

VASE LIFE SUPPORT 911: ROSES

the patient Roses

the docs Terril A. Nell, Ph.D.,

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the symptoms Wilted flowers, petal drop, failure to open, leaf drop and browning of leaf margins

The Examination

What is making the flowers in the vases on the right in each photo look so bad? Most of us would say they were stored too long, exposed to high temperatures or allowed to dry out. None of these is correct, but the mistake is an honest one. The true culprit could and does cause similar symptoms.

The flowers in each picture have been treated the same from harvest until arrival at our laboratory. Upon arrival, we exposed the flowers on the right with 1 ppm ethylene for 24 hours at room temperature and then placed them in our evaluation rooms. The result was devastating. The poor quality flowers are a direct result of ethylene exposure.

The Diagnosis

Ethylene is indeed the silent flower killer. You can't see, feel or smell ethylene, but there's no denying its effect on flowers. They die when exposed to the gas in the environment or when they produce enough ethylene internally to trigger premature death. This unintentional suicide is even more devious, as internal production can't be detected in the air surrounding the flowers. And it's not like you can stop flowers from producing the gas — it happens naturally. Ethylene is also found in the environment as a by-product of combustible engines, ripening fruit and cigarette smoke.

The Cure

You can decrease the amount ethylene internally produced by flowers by limiting your precious cargo's exposure to ethylene-producing stress, such as vibration from shipping and drying out.

Avoid storing flowers longer than two to three days, and keep temperatures at 33-35F while in storage or in display. Flowers are less sensitive to ethylene when kept at low temperatures. High temperatures will reduce vase life and can interfere with proper flower opening. Keep coolers free of fruits and vegetables that may produce ethylene and keep flowers away from combustible engines. These are all vital steps in protecting plants from ethylene injury.

Preventative Measures

Some species demand more preventative care. Carnations, delphiniums, gypsophilas and snapdragons are widely known to be very sensitive to ethylene and are routinely treated at the farm at harvest with anti-ethylene treatments to insure protection. But new research, and pictures like the one of our patients above, have many in the field rethinking how sensitive and vulnerable cut roses can be to ethylene.

Be sure to specify to your wholesaler that you only want roses pre-treated with an anti-ethylene compound. That is the only way to prevent your roses from dying prematurely or having other symptoms associated with ethylene: EthylBloc™ and silver thiosulfate work well to protect flowers from ethylene injury.

Do your part by keeping flowers cold and away from ethylene sources. Don't keep your healthy habits to yourself —



pouting petals The roses in the vases on the right of each photo are suffering from exposure to a harmful gas. Are yours?

warn customers against the dangers of cigarette smoke and ripening fruit, so they can enjoy longer lasting and higher quality roses. 🌹

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Editor's Note: This month marks the debut of Floral Management's flower doctors on call. They'll put flowers in the lab, diagnose the damage of the sickly ones and offer suggestions for keeping yours healthy. Make an appointment to check upcoming issues for more.