Water Orchids Daily

by

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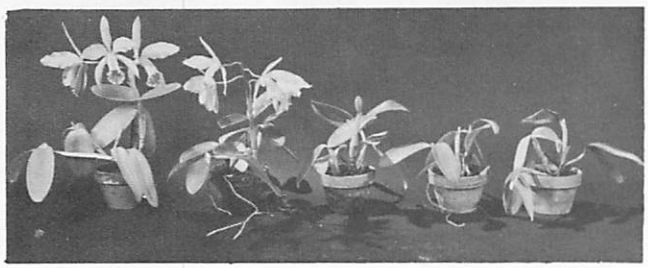
Cattleya orchids watered daily through the year were larger and produced more pseudo bulbs and flowers than when watered less frequent. This experiment with Cattleya orchids shows similar response to watering as the work with Phalaenapsis.

The daily watering resulted in the production of the largest pseudo bulbs and flowers while watering at five and ten day intervals resulted in poor growth. No flowering occurred when watering was at ten day intervals and three of the six plants died at the end of six months

Daily watering is generally assumed injurious to the root system of Cattleyas and it is said that the osmunda peat decays rapidly with excess of water. The osmunda peat was in good physical condition after one year and healthy succulent roots were produced on the plants watered daily.

Thirty plants of Cattleya labiata variety Amesiana were donated by the L Sherman Adams Company of Wellesley, Massachusetts. They were selected for uniformity of size, repotted and the experiment started on October 31, 1951. Each plant was pruned so that five pseudo bulbs remained, the roots were freed of the old osmunda peat and the roots (dead and alive) trimmed to a length of four inches. Plants were grown in three-quarter size pots four inches in diameter. Osmunda peat was used without the addition of other material to improve the drainage.

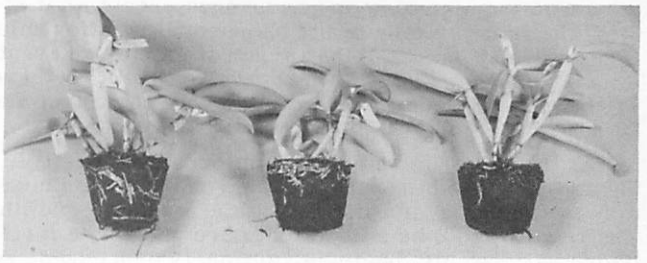
The night temperature of the greenhouse was 65°F, when outside temperature permitted. Six plants were used for each of the following treatments: constant water level, watered daily, watered every third day, watered every fifth day, and watered every tenth day.



C. labiata var. Amesiana. Left to right: constant water level, watered everyday, watered every third day, watered every fifth day, watered every tenth day.

For the constant water level treatment, plants were placed in pans in which a level of water was maintained to one-third the depth of the pot. The plants of the remaining treatments were watered with a hose as normally practiced so that excess water drains from the pots.

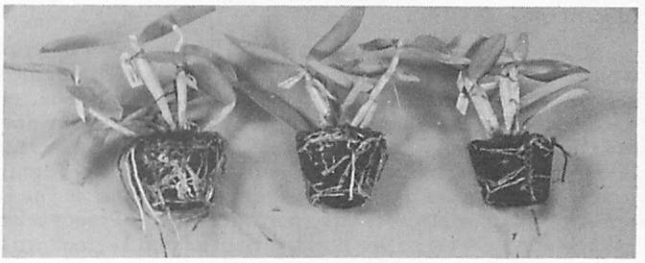
Flowering began on September 2, 1952. Those plants in constant water level flowered within a period of four weeks, with most of the flowers produced in a period of ten days. While the majority of the plants watered daily flowered within a ten-day period, two plants delayed flowering for more than a month after the appearance of the first flower. The plants watered every third day and every fifth day flowered at random



Constant Water Level

over a three-month period, those watered every fifth day flowered a month later than plants watered every third day. Less flowers were produced by the plants watered every fifth day because the water supply was inadequate to develop all of the flower buds.

There was a difference in color of the leaves of the plants. Those watered daily, were light green in color probably because of leaching of nutrients from the osmunda peat. No fertilizer was provided for the

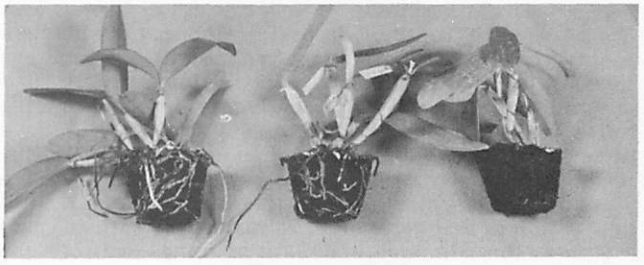


Watered Every Day

plants under treatment but it would seem advisable to make applications of fertilizer to the plants that are watered daily.

Examination of the root system of each plant in the experiment was made. In order to avoid injury to the roots, the pots were broken and the plant readily removed. Photographs of the root system were made using three plants from each group. These included plants with the poorest, intermediate and best root systems.

Plants watered every third day and every fifth day produced healthy succulent roots with many active growing tips. Roots were round and showed little or no tendency to become attached to the inner surface of the pot. The roots of the plants in constant level watering grew near the surface of the osmunda peat



Watered Every Third Day