Understanding Ethylene and Plants

If you're in commercial floriculture or horticulture, dealing with the effects of ethylene gas is part of everyday life.

With every hour that passes, whether your flowers and plants are in the greenhouse, in transit or at retail, ethylene gas is influencing how they perform.

While many beneficial processes in flowers and plants rely on ethylene, there's also a destructive side. Industry research shows that ethylene's harmful effects are responsible for up to 30% of costly shrink. That comes in the form of flower and bud drop, leaf yellowing and leaf drop, accelerated flower aging, reduced quality, shortened shelf life and more.

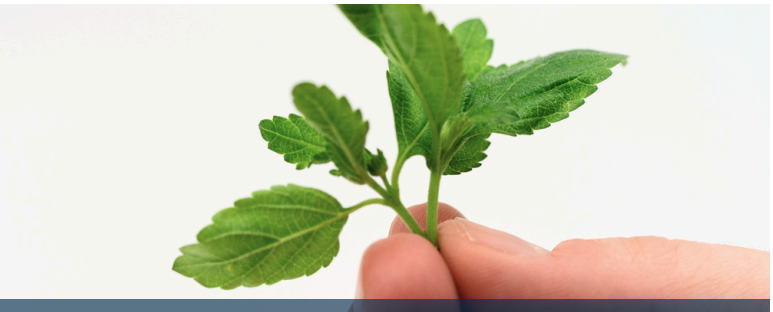
Protect ethylene-sensitive potted and flowering bedding plant shipments with EthylBloc™ technology

What can you do to protect your plants against ethylene's harmful effects? Actually, you can do a lot. But managing ethylene gas most effectively and efficiently starts with understanding what it is, where it's found, and how EthylBloc™ ethylene-action inhibitor can help.

What Is Ethylene?

Ethylene is a gaseous plant hormone present in almost all flowers and plants. It plays an important role in good things, like helping those mum buds crack to show the perfect glimpse of fall color. Anyone who's ever used an apple or banana to make other fruit ripen faster has seen — and tasted — ethylene gas at work. So has anyone who's received a delivery of rapidly declining flowering potted plants or opened the sleeve on a tropical foliage plant to find it filled with dropped leaves.

While ethylene gas occurs naturally in flowers and plants, unnatural stresses put its production into overdrive. One example of this adaptive response is when offshore unrooted cuttings (URCs) wing their way to your facility, spending three or four days in darkness with temperature extremes, constant vibrations, and rapidly accumulating ethylene gas in shipping bags and boxes. Plant shipments via truck can also stimulate ethylene. So can improper watering, disease pressure and production stresses.



Lantana URC (Unrooted Cuttings) are sensitive to ethylene damage.

The negative effects of ethylene gas are seen when it locks onto ethylene receptors in the plant and begins to trigger natural changes at unnatural speeds. This endogenous or internal ethylene gas accelerates plant damage, including botrytis damage. But that's not the only ethylene source affecting your plant shipments before and after they leave your operation.

Where Is Ethylene Gas Found?

From foliage plants to orchids, a variety of plants are susceptible to ethylene damage.

Endogenous ethylene from plants, fruits and produce, or URCs threatens plant quality in transit and on retail shelves. But the environments along the way often intensify the risks.

Ethylene is one of the world's most widely produced organic compounds. It's used to create other chemicals and a variety of materials and products — from rubber and plastics to paints, textiles and detergents.

Natural gas and propane fuels used to power your greenhouse heaters are sources of ethylene gas. So are motor vehicle exhausts from the trucks at your docks and the forklifts, skid steers and other equipment helping get your plant shipments on their way to customers. (So is tobacco smoke drifting in from break areas outdoors.)

From propagation through retail sell-through, your plants are exposed to all types of external sources of ethylene gas — on top of what they and all the other plants that fill greenhouse bays produce. Add the stress of shipping and receiving, overwatering and underwatering by inexperienced seasonal staff, and light and temperature stresses — and ethylene exposure and damage adds up fast. But you can change that and stop ethylene-induced damage before it starts.

How Can You Manage Ethylene?

While many factors go into making sure your plant shipments arrive safely, EthylBloc™ ethylene-action inhibitor protects your plants against ethylene-induced damage and loss. Available in convenient sachets as well as truck kits, EthylBloc™ contains an active ingredient (1-methylcyclopropene gas) that works naturally with plants by irreversibly blocking their ethylene receptors, inhibiting the potentially harmful action of ethylene gas — from both internal and external sources.

If you're a young plant grower, you know the severe leaf abscission that can happen during transport of ethylene-sensitive URCs. Research by our Director of Global Grower Operations & Research, Vijay Rapaka, Ph.D., showed that EthylBloc™ treatment can reduce leaf abscission in some ethylene-sensitive URCs from near 100% to nearly zero. That same innovative, quality-improving technology can protect mature flowers and plants as well.

Protect shipments with EthylBloc™

With our online Grower Support materials, you can learn more about how EthylBloc™ can protect the Potted Flowering and Bedding Plants you grow, along with Potted Foliage Plants and ethylene-sensitive Potted Flowering Bulbs — and vegetative unrooted cuttings, too.

So don't send your shipments out unprotected. Let EthylBloc™ help you pare down shrink, maintain plant quality, improve your profit margins and keep your customers happy.

Lean into us. We're Oasis Grower Solutions.
Propagating Innovation is what we do.

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