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each by volume of peat moss, redwood shavings, and fine sand in 4-inch, round plastic pots. Two parts of soil mix infested with Pythium were combined with nine parts of soil mix that had been fumigated with methyl bromide. This infested soil mix was used for all but two treatments. Plants in the ethazol root-dip treatment and a check treatment (no fungicide added to the mix) were planted in fumigated, uninfested soil mix.

Fungicides were combined with the soil mix at the rates listed in the table. The soil drench treatments were made by pouring suspensions of the fungicides over the planted, rooted cuttings as listed under drench treatments. Each treatment was replicated eight times. The treated plants were placed on a raised bench in a greenhouse and normal cultural practices were followed. The treatment date was June 15, 1972, and the plants evaluated on August 11, 1972. Leaf growth and root growth were rated independently.

The best growth occurred in the fumigated soil mix. Ethazol was the most effective fungicide when mixed with the soil and was somewhat less effective when applied as a drench. Rooted cuttings were not damaged by being dipped in a 100 ppm ethazol suspension.

The results of this study indicate that ethazol, when introduced into the soil mix at planting time, can effectively suppress *P. ultimum*. Growers experiencing poor growth of ivy as a result of Pythium root rot should consider using ethazol in combination with heat-treated or fumigated soil in a disease control program.

LITERATURE CITED

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OPENING OF 'IMPROVED WHITE SIM' CARNATION BUDS, FRESH CUT AND STORED

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This bud opening experiment was conducted with carnation buds harvested on July 5, 1972, where 1-year-old plants were being pruned for a second year of growth. Bud development varied from ¼ inch of petals extending above the calyx to some half-open buds. Each treatment included the same range of tight to half-open buds. All stems were held in plain tap water for 24 hours before the treatments were started. Each of seven different treatments was administered to 10 fresh-cut buds. Fifteen buds were used in each of the remaining four treatments. These buds had been stored "dry" in polyethylene bags for 40 days at 38° F. Upon removal from storage, 1 inch of stem was trimmed off before final treatments began.

The cultivar used was 'Improved White Sim.' The opening room was kept at a constant temperature of 80° F., with fluorescent lights operating at approximately 100 foot-candles during 18 hours of each 24-hour period. Tap water was Colorado River water, with a pH of 8.2 and approximately 800 ppm soluble salts.

RESULTS AND DISCUSSION

All fresh buds in distilled water containing 5 percent sugar opened in 5 days. The average keeping life of flowers in these treatments varied only from 13.9 to 14.7 days. Both plain water

Flower + Nursery Report, U. of Calif. Agr. Ext. Nov-1973

treatments were unsatisfactory for opening fresh cut buds.

The stored buds opened well in tap water or distilled water when held for their entire life in a complete solution—5% sugar, 200 ppm 8-Quinoline citrate (8-QC), 50 ppm aluminum sulfate, and 25 ppm silver nitrate. Stored buds opened a little more slowly than fresh buds—about 8 days in the complete tap water treatment and 6 days in the complete distilled water group. These two treatments had longer keeping life than any of the fresh bud treatments. With stored buds in complete solutions, the use of distilled water resulted in about 3 days more keeping life than did the tap water treatment.

When stored buds were transferred to plain tap or plain distilled water after having been in complete solutions for 3 days (before all buds had opened), bud opening halted. Keeping life was reduced by about 50 percent compared to blooms whose stems were in complete solutions continuously.

Yellowing of the flowers occurred where either 8-QC or aluminum sulfate was added to distilled water containing 5 percent sugar. Yellowing also occurred in flowers in the complete solutions. Yellowing did not occur in solutions that contained only sugar or sugar plus silver nitrate. The largest flower size developed in the sugar-silver nitrate treatment.

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TABLE 1. Bud Opening and Keeping Life of 'Improved White Sim' Carnations, Fresh Cut and Stored.

Treatments	Bud Opening	Average Days Keeping Life[1]	Comments
FRESH CUT (10 stems/ treatment)			
Tap water[2]	Poor	5.0	Few opened
Distilled water (DW)	Fair	5.5	Most opened before wilting
DW + 5% sugar	Good	14.4	Clear white, blooms small
DW + 5% sugar + 200 ppm 8-QC	Good	14.7	Yellowing, blooms large
DW + 5% sugar + 50 ppm aluminum sulfate	Good	14.6	Yellowing, blooms large
DW + 5% sugar + 25 ppm silver nitrate	Good	14.4	Slight pinking, blooms largest
DW + 5% sugar (complete)[3]	Good	13.9	Very yellow, blooms large
STORED (15 stems/treatment)			
Tap water + complete	Good	14.9	Clear white, blooms small
Distilled water + complete	Good	17.7	Very yellow, blooms large
Tap water + complete first 3 days, then transferred to tap water	Poor	8.7	
Distilled water + complete first 3 days, then transferred to tap water	Poor	8.7	

[1] Includes buds or opened buds until wilt occurred.

[2] Tap water was Colorado River water, with a pH of 8.2 and approximately 800 ppm soluble salts.

[3] Complete – 200 ppm 8-Quinoline citrate, 50 ppm aluminum sulfate, and 25 ppm silver nitrate in the opening solution.