

# New eco-friendly foliar spray provides natural anti-freeze

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Cold-weather garden enthusiasts have a new reason to celebrate. Researchers at The University of Alabama and Miami University of Ohio have introduced an innovative, all-natural foliar spray that protects plants, both externally and systemically, by enhancing their natural "anti-freeze" properties. According to the scientists, using the new product is like moving the planting location 200 miles south—the equivalent of about one-half of a USDA hardiness zone.

A report published in *HortTechnology* premiered the novel topical [spray](#) developed to increase resistance to both cold damage and cold mortality in plant foliage, flowers, and fruits. According to David Francko, Dean of the Graduate School and Professor of Biology at the University of Alabama, the patent-pending formula has been commercialized under the trade name FreezePruf.

The spray is composed of ingredients that are non-toxic to plants, humans, and animals. "The components of the laboratory spray formulation and FreezePruf are all either human food ingredients or used in the human food production chain", said Francko. He said that the spray actually improves plants' natural ability to tolerate freezing conditions.

The researchers tested the spray on a wide variety of foliage, flowers, and fruits. Data showed that both the laboratory formulation and the commercial version of the spray decreased the first damage temperature and the mortality temperature of the plants. "We noted beneficial effects

within hours of application", Francko remarked. "Our results suggested that the spray formulation could add the equivalent of approximately 0.25 to almost 1.0 USDA Plant Hardiness Zone to the cold hardiness rating of the plants used in the experiments."

According to the report, the spray is as friendly to [plants](#) as it is to the environment. "In all the experiments using the laboratory spray or the commercial product, we did not identify a single instance of treatment-related damage to foliage, flowers, or fruits", the scientists wrote.

"Based on effectiveness data and its non-toxic, ecofriendly formulation, our research suggests that FreezePruf can offer significant benefits to both residential and commercial users," Francko said.

**More information:** The complete study and abstract are available on the ASHS *HortTechnology* electronic journal web site: [horttech.ashspublications.org/...nt/abstract/21/1/109](http://horttech.ashspublications.org/...nt/abstract/21/1/109)

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