Table 1. Induction of lateral shoots by chemical sprays on *Anthurium andraeanum.*

Chemical	No. of lateral shoots[z] Concentration 0 ppm	100 ppm	500 ppm	1000 ppm	1500 ppm
Control	0.0g				
Ethephon	–	0.2fg	0.6efg	1.8bc	0.8ef
PBA	–	0.6efg	1.0de	1.6cd	2.2b
BA	–	0.4efg	1.0de	3.6a	1.5cd

[z]Mean separation by Duncan's multiple range test, 5% level.

the extremely waxy cuticle prevents chemical penetration.

The induction of adventitious buds from the stem of anthuriums has pronounced economic implications. With current cultural practices, growers harvest 4 or 5 flowers per plant per year with no increase in the number of plants due to side shoot formation and eventual rooting. Chemical induction of adventitious shoots could increase the number of harvested flowers 4-fold and rapidly increase the number of new plants propagated as adventitious roots arise readily from each node.

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HortScience 14(1):65–66. 1979.

Influence of Fertility and Moisture Level on Growth of *Chlorophytum*[1]

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Additional index words. airplane plant, spider plant, plant nutrition, *chlorophytum comosum*

Abstract. **Increasing fertilizer rates resulted in increased stolon production, plantlet production, and total plant growth of *Chlorophytum.* Maximum number of stolons and optimum plant growth were obtained with solutions containing 2g/liter of 20-8.3-14.9 (N-P-K) fertilizer applied twice weekly. Frequent watering resulted in maximum growth at high fertilizer levels while less frequent watering resulted in maximum growth at lower fertilizer levels.**

Chlorophytum comosum (Thunb.) Jacques cv. Variegatum or variegated spider plant is a popular decorative plant known for the production of plantlets on stolons. Research with *Chlorophytum* has involved the influence of cultural practices on foliar tipburn (3), photoperiodic relationships for flower and stolon formation (1, 5), cytological studies (2), and growth response in various cultural media (4).

The present study was undertaken to determine the influence of fertility and moisture supply on the growth of variegated *Chlorophytum.*

C. comosum 'Variegatum' plantlets from stock plants maintained at The Texas Agricultural Experiment Station at Dallas were planted in 16.5 cm pots containing 1 peat: 1 perlite (by volume) adjusted to pH 6.8 with hydrated lime. Plants were grown in the greenhouse in full sunlight under natural photoperiod from August to December 1977. Peters[2] 20-19-18 (20N-8.3P-14.9K) fertilizer with micronutrients was applied to test plants twice weekly. Fertilizer rates were 0, 0.5, 1, 2, 3, and 4 g/liter with 200 ml/pot of fertilizer solution applied to 10 replicate plants for each treatment. Moisture was supplied to fertility treatment plants at 2 levels by varying the frequency of irrigation. Five plants receiving each fertility treatment were maintained moist (high water level-HWL) by application of 400 ml fertilizer solution per week and watering 3 times each week until drainage was observed. The 5 remaining pots for each fertility treatment received a minimal moisture supply (low water level-LWL) by application of 400 ml fertilizer solution and watering one time each week.

The number of stolons appearing on test plants was determined at 7 to 14-day intervals while stolon length and number of plantlets on stolons was determined at 40-day intervals during the study. At the conclusion of the study plant parts were dried at 110°C until constant weights were obtained for evaluations of plant growth.

Stolon production at HWL increased with increasing fertilizer levels, although the differences were not apparent until after a 40-day growth period (Fig. 1). The time required for visible stolons, between 36 and 118 days was determined to be 5, 12, 24 and >82 days/stolon for the 2, 1, 0.5, and 0 g/liter fertilizer treatments, respectively, when pots were kept at HWL. Maximum stolon production at the 2 g/liter and 3 g/liter fertilizer treatment at HWL was the same (16 stolons/plant) while stolon production at the 4 g/liter treatment was slightly less (14.8 stolons/plant). Stolon production on test plants maintained at the low water level (Fig. 2) indicate that low fertilizer rates (0.5 and 1.0 g/liter) were adequate for maximum stolon production during early growth periods but after about 60 days growth the 2 g/liter rate was required for maximum stolon production. The time for stolon production for the 36 to 118 day growth period with LWL was 6, 10, 15 and >82 days/stolon for the 2, 1, 0.5

[1]Received for publication April 19, 1978. The cost of publishing this paper was defrayed in part by the payment of page charges. Under postal regulations, this paper must therefore be hereby marked *advertisement* solely to indicate this fact.

[2]Mention of trade names is made for identification purposes only, and does not imply any endorsement by Texas A&M University.

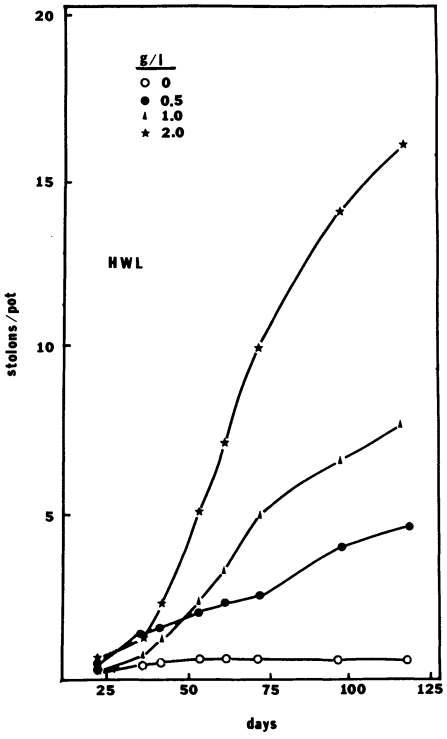

Fig. 1. Stolon production by *Chlorophytum* grown at various fertilizer levels under high water level (watered 3 times/week).

