraged.

The propagating mix must always be kept very damp and in the hot weather may need rewetting occasionally. Frequent misting with a liquid fertiliser is beneficial and may encourage cuttings to produce plantlets earlier.

If you are having a problem finding a misting bottle which lasts more than a few weeks, try using an emptied household cleaner sprayer container - pre-laundry spray or such. Of course, after thoroughly washing same.

Lyla Kilpatrick
2004



BEGONIA SOCIETY OF WESTERN AUSTRALIA

Growing Begonias

Info. Sheet 5

Pests and Diseases

For Begonia growers the winter and early spring months are very long but by now we can expect some good growth. Unfortunately the warmth also activates the pests and diseases which adversely affect our Begonias. It's a sad experience for growers when the first beautiful leaves unfold and they are already perforated with tiny holes or distorted by thrip or mites. Such leaves may as well be removed now because they are not going to improve. As the leaves grow so do the holes and the damage done to the main veins by mites/thrips won't allow the leaf to expand naturally. So early prevention is the answer.

MILDEW: Is at its worst during spring and autumn when we often experience warm days and chilly nights. A cover spray early in these seasons should prevent a lot of damage. Certain varieties of Begonias are more susceptible right through the season - semi tuberous, sutherlandii, Rexes, some shrub-like, canes and others. The grower will have to observe and learn which plants can be problems. Mildew will often appear first on the undersides of leaves so these should be checked regularly. The easiest, most effective and cheapest way to spray a few plants is to use a 500ml misty-bottle. Lift the plants up and thoroughly spray the undersides of leaves as well as the upper surface. Kendon Triforene is the spray we have always used and found effective. Other brands of Triforene are now on the market and we need more information on them. Wettable sulphur is also used to control mildew but will leave a heavy residue which will make the plants unsightly for some time.

LOOPERS: Hungry, destructive little beasts and nearly always prefer the tender new leaves. For the grower with a small number of plants, thumb and finger is a pretty deadly treatment but unfortunately the newly-hatched creatures are very tiny and usually gravitate to the undersides of new leaves where the grower does not see them. The first sign of trouble is the small holes and a new leaf is ruined. A cover-spray is the best insurance. Defender Grasshopper Caterpillar Carbaryl spray is very effective. Dipel will also do the job but the residue will cling to the leaves for weeks so should never be used just prior to a display. Be wary of oil-based sprays. If used during the warmer weather they will burn the leaf edges - including and especially new leaves on rhizomatous.

APHIDS & THRIPS: Like loopers, aphids can be crushed or hosed off but the unhatched eggs remain and perhaps the most damaging aspect is that aphids often carry thrip which we don't see until the damage appears. The first visible sign of an infestation is distorted new leaves. If you turn the leaf over you will probably find adult and many tiny aphids. The thrip are invisible to the naked eye. A systemic spray such as Rogor is needed because it will catch any late eggs hatching. David Gray's Systemic Insecticide granules should also control them.

BEGONIA/CYCLAMEN MITE: These are the most destructive of pests and cause the ugliest damage I have ever seen on a plant. Mites are invisible to the naked eye and usually set up house in embryo buds - flowers & leaves. The first sign is that the plant just stops growing and then gradually produces distorted, blackened leaf and flower buds. The whole growing tip will be affected and the best treatment is to remove the stem back to a healthy side shoot. Mature leaves which are affected will first show a shiny, silvery surface and if turned over the rusty scarring will be obvious where the mites have chewed the surface to get to the sap.

Mites very favourite foods are tuberhybridus & Elatioris. I would suggest if you grow these plants untreated in our climate you WILL have problems.

Their second choice is rhizomatous and calla semps, but they aren't always so choosy and will attack canes & shrub-like. The rusty marking on leaf undersides and damaged main veins are always the clue.

David Gray's Miticide containing Kelthane will kill the adults but the plants would need to be sprayed weekly to catch the babies as the eggs hatch. David Gray's Systemic Insecticide granules is the better treatment. The instructions say it is effective for 6 weeks but allowing a few days for the plant to take up the poison and assuming that the affects would lessen towards the end of that time, I suggest using the granules every five weeks. The hotter and drier the weather the more active mites will be. Ralph Willsmore says wettable sulphur is effective but each growing tip must be saturated regularly and of course it does make an awful mess of the plant.



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Growing Begonias

Info. Sheet 6

Winter Care

Because Begonias are not winter-loving plants, our main aim is to provide them with as much warmth, protection and light as is possible.

It is difficult to provide warmth in a shade house; the best we can do is to place the plants up on benches to avoid the sinking, colder air and, wherever possible, in sun-light which is filtered by shade-cloth or fibre glass. The clear plastic seed tray covers are ideal for protecting small plants of distinctive foliage, rhizomatous, or seedlings of any type. They allow optimum light, protection from cold draughts and trap day time warmth. Of course the cleaner and clearer they are, the better, so now is the time to give them a good wash and perhaps rinse in a solution of 1 to 10 household bleach, to deter any nasties.

