

## Herbaceous Perennial Plant Growth Regulator Guide Update



W. Garrett Owen  
owen.367@osu.edu

*The 2026-27 Growth Regulators for Containerized Herbaceous Perennial Plants guide now available with new, research-based content focused on rooting, growth control, and updated crop recommendations for herbaceous perennial production.*

Herbaceous perennial growers, are you looking for practical, research-based options to manage height, branching, or flowering this cropping season? This updated guide can help. The 2026-27 Growth Regulators for Containerized Herbaceous Perennial Plants has been updated cropping season (Fig. 1). The 76-page guide, sponsored by Fine Americas, Inc. and designed by GrowerTalks, is now available online and subscribers of *GrowTalks* will receive a hardcopy of the guide with their monthly magazine. This edition includes new research-driven articles, a new crop report, and expanded resources created by members of the e-GRO team. Key updates are summarized in this e-GRO Alert.



Figure 1. The 2026-27 Plant Growth Regulator Guide for Containerized Herbaceous Perennial Plants. Photo by: Dr. W. Garrett Owen, OSU.

### 2026 Sponsors



American  
Floral  
Endowment

Research  
Internships  
Scholarships  
Education

Funding the Future of Floriculture



P.L. LIGHT SYSTEMS  
THE LIGHTING KNOWLEDGE COMPANY

Reprint with permission from the author(s) of this e-GRO Alert.

### Cutting-edge PGRs

This article translates The Ohio State University (OSU) research trials of Advocate (20% indole-3-butyric acid) foliar sprays to improve rooting of woody ornamentals (Fig. 2). In OSU trials evaluating more than 20 woody ornamental species, unrooted cuttings received a single foliar spray ranging from 0 to 6,000 ppm Advocate applied at 0.5 gal. per 100 sq. ft. 24 hours after cutting stick, and responses were strongly species-dependent. For example, 'Seward' ninebark (*Physocarpus opulifolius*) developed higher root dry mass when spray concentrations exceeded 500 ppm, while 'Miss Kim' Manchurian lilac (*Syringa pubescens* subsp. *patula*) and 'Quick Fire' panicle hydrangea (*Hydrangea paniculata*) increased root dry