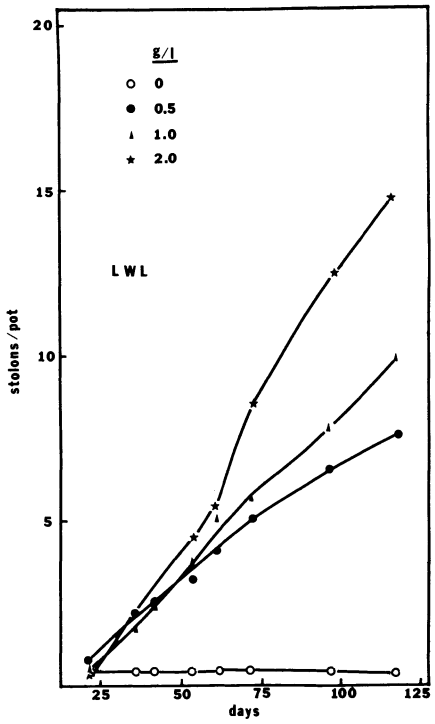

Fig. 2. Stolon production by *Chlorophytum* grown at various fertilizer levels under low water level (watered 1 time/week).

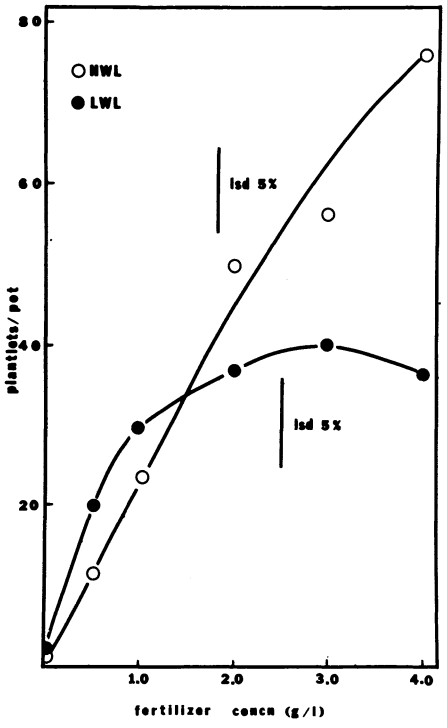

Fig. 3. Influence of fertilizer and moisture on plantlet production by *Chlorophytum* (HWL=watered 3 times/week. LWL=watered 1 time/week).

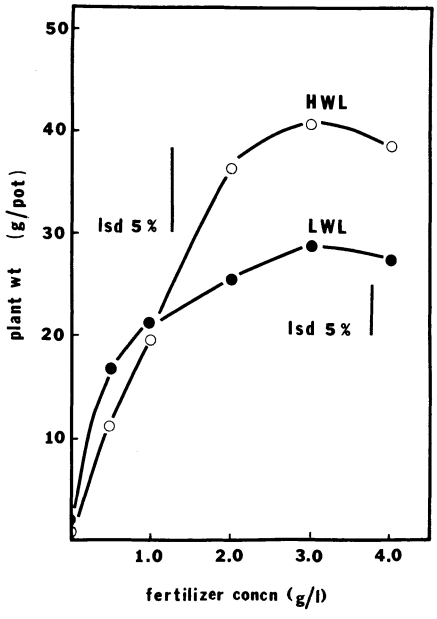

Fig. 4. Influence of fertilizer level on total top wt of *Chlorophytum* grown at 2 moisture levels. (HWL=watered 3 times/week, LWL=watered 1 time/week).

and 0 g/liter fertilizer treatments, respectively. Maximum stolon production with LWL was 14.5 stolons per plant at the 2 g/liter fertilizer level. Data in Figs. 1 and 2 suggest nutrient accumulation with LWL treatments and leaching of nutrients with HWL treatments.

There was a linear increase in plantlets/pot with increases in fertilizer concentrations from 0 to 4 g/liter under HWL conditions (Fig. 3). However, under LWL conditions there was a sharp increase in plantlet production at low fertility levels (<1.0 g/liter) but higher fertility rates did not significantly increase plantlet production. Plantlet production was greater with HWL conditions than with LWL when fertilizer concentrations were >1.5 g/liter.

A linear increase in top weight was observed with increasing fertilizer concentration to 2 g/liter with HWL (Fig. 4) with very little weight increase with >2 g/liter; however, with LWL there was a sharp increase in weight up to the 1 g/liter fertilizer level and a gradual increase to a maximum of 28.5 with the 3.0 g/liter treatment. Greatest top weight under HWL conditions was 40.5 g/plant at 3 g/liter fertilizer concentration.

These data indicate that fertility and moisture level can influence foliar growth, stolon production and plantlet production of variegated *Chlorophytum*. Under conditions of this study 2 g/liter of the fertilizer used was adequate for optimum top growth and stolon production, however, higher fertility levels were required for maximum plantlet production.

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