Small plants in glass closed containers can be brought indoors for the night where it will be a little warmer. Once the morning warms up, they should be moved outside where they can enjoy the days light and warmth. Polystyrene boxes with lids are another way of keeping small plants over the winter. There is some insulation against night temperatures and the closed lids maintain humidity. The plants will probably grow a bit lanky from diminished light, but they will survive, Then there are the large, opaque plastic containers with lids. These will accommodate quite a few small plants and could be brought indoors on extra chilly nights. The cane stemmed, shrub-likes and semi tuberous will most likely shed many of their leaves and some growing tips may die back, but come the warmer weather they are ready to start growing again.

Mildew can be a problem in autumn. The sudden drop in evening temperatures causes condensation to form on the foliage, which provides the ideal breeding grounds for mildew. Because the leaves will be shed anyway, these may as well be removed now. About every alternate leaf and certainly any old, damaged or diseased ones. This will allow more air and light into the centre of the plants to help combat disease. Autumn is the time for a complete cover-spray of fungicide. It is a great mistake to place plants into a closed or semi-closed environment before spraying. The pests and/or diseases will also thrive in the protected conditions. Yates 'Rose Shield' is a combined fungicide/insecticide and so far has caused no damage to Begonias - I am not sure if Tuberous blooms would tolerate it.

By the end of May, the tuberous will have stopped actively growing and it is time to remove all flowers and growing tips to force the nutrients into the tubers. Watering should be limited, to allow the plants to gradually die down. The leaves will start to yellow and segments of the stems will gradually break off. Remove any fallen leaves etc, to limit the breeding-ground for botrytis. Leave the tubers in the mix until the last segment of stem has naturally fallen away. After a week or so, the tuber can be lifted and left on a bench to dry out and the skin to toughen up a bit before the tuber is cleaned.

Watch any large rhizomatous plants, where lower leaves can be shed and perhaps cause rot, which may spread into the rhizome. The grower may choose to remove any lower, older leaves before this can happen.

As the weather cools and plants stop growing, they will require far less water. Only water as necessary to prevent wilting and always early morning, to allow the foliage to dry before evening.

Seed-raising or propagating the more demanding varieties from leaves can make the winter season more interesting. If small closed containers are used, they will fit onto a window-sill and will benefit from light and indoor warmth. A bit slower than summertime propagating, but rewarding.

L Kilpatrick
2005



BEGONIA SOCIETY OF WESTERN AUSTRALIA

Growing Begonias

Info. Sheet 7

Staking and Training

Staking, training and tying the taller growing Begonias is so important. If we are lucky, the stems will grow in just the right position and will only need supporting, but sometimes they are difficult. Two or three stems may grow close together, leaving open, bare spaces while some stems decide to grow horizontally. This can be remedied by GRADUALLY forcing the stem into a more desired position.

Insert a strong stake into the soil at the base of the problem stem, on an angle so that the top of the stake is approximately where the preferred position of the stem would be. Using long ties gently pull the stem into position. Check weekly and hopefully the ties can be shortened until the stem is naturally growing up the stake.

Depending on the length, diameter and type of stem it may have to be tied every ten to twelve centimetres to properly support it. Use the green tie-wire and always have the 'knot' towards the centre of the plant.

Staking should always be as inconspicuous as is possible. The large stemmed, tall-growing canes will require fairly strong stakes to support the weight of large leaves and blossom. When put in situ the stake should be considerably longer than the stem so that the stem can be tied as it grows.

Most bamboo stakes are tapered and the thinner end should always be uppermost. A few days before the Show, if necessary, this upper piece of the stake can be cut off just below the top set of leaves, giving the stem good support without the stake showing above the foliage. For smaller plants with slimmer stems there are finer bamboo stakes about 60 to 70 cm long which are ideal.

Unfortunately many of the green coloured bamboo stakes will lose their colour quite rapidly and a cream stake is very obvious. The solution is to give the stakes a coating of green paint before using. Preferably, a suitable green.

This staking and tying is not a job to be left until the last week or so. A hastily staked and tied stem is usually obvious and sometimes incongruous. While checking, staking and tying also remove old, tatty leaves and blossom.

Keep a check on the dwarf canes, shrublikes and semps. No matter how healthy and nice, a ten centimetre stem poking out of a plant does not add to its beauty. If removed now, new growth will soon fill the space. Blossom is soon spoiled during the hot weather and will not recover, so should be removed. If the flowering stem is cut back to a growing tip it will re-grow and bloom during the cooler Autumn weather, when the blossoms will remain lovely for a longer period.

TUBEROUS

Check the ties on the fleshy stems. Tuberos are inclined to have bursts of growth and a stem can be 'ring-barked' while your back is turned.

Spray preventively for Begonia mite. 20 mls of Pestoil to 1 ltr of water, saturating all growing tips. Use Pestoil ONLY when the forecast temperature is less than 30 degrees. (If that happens). Remove all flower buds until the plants are in their final pots --15cm, 20cm

Lyla Kilpatrick
2003