BROMELIADS, PART TWO

Culture: Water, Humidity, Ventilation, Temperature, Fertilization

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In nature, bromeliads receive some form of water almost every day. Some are residents of branch crotches and the floors of rain forests. Desert as well as rock-loving xerophytes receive nightly baths of dew or are coastal with a continuous shower of mist. Still others survive on fog-borne dampness or are inhabitants of riverbanks.

This humidity factor should be simulated in any greenhouse but is often overlooked by the home grower. Although plants may survive for years and even throw offshoots, most species demand (and all appreciate) a pebble tray or humidifier in the home. Trays may be of fiberglass, plastic or metal or may be constructed of scrap lumber and fitted with a heavy plastic sheet. They may be made to fit a windowsill and should be filled three-fourths (Milstein 1971) with perlite, builders sand or gravel. With warmer species the owner may want to outfit his tray with a heating cable. Humidifiers are relatively inexpensive and for the serious "bromel-addict" may also serve to circulate air in addition to throwing off two or more gallons of water in an 8-9 hour night (Milstein 1971).

Some Tillandsia growers have found a third purpose for their humidifiers--as air-fertilizer applicators. Drs. Oeser and Milstein (Milstein, undated) believe in the ability of these plants to extract nutrients as both metallic and organic compounds

from the air. High scale density permits the Spanish Moss relatives most efficient use of available atmospheric water and nutrients.

Greenhouse watering is a simple matter. Those plants with tubes should not be allowed to become empty. If kept filled, they will suffer less in home dryness than unwelled sorts. Heavily-scaled species suffice with frequent light syringings appropriate to the season.

Terrestrial xerophytes may be treated like cacti, waterings being thorough with a good drying out in-between. Overwintering of these desert species in a 55° house is practiced here at the university and has resulted in annual flowering. "Wet feet" should not prevail at any time and root deterioration and leaf discoloration should be immediately investigated.

Epiphytic species without vases may be watered over their leaves, with the potting media remaining damp but not soggy. Overwatering is more frequent than underwatering, and most species easily tolerate a complete drying-out at the roots in between. Avoid water processed by water softeners of the ion-exchange type wherein sodium replaces natural calcium (Wilson and Wilson 1963). Likewise avoid water impregnated with salts. In summer use water the temperature under which the plants are growing, switching over to warmer-than-air water in cold weather.

Perhaps the most frequently forgotten factor in bromel culture is ventilation. Only dryness and stagnant air prevent the bromeliad from becoming an ideal houseplant. Provision of humidity and flowing air is not as simple a matter as it is with most indoor plants.

The shopowner who publicizes easy-care culture would do well to include a "care card" on the subject of these two cultural subjects.

For the greenhouse grower attempting to supply his bromeliads with optimal growth conditions, the circulating effect of evaporating water in the greenhouse should be supplemented with a slow-moving fan (see Conn. Greenhouse Newsletter No. 56). This is especially so in the winter when some species are putting on their greatest growth, and when the other alternative of opening a window away from the plants might be objectionable.

A temperature not exceeding 75° and not falling below 55-60 at night will suit bromeliads. Those species with moisture-conserving scales will take higher temperatures. Raised humidity may compensate for higher temperatures. One expert has stated that constant night temperatures of 45-50° have not injured any plants (Milstein undated). Winter coolness should be coupled with a significant reduction in water and, at all times, chilly drafts should be avoided.

"Tube" fertilization should be at half or less strength every four weeks provided that all other growth conditions are excellent (Wilson and Wilson 1963). Root fertilization may be done every other time. A liquid 1:1:1 is suggested (Sheehan and Conover 1973), and higher levels may cause droopy leaves (Cathay and Taylor 1972). Powders have the tendency of not dissolving completely and the solution upon evaporation may result in a precipitate, burning the leaves or roots (Wilson and Wilson 1963). Fish-oil emulsion is recommended, as is 1 tsp. cow or sheep manure per 5" pot, every few feedings.

PH recommendations are not available at this time although mix should, as a rule, be kept on the acid side (Padilla 1973). A few species dwell in limestone crevices and once again some study of the plant's homeland may prove worthwhile.

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