Technical Services
TRAINING GUIDE

Berger

Making PGRs Work for You

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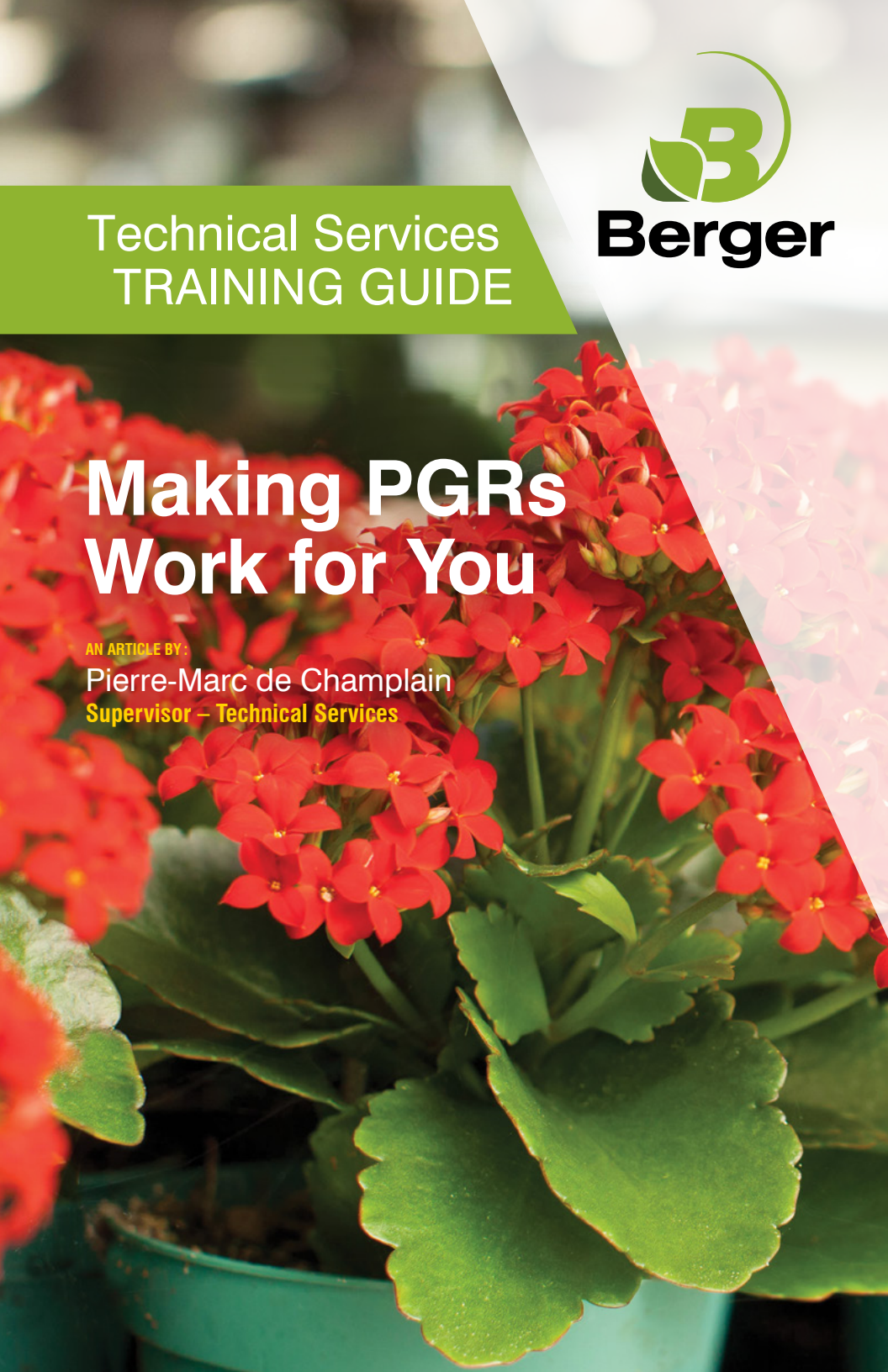

Your Expert

Pierre-Marc de Champlain graduated from the University of Sherbrooke with a Bachelor's Degree in Biotechnological Engineering, developing an integrated knowledge of biological sciences. Thanks to the university's revolutionary practices in cooperative training and problem-based learning, Mr. de Champlain is attuned to the fast-paced evolutions in the industry and how suppliers are applying them in the field.

