

BROMELIADS, PART THREE Propagation and Pests

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Pests are infrequent when all material has been pasteurized or treated and the plants inspected regularly. Tips, margins and young seedlings may fall prey to black "Flyspeck" Scale, and grey "Palm" Scale. Two malathion applications two to three weeks apart (1 tsp 57% EC/gal) will help insure against scale as well as mealybug, the gossamer masses of which are often unseen. The entire plant may be removed from the pot and emersed in malathion solution (Wilson and Wilson 1963). Bleached areas at the margins and tips of thin-leaved species and seedlings as well as rusty-red spotted areas (on underside particularly) are evidence of spider mite. Either Kelthane (2 tsp 18.5% EC or 2 Tbsp 18.5% WP/gal) or a combination of Black Leaf 40 (2 tsp/gal) and Red Arrow Spray (1 Tbsp/gal) will aid in eradication (Wilson and Wilson 1963). Oil sprays should never be used since scales may become clogged.

Fungus diseases are rare, but sometimes result from rapid temperature change, mechanical injury, insects or drought. Dark spots with sunken "water-soaked" areas are telltale signs, especially when a radiating yellow ring surrounds the spot (Wilson and Wilson 1963). These dark areas should be removed with a sterilized knife. The plants are then sprayed or dipped in Captan 50 WP (1 tsp/gal) and refilled the next day (Wilson and Wilson 1963). Fungal symptoms should not be confused with old-age yellowness.

Propagation is effected in two ways. Most species produce large numbers of seed which as a rule should be planted as soon as possible, although Aechmeas, Dyckias and Billbergias retain viability for months (Cutak, undated). Seeds may be produced by applying pollen, which must be dry, to a damp and receptive stigma. Pollen should be removed from the flower as soon as the flower opens to allow moisture to evaporate. Two hours later, by the time the pollen has dried sufficiently, it may be placed with a brush onto the viscid stigma. Billbergias and members of the subfamily Bromelioideae produce berries stuck in the pod with a gelatinous substance which must be removed to prevent fungus.

Seeds of the subfamily Tillandsioideae have plumose threads and germinate on mossy branches. Tillandsia, Vreisia and Guzmania sp. are among the more difficult to propagate (Cutak undated).

Shredded fern slab or a bed of milled sphagnum may be employed for propagation. Keep warm and slightly moist, with some circulating air. A raised pane of glass over the propagation device is ample. Complete drying out should be avoided and germlings should be shaded somewhat. Xerophytics are started as with cacti--in half sand and half loam, a finely screened mixture occupying the top half-inch of the pot or pan. Seeds are sprinkled on top with a 1-2 grain-thick covering of sand. After an initial bottom-soak (remove from water when darkness is first seen at the surface), preceded by a fine captan sprinkling. Glass is placed on top with no further watering required for a while. Protection from very high temperatures or drying out is essential. Germination is accomplished by many hobbyists by keeping seeds damp on facial tissue.

Space should be left between seeds since bromels are not happily transplanted and should not be lifted from the propagating device until at least 2 inches tall. Small pots should be utilized. Under optimum conditions Aechmea, Billbergia and Neoregelia will produce inflorescences in three years from seed (Cutak undated). A few Araeococcus and Billbergia species will bloom in two years (Fitch 1973). All bromeliads in the mature state will flower eventually, although it may take from one to twelve years (Padilla 1973). If the young plant does not produce an inflorescence, change the position in the lathhouse or conservatory, give more light or more heat.

One to three years are required after flowering for the mother plant to wither away. During this time basal offshoots or "pups" will be produced. Most species flower only once in their lifetime. From one (only one in Vreisia splendens) to a dozen or more suckers may be sent out. These should be cut away since this will permit the mother plant to throw more. A "callousing" period of several days is practiced with the severed "pups." Removal may be accomplished when offshoots are 4 to 6 inches high and firm at the base with characteristics of the mother plant or when roots are visible. Bottom leaves of the separated offshoots may turn brown, but there is no need for alarm unless the center rots (Wilson and Wilson 1963).

Severing at the base with a sharp knife is easily done with many genera such as Aechmea. Placement in a bed of German peat with perlite may be bypassed by rooting in a small pot. A few of the smaller bottom bract-like leaves should be removed. Placement in the medium should be such that the "bulge" lies just above the soil line (Fantastic Gardens Bromeliad Leaflet undated). As always, drainage is essential. In addition, it has been asserted by some plantsmen that an occasional drying out may encourage root growth. There is, however, no evidence for this.

With Guzmania, Neoregelia and Vreisia, offsets grow very close to the mother with little basal wood (Wilson and Wilson 1963). Since it is not always practical to wait for roots, severing should be done when pups have attained a height of 4 to 6 inches. Bend the sucker slowly away, grasping as close to the base as possible. Next, bend to the left and right. If tearing seems likely, stop and either sever with a knife or, if not badly ripped, place mother with attached pups in a peat and perlite bed. If all mother plants are planted in such a bed, pups will be free to root adjacently. This is the method practiced at Roehrs which seems highly efficient.

When potting severed specimens after callousing, be sure that the plant is firmed in a small pot. If lower leaves are just even or slightly beneath the medium surface and the plant stands firm after watering, success is on its way. If the plant remains unstable, a wire loop on a stake may be temporarily used. Do not use galvanized or copper wire since bromels are badly injured by physical and chemical exposure to these and other metals such as lead and arsenic (Wilson and Wilson 1963). Transplanting to a 5-6 inch pot (orchid pots with slit sides are excellent) will be necessary, but at all times underpotting is preferred and frequent transplanting is undesirable.

With small operations, layering might be attempted. Offsets are scraped to base "wood" surface and enclosed in a firm ball of peat (Milstein undated). If taken too immature, the pup will sit until hardening occurs and it is sufficiently mature to root (Wilson and Wilson 1963). In trials at UConn, Hormodin No. 1 gave no better results than simply waiting for the unencouraged, small white root tips. In Cryptanthus sp. offshoots will frequently fall off and root. This compact genus is particularly adaptable to containers and home culture and may prove itself a great commercial success in the near future.

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