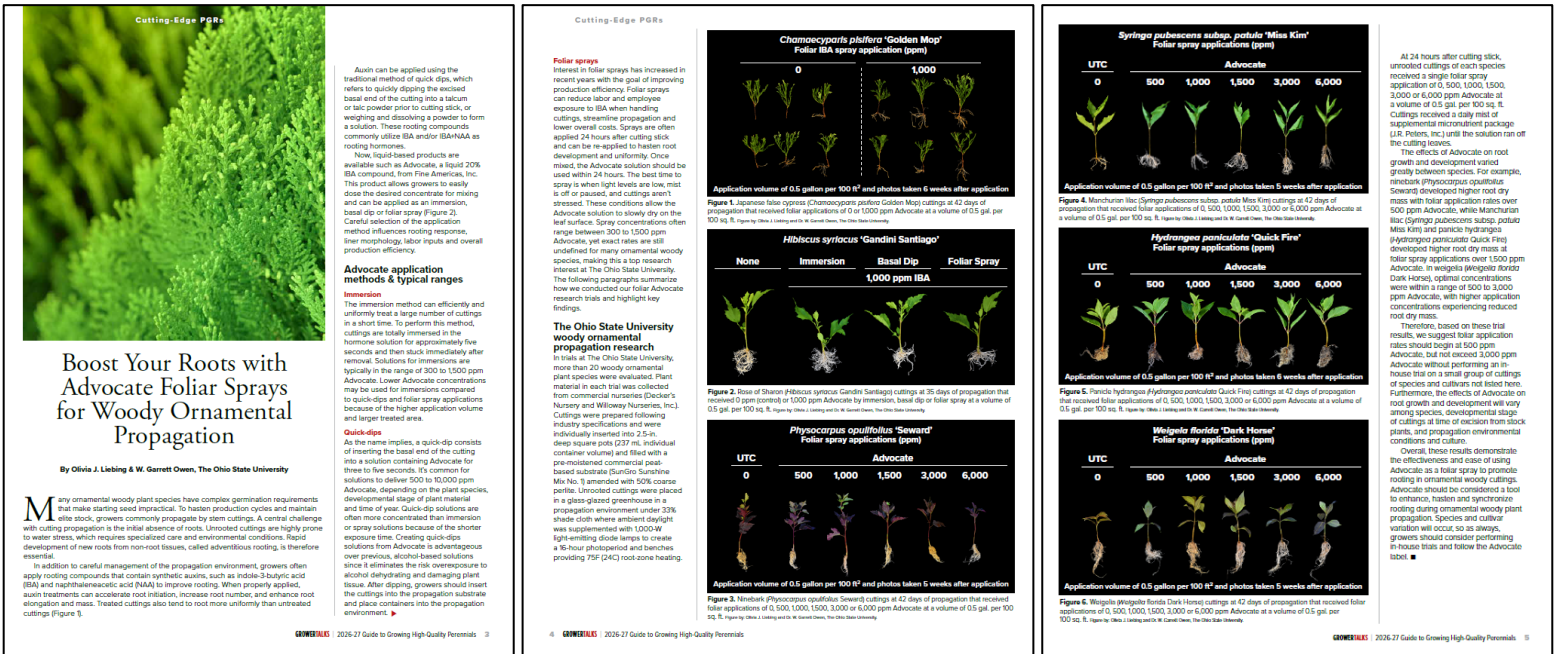


Figure 2. Article highlighting The Ohio State University research trials of Advocate (20% indole-3-butyric acid) foliar sprays to improve rooting of woody ornamental nursery species. Photo by: Dr. W. Garrett Owen, OSU.

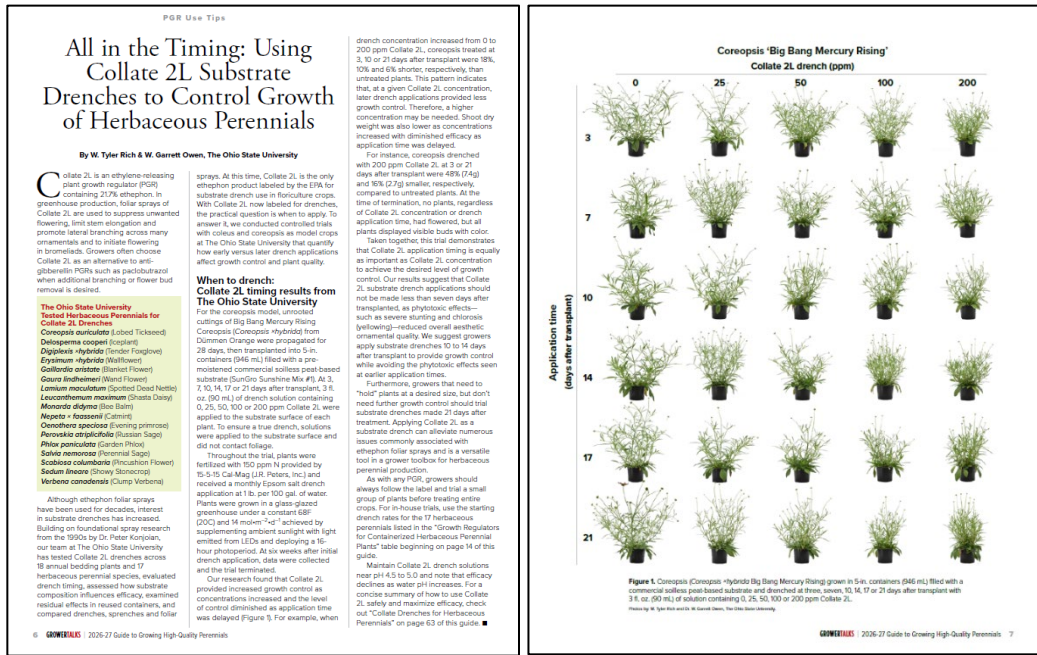


Figure 3. Article highlighting OSU research trials focused on application time of Collate 2L (21.7% ethephon) substrate drenches to control growth of 'Big Bang Mercury Rising' lobed tickseed (*Coreopsis auriculata*). Photo by: Dr. W. Garrett Owen, OSU.

mass at concentrations above 1,500 ppm. In 'Dark Horse' weigela (*Weigelia florida*), the most consistent rooting response occurred from 500 to 3,000 ppm, with higher concentrations reducing root dry mass. Based on these trials, it is suggested that Advocate foliar sprays should begin at 500 ppm and avoid rates above 3,000 ppm unless you validate the response with an in-house trial under your propagation conditions.