Prior to working at Berger, Mr. de Champlain worked at Lang 2000, working to improve practices in the treatment of polluted water. Before Lang 2000, he worked in the Université de Sherbrooke's Biology Department, performing soil ecology research. He began his career as a research assistant at Agriculture and Agri-Food Canada's Food Research and Development Center, performing work to help preserve food quality and ensure safe food processing.

Mr. de Champlain considers Berger's horticultural niche extremely captivating; its direct impact in the field enables him to use his extensive background in research to the benefit of growers worldwide.

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Making PGRs
Work for You

Growers can face a number of challenges when applying plant growth regulators without fully understanding the product of their choice. A little attention to detail can increase the effectiveness of a PGR and more importantly avoid plant related problems such as a stunted crop, delayed flowering and phytotoxicity.

Many factors contribute to the success or failure of PGR applications. Regardless of what chemical is chosen, it is important to realize that improper application, excessive rates; stressed plants and weak root systems have an impact on the efficacy of a PGR.

Advice Nº 1

A Well-Planned Program

Success with plant growth regulators is based on a well-planned out program that incorporates PGRs into your production practises rather than a hit and miss approach. Growth regulators should be used as part of a preventative program where early applications coincide with the start of stretch. I prefer to shape a plant rather than holding a plant that got away from me. To shape a plant, low rates of PGR are applied more frequently at early stages. This approach is most effective if you have reliable records with dates of treatments, with environmental conditions at the time of application and with the response of the plants to the chemicals applied.

I would now like to review some important factors you need to consider when applying PGRs.

1. **Know your plants and the PGRs that are available.** There is no single product that is effective on all crops. Also know your varieties i.e. slow versus fast growing varieties of the same species.

2. **Closely monitor environmental conditions.** Varying humidity, light and temperature regimes can create different responses to the same rate of PGR. Focus also on the immediate plant environment, i.e. moisture content of the substrate, the soil pH and health of the developing roots. Certain environmental conditions, namely temperature and humidity, optimize leaf uptake.

3. **The "Activity level".** This refers to the sensitivity of plants to PGRs and the persistence of the growth inhibiting effect after the initial application. PGRs can be classified as having a low, moderate or high activity level.

4. **Different means of absorption.** Target the right absorption area. There is sufficient information available for each product indicating which part of the plant to target to maximise absorption rates.

5. **Rate of application.** In many instances, incorrect dosage can be the source of poor results. Rates used by southern growers have caused many a stunted plant when used by northern growers. Perform rate trials to determine which rate is best in your environment.

6. **Consistency and Uniformity.** With the newer high activity level PGRs such as Bonzi and Sumagic, correct volume per square foot is critical to avoid overdose and negative results. Regardless of the mode of application, it is important that coverage be consistent throughout the greenhouse.

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Advice N° 2

Product Specific Information

Cycocel

It is a more forgiving PGR that requires multiple applications since it has short term inhibition. It is absorbed by leaves as a spray and by roots as a drench. High leaf temperatures will decrease effectiveness. Maximum absorption into leaves takes at least 12 – 24 hours. Optimal uptake is when slow drying can occur.

B-Nine

Apply it exclusively as a foliar spray. It is also a more forgiving PGR with short term inhibition. For maximum absorption, no overhead irrigation for at least 12 hours after application.

Bonzi & Sumagic

Both of these PGRs have a high activity level; volume per square foot and rates should be measured carefully. Best absorbed by roots and stem. When applying as a spray targeted at the stems, avoid applying too heavily since this will create a sprench that is absorbed by the media and increase the chance of an overdose. These PGRs have a medium to long residual effect on plant growth and are less forgiving than Cycocel and B-Nine.

« B-Nine is the most forgiving PGR. »

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You have the tools available to control the height of your crops; it is just a matter of understanding each PGR, implementing a plan that maximizes the efficacy of each chemical and making height control an intricate part of your overall production plan.

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