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## Benefits of EthylBloc™ Technology on Cut Cymbidium Flowers

### Background

Most commercial cut flower species are sensitive to ethylene, a natural plant hormone, that occurs as a gas in the atmosphere. Ethylene causes many undesirable effects in flowers including bud drop, petal wilting, uneven opening, and petal discoloration. Some flowers generate high amounts of ethylene by themselves within the plant. Flowers can also respond to ethylene from external sources (e.g. propane heaters, engine exhaust, gas-powered forklifts, and smoke). As ethylene is effective at very low concentrations (parts per billion) these negative effects of ethylene are commonly observed in flowers during shipping, warehousing, and display in a retail store.

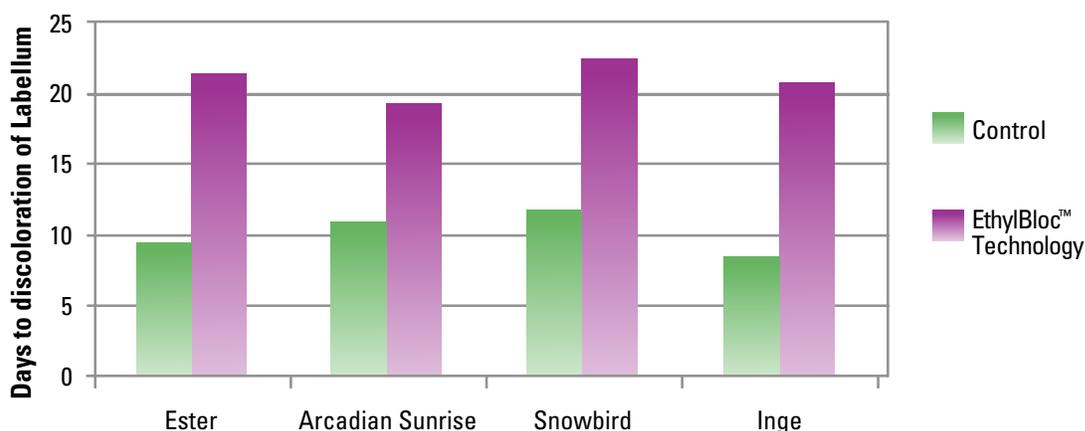
EthylBloc™ Technology is a registered ethylene action inhibitor which protects plants from both external and internal ethylene. This technology has been shown to be very effective in protecting many species of cut flowers from ethylene damage.

Most members of the Orchid family are sensitive to ethylene, however, the degree of sensitivity to ethylene and the symptoms of ethylene damage vary according to the species. Cymbidium is a popular Orchid as a cut flower and a potted plant. Ethylene causes quick discoloration of the labellum (lip of the flower) and wilting and discoloration of petals.

### Research

An experiment was conducted in the Floralife® Laboratory in Holland to test the effectiveness of EthylBloc™ Technology on the vase life of several varieties of Cymbidium. Individual flowers of several varieties of Cymbidium were treated with 1-methylcyclopropene (active ingredient of EthylBloc™ Technology) overnight in a cooler (10 - 12° C). The flowers were placed in small glass vials containing water. Flowers were then held in an interior evaluation room at 68 - 70° F (20 - 21° C) with 12 hours of lighting to monitor vase life performance.

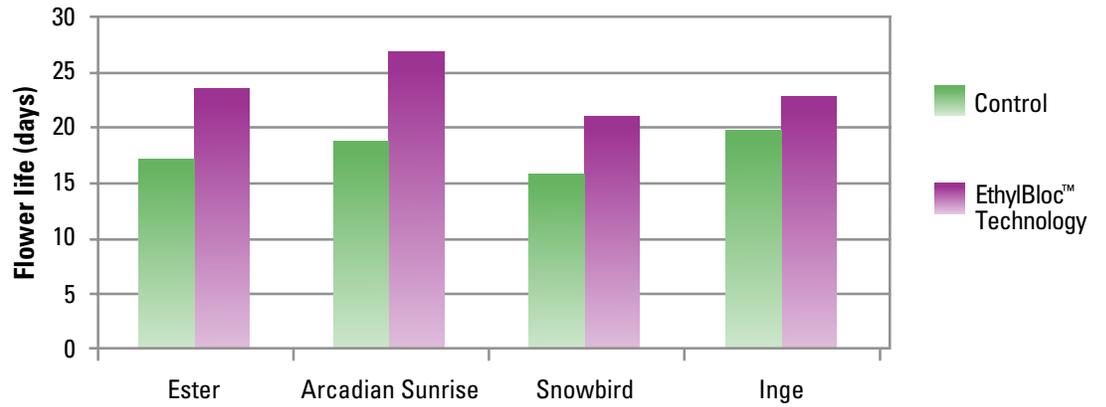
### Results





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**Results** (Continued)



**Variety 'Inge' - Control**



**Day 7**



**Day 13**



**Day 21**

**Variety 'Inge' - EthylBloc™ Technology**



**Day 7**



**Day 13**



**Day 21**

## Results (Continued)

### Variety 'Snowbird' - Control



Day 7



Day 13



Day 21

### Variety 'Snowbird' - EthylBloc™ Technology



Day 7



Day 13



Day 21

## Conclusions

Treatment with 1-methylcyclopropene (active ingredient of EthylBloc™ Technology) prevented the rapid discoloration of labellum (lip) of Cymbidium flowers tested. The treatment also increased the overall flower life.