JPA Landscape & Construction, Inc.

April showers bring May flowers. We finally got some rain this month, although it did not last long at all. While getting ready for this heat, we are also increasingly acute to the drought demands that are arising in the not so distant future. To that accord, this month we bring you an alternate solution to reducing irrigation and improving the water efficiency of your landscape: Plant Growth Regulators (PGRs). In our "On JPA" section we tell you our plan of action with PGRs. For April the plant of the month is the Impatien, chosen for its popularity in Spring Color Beds. Lastly, we finish off with "This Month in Maintenance."

If Only it Needed Less Water: PGRs & Drought Resistance

As the demand for water increases everyone is looking for methods of reducing the water needed to irrigate our landscapes. Some have turned to rock gardens or plants that naturally require less water. These are viable solutions; however, as science has progressed, we have found another method of reducing water requirements of plant material. Plant growth regulators, PGRs for short, have been proven to improve the drought resistance of plant material.

First things first, what is a plant growth regulator? In the most simplistic terms, a plant regulator regulates the growth of a plant. PGRs are widely used to prevent plants from growing too quickly or on the other side, to improve and increase the growth of a plant. How does something that regulates the growth of a plant reduce the effects of drought? To understand this you need to know what happens to a plant when it does not receive enough water.