**PGR Use Tips**

A new Collate 2L (21.7% ethephon) substrate drench timing article translates OSU research into actionable guidance for applying ethephon drenches in herbaceous perennials (Fig. 3). In general, growth control increased with concentration but diminished as applications were delayed. To protect ornamental quality, it is recommended to avoid drench applications within the first week after transplant (3 to 7 days). The practical

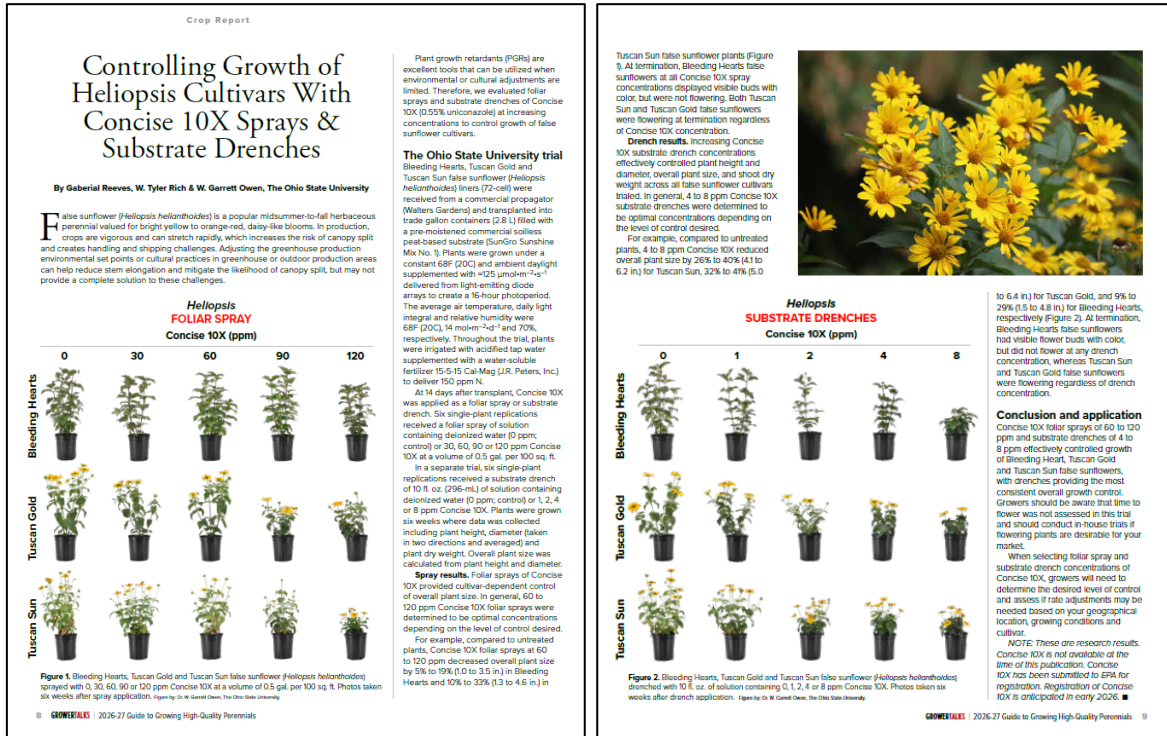


Figure 4. The Ohio State University research trial highlighting foliar sprays and substrate drenches of Drench Concise 10X (uniconazole 0.55%) to control growth of ‘Bleeding Hearts’, ‘Tuscan Gold’, and ‘Tuscan Sun’ false sunflower (*Heliopsis helianthoides*). Photo by: Dr. W. Garrett Owen, OSU.

target window for applying ethephon substrate drenches is 10 to 14 days after transplant. In addition, growers should maintain drench solution pH near 4.5 to 5.0 to help preserve efficacy.

**Crop Report**

A new crop report focused on false sunflower (*Heliopsis helianthoides*) is provided. The crop report focuses on using Concise 10X (0.55% uniconazole) sprays and substrate drenches to manage extension growth and improve marketability (Fig. 4). Research results found foliar sprays of 60 to 120 ppm Concise 10X or substrate drenches of 4 to 8 ppm Concise 10X to be effective tools for controlling growth of ‘Bleeding Hearts’, ‘Tuscan Gold’, and ‘Tuscan Sun’ false sunflowers. These results are research-based, and Concise 10X is not available at the time of publication. Concise 10X has been submitted to the EPA for registration and approval is anticipated in early 2026.

