ALSTROEMERIA OBSERVATIONS — 1984

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During the last year several observations were made while conducting *Alstroemeria* research which growers may be interested in knowing about:

Tulip Finger

One of the students who worked on the *Alstroemeria* project for the last year developed a skin rash after six months of harvesting flowering stems. A dermatologist diagnosed the rash as "Tulip Fingers", a relatively common skin problem of tulip growers and forcers. The lactones in the *Alstroemeria* are the culprits.

Soil Temperature

Low soil temperature is critical for continuous flowering of *Alstroemeria.* The soil temperature in a raised bench will tend to follow the average night temperature. In a ground bed, the temperature will follow the night temperature, but not as rapidly. Soil mulches will slow the increase of the soil temperature in ground beds. Several growers have tried using peatmoss as a mulch, but slugs became a serious problem. Therefore, a good mulch should not retain water, yet should reflect light to reduce soil heating. Polystyrene chunks is a material which we have found to be satisfactory.

Water

When the cultivar 'Regina' is watered luxuriously in gravel (the watering system remained on for 12+ hours) shoots elongated dramatically. Growing plants in gravel, where the summer watering frequency may be up to seven times daily, will produce the longest length flowering shoots. If plants are allowed to wilt, shoot length is reduced and flower abortion may result.

Nutrition

Interveinal chlorosis may occur on leaves of flowering shoots during periods of vigorous growth (July, August). Once the flowers on these shoots begin to show color the leaves lose the interveinal chlorosis. If the chlorosis does not go away, then a supplemental dry feed may be necessary. *Alstroemeria* seem to have a very high nutrient requirement during late summer. Therefore, a grower's feed program needs to change based on season of the year.

Short Shoots

Several growers have observed the "short shoot" phenomenon. The "short shoot" problem is when the flowering shoots fail to elongate on the return flowering crop. In severe cases, shoots are less than 12 inches long whereas, normally, shoots may be 10 to 25% shorter than in the previous flowering cycle. When the "short shoot" problem is severe the only apparent way to break the cycle is to remove flower buds without removing shoots. The "short shoot" problem is accentuated by heavy thinning prior to the start of flowering or rapid, heavy cropping caused by high air temperature.

Stem Breaking

When shoots are harvested early in the morning we observe an increase in stem breakage. This appears to be related to the turgidity. If harvesting is delayed until late morning or early afternoon, less breakage occurs.

Harvesting Shoots

Pulling shoots appears to be a satisfactory way to harvest shoots prior to late July. We find that, from about August through the end of the flowering period, pulling shoots will cause removal of the lateral rhizome from the main rhizome. This is a serious problem since subsequent production is dependent on these lateral rhizomes. Whether the problem of lateral rhizome removal is due to reduced storage root growth or some other condition is not clear.

Shoot Reversion

Occasionally a flowering shoot will have one cyme that has reverted from the reproductive to the vegetative stage. This vegetative cyme may become reproductive after initiation of several leaves. The cause of this shoot reversion is not clear.

[1]*Assistant professor and undergraduate, respectively.*