

## EthylBloc™ Technology Truck Treatment: How Effective Is It?

### Background

EthylBloc™ Technology is an effective ethylene action inhibitor that protects flowers from ethylene damage. EthylBloc™ Technology comes as a powder, and upon mixing with a liquid buffer, it releases the active ingredient as a gas. Since the active chemical is a gas, the treatment should be done in an enclosed area in order to maintain effective gas concentration. Flowers and plants can be treated effectively with EthylBloc™ Technology in truck trailers while in transit, and cubic volume can be maximized.

### Research

Researchers at Floralife, Inc. conducted an experiment to show the effectiveness of EthylBloc™ Technology treatment inside a refrigerated-truck trailer. Boxes of carnation and delphinium stems grown in Colombia were used in the study. Flowers had no prior ethylene action inhibitor treatment. In Miami, flower boxes were placed among the boxes of flowers loaded to a 53-foot truck trailer. Four boxes were placed at different locations of the truck (from nose to the rear of the truck). As a control, another box was wrapped with 2 layers of box wrap to prevent the active ingredient from penetrating to the flowers, and placed in the same truck. The locations of the boxes were:

**Front** (Most distant from EthylBloc™ Technology)

**Front Middle**

**Middle**

**Rear** (Closest to EthylBloc™ Technology)

**Control** (wrapped box) - Middle of the truck

The truck trailer was almost 100% full with flower boxes. After loading the boxes, the EthylBloc™ Technology treatment (75 g of powder) was applied at the rear trailer door. The truck door was closed immediately after mixing the EthylBloc™ Technology powder with buffer. The truck door remained closed for 15 hours until the truck arrived the next day at Simpsonville, SC. Flowers were brought to the Floralife® laboratory and half of the flowers were exposed to ethylene (2 ppm for 16 hours), and the other half were exposed to air. The vase life of the flowers was determined.

### Results

Vase life (days) of flowers

Box Location	Carnation Vase life		Delphinium Vase life	
	No Ethylene	Ethylene	No Ethylene	Ethylene
Front	12.9	10.3	7.8	7.1
Front Middle	13.4	12.0	8.6	7.9
Middle	13.0	11.7	8.5	8.1
Rear	14.3	13.0	8.7	8.3
Control (wrapped)	11.8	1.9	7.7	2.5



**8 Days**  
*Wrapped box (Control)      Rear (Near the door)      Middle      Front Middle      Front*

Appearance of carnations according to box location. All flowers were treated with 2 ppm ethylene for 16 hours.



**4 Days**  
*Wrapped box (Control)      Rear (Near the door)      Middle      Front Middle      Front*

Appearance of delphiniums according to box location. All flowers were treated with 2 ppm ethylene for 16 hours.

### Conclusion

EthylBloc™ Technology truck treatment placed at the door of the truck is capable of protecting flowers (from ethylene damage) in boxes located throughout the truck under the conditions tested in this study. This means that the active ingredient gas released from the EthylBloc™ Technology truck treatment placed at the door of the truck can penetrate to the front of the truck and maintain effective concentrations.

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