**Resources**

In addition to new articles, several resources were updated throughout the guide, most notably the integration of Collate 2L substrate drench recommendations throughout the PGR application recommendation table. A new “Wide Assortment of Available PGRs” table was created to compare the attributes of plant growth promoters, and root hormones. Growers will also find new species listed in the 48-page PGR application recommendation table. Growers will also find other useful articles including *Collate 2L Drenches for Herbaceous Perennials*, *Using Advocate and Advocate Tank Mixes During Perennial Propagation*, *Additional Benefits of PGRs*, *Fresco Use Tips*, and *Apply Fresco to Recover PGR-Stunted Herbaceous Perennials*. As in prior editions, a dilution table is included to support accurate mixing and application.

Overall, the 2026-27 *Plant Growth Regulator Guide for Containerized Herbaceous Perennial Plants* provides an updated, research-based resource to support herbaceous perennial growers with propagation and finishing decisions across diverse crops and production systems.

Appreciation is expressed to Fine Americas, Inc. for sponsoring this publication. I also sincerely thank Dümmen Orange, Willoway Nurseries, Inc., Decker’s Nursery, and Walters Gardens for providing plant material used in the research trials.

## e-GRO Alert

[www.e-gro.org](http://www.e-gro.org)

### CONTRIBUTORS

**Dr. Nora Catlin**

Floriculture Specialist  
Cornell Cooperative Extension  
Suffolk County  
[nora.catlin@cornell.edu](mailto:nora.catlin@cornell.edu)

**Dr. Chris Currey**

Assistant Professor of Floriculture  
Iowa State University  
[ccurrey@iastate.edu](mailto:ccurrey@iastate.edu)

**Dan Gilrein**

Entomology Specialist  
Cornell Cooperative Extension  
Suffolk County  
[dog1@cornell.edu](mailto:dog1@cornell.edu)

**Dr. Chieri Kubota**

Controlled Environments Agriculture  
The Ohio State University  
[kubota.10@osu.edu](mailto:kubota.10@osu.edu)

**Heidi Lindberg**

Floriculture Extension Educator  
Michigan State University  
[woleage@anr.msu.edu](mailto:woleage@anr.msu.edu)

**Dr. Roberto Lopez**

Floriculture Extension & Research  
Michigan State University  
[rglopez@msu.edu](mailto:rglopez@msu.edu)

**Dr. Neil Mattson**

Greenhouse Research & Extension  
Cornell University  
[neil.mattson@cornell.edu](mailto:neil.mattson@cornell.edu)

**Dr. W. Garrett Owen**

Sustainable Greenhouse & Nursery  
Systems Extension & Research  
The Ohio State University  
[owen.367@osu.edu](mailto:owen.367@osu.edu)

**Dr. Alicia Rihn**

Agricultural & Resource Economics  
University of Tennessee-Knoxville  
[arihn@utk.edu](mailto:arihn@utk.edu)

**Dr. Debalina Saha**

Horticulture Weed Science  
Michigan State University  
[sahadeb2@msu.edu](mailto:sahadeb2@msu.edu)

**Dr. Beth Scheckelhoff**

Extension Educator – Greenhouse Systems  
The Ohio State University  
[scheckelhoff.11@osu.edu](mailto:scheckelhoff.11@osu.edu)

**Dr. Ariana Torres-Bravo**

Horticulture/ Ag. Economics  
Purdue University  
[torres2@purdue.edu](mailto:torres2@purdue.edu)

**Dr. Brian Whipker**

Floriculture Extension & Research  
NC State University  
[bwhipker@ncsu.edu](mailto:bwhipker@ncsu.edu)

**Dr. Jean Williams-Woodward**

Extension Plant Pathologist  
University of Wyoming  
[jwilwood@uwyo.edu](mailto:jwilwood@uwyo.edu)

Copyright © 2026

*Where trade names, proprietary products, or specific equipment are listed, no discrimination is intended and no endorsement, guarantee or warranty is implied by the authors, universities or associations.*

## Cooperating Universities

# Cornell CALS

College of Agriculture and Life Sciences

## Cornell Cooperative Extension Suffolk County

# MICHIGAN STATE UNIVERSITY



# UTIA INSTITUTE OF AGRICULTURE

THE UNIVERSITY OF TENNESSEE



# NC STATE UNIVERSITY IOWA STATE UNIVERSITY



## THE OHIO STATE UNIVERSITY

## In cooperation with our local and state greenhouse organizations



Metro Detroit Flower Growers Association

