For Pest Control Advisors, two (2) hours study credit will be honored at the March, April, and May meetings on pesticides.

STABY

Blackening Problem of Cut Proteas

At our January 12, 1983 Protea Growers Meeting, Dr. Charles Whitehead from the Republic of South Africa reported on his research on the blackening of protea leaf, stem and flower parts on some cultivars after harvest. Dr. Whithead reported:

The blackening of protea parts is due to the oxidation of "flavanoids" in the tissue. Species differ in their sensitivity to blackening. Often blackening does not appear until long after harvest. This is frustrating to the grower since he often cannot detect the situation at his level in the system. Enzyme activity for oxidation are "tannins." Blackening can start at the tip of a leaf or develop into spots all over the leaf, or start at the base of a leaf and move throughout the veinal system.

Any type of injury can be the precuror of blackening fungus. Insect or mechanical injuries in handling are all causes. When lower leaves are stripped for export, then placed in water, the tannins leak into the bucket water, causing it to also turn brown, and the tannins are then taken back up into the stem.

In South Africa, most proteas are picked at a "soft stage" which is generally less open than in California harvest.

If a flower head is removed from the stem, the leaves will not blacken. The theory is that the flower drains the leaves of energy and the oxidation of tannins then begins.

There are genetic differences in the same cultivar to various sensitivities to blackening. It is therefore recommended that vegetative propagation be done on plants selected that are resistant to blackening.

Chemical treatments to prevent blackening were also tested but nothing was found that was effective.

BESEMER '83

So, at this time, protea growers (to prevent as much blackening as possible) should:

(1) Propagate from selected plants, resistant to blackening.

(2) Harvest flowers at the best mature stage (no sooner, no later).

(3) Handle flowers very carefully, stripping as few leaves as possible.

(4) Use preservative solutions to lower the bucket water pH to 3 or 4.

(5) Keep the water clean.

(6) Supply some carbohydrates.

New Geranium Manual

Geraniums III, a new, larger, completely revised edition of the Penn State Geranium Manual is now available from the Pennsylvania Flower Growers, 102 Tyson Building, University Park, PA 16802. The cost of the manual is $15.00 per copy, postpaid. Checks should be made payable to the "Pennsylvania Flower Growers."

The Geranium Manual is an excellent reference on all phases of geranium production and marketing. The 35 various chapters include topics on growing media, soil treatment with steam and chemicals, irrigation, fertilization, environmental factors, greenhouse structures, and other information that could be useful in growing many other crops, in addition to geraniums.

Some Excerpts from Carnation Regional Reports

At the recent Second International Carnation Symposium in San Diego, four invited speakers presented reports on carnation production in Israel (Professor A.H. Halevy), Europe (Dr. L.D. Sparnaaij), Colombia and Latin America (Mr. Paul Daum), and United States (Mr. Dick Kingman). The following are brief notes from some of those reports:

Europe

Italy is the No. 1 carnation producer and user with 2062 ha. (5155 acres) of carnation production area, followed by Spain 977 ha., Netherlands 475 ha., France 291 ha., West Germany 177 ha., United Kingdom 47 ha., and the rest of Northwest Europe with 100 ha., (250 acres). The 1981 carnation production in the U.S.A. was 230 ha. (575 acres). All areas include both standard and miniature types.

Israel

Presently, 850 acres of carnations producing over 600 million stems are grown. They are virtually 100% spray types, mainly for export to Europe from November-Mothers Day.

Israel's carnation industry started in the mid-1960's and had a rapid expansion period from 1974-1979. Since 1979, there has been a leveling off. The size of each family farm is small. In the early days, the average unit was 1500 square meters, but that unit is now increasing to 3000-3500 square meters, . . fewer growers.

The percentage of each cultivar grown in 1982 in Israel is Pink Royalette 25%, Red Baron 20%, Tony 14%, Silvery Pink 8+%, Orange Tony 8%, Mini-Star 5%, Orchid Royalette 5%, Maj. Britt 4%, White Royalette 4%, and miscellaneous 7%.

Colombia

There are 100 carnation growers and 30,000 workers. The production area was not mentioned. There is no more expansion on standard carnations. Fusarium Wilt has become a serious problem. The trend is toward a large increase in spray carnations. The use of STS treatments is an important factor in the success of exporting.

Sincerely,

Seward T. Besemer

Seward T. Besemer
Farm Advisor
STB/dlh

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