

## ARE PLANT GROWTH REGULATORS WORTH THE INVESTMENT?

Plant growth regulators have been getting more attention from the agricultural community in recent years, but you may be wondering if they live up to the hype. WinField United's [Answer Plot®](#) program has generated solid research supporting the benefits of applying plant growth regulators (PGRs) both in-furrow at planting and later in the season as a foliar application. If you haven't added a PGR to your crop nutrition program, now may be the time to start.

### What do PGRs do?

PGRs are hormones that regulate the growth and development of plants. There are five basic classes of plant growth regulators, each with a different effect on plants, ranging from stimulating plant growth to dictating seed germination. Plant responses may vary depending on PGR type, rate and application timing.



- Auxin: Key regulator of plant growth and development that causes biological responses, such as flower formation, fruit set and growth, and root and stem growth.
- Gibberellins: Regulator of key processes in the plant to stimulate cell division and elongation, break dormancy and speed up seed germination.
- Cytokinins: Plant hormones that stimulate cell division.
- Ethylene: Plant hormone that induces ripening, causing leaves to droop and drop, often a result of stress.
- Abscisic acid: Plant-growth inhibitor that induces dormancy, prevents seed germination and causes stomata to close.

### When should you apply a PGR?

Plant growth regulators can be applied throughout the growing season. To promote vigorous root growth and early emergence, PGRs can be applied as a seed treatment or in-furrow at planting. The benefit of using a PGR before emergence is that seeds get an extra boost and a strong start when soil and environmental conditions might not be favorable.

The Ascend® plant growth regulator (PGR) lineup by WinField United includes products that can be applied as a seed treatment, in-furrow, or foliar application for season-long plant health benefits. Each Ascend plant growth regulator is formulated with an optimal blend of auxin, cytokinin and gibberellic acid to boost plant health and enhance stress tolerance.

[Ascend2® plant growth regulator](#) contains an auxin-dominant formulation to promote vigorous emergence and root development in corn. When combined with a starter fertilizer, Ascend2 offers a simple, convenient way to enhance early-season crop growth and [stress tolerance](#). Based on multiple years of Answer Plot trials, corn that received Ascend2 PGR in-furrow along with starter fertilizer had a 3 bushel per acre yield advantage compared to crops that only received a starter fertilizer.<sup>1</sup>

Applying a foliar PGR before corn tasseling can help stimulate plant growth and development to harness more energy for grain fill. An application at V4 to V6 in corn makes sense because you'll have a better idea of your crop's yield potential and can focus PGRs where you'll get the best potential return on investment.

Ascend® SL PGR is a soluble liquid plant growth regulator ideal for a foliar application in corn, soybeans, cotton and other crops. It supports cell division, leaf expansion and root formation ahead of critical reproductive stages. When applied along with [MasterLock®](#) adjuvant as a foliar application at V4 to V5 in corn, [Ascend SL PGR](#) has shown a 1.6 average bushel per acre yield advantage.<sup>2</sup>

### **Aren't all PGRs the same?**

PGR is a broad term for any product that uses plant hormones to generate a plant response. PGRs can initiate many plant responses, from more vigorous root growth and stem elongation to plant senescence. Therefore, not all products provide the same results. Before you invest in a PGR, be sure you know what the active ingredients are and what the expected plant response is.

It's important to remember that more active ingredient does not always mean a better plant response when applying PGRs. Always ask for firm data to back up any product claims.

To learn more about PGRs and where they fit into your management plan, talk with Aaron, Jarret, Todd, Keegan or Ron.

P.S. We might be able to help with equipment for in-furrow applications.



1 Compared to starter fertilizer alone. Based on over 60 trials across Answer Plot locations in 15 states from 2017 to 2021.

2 Compared to no treatment. Based on trials at 50 Answer Plot locations from 2017 to 2019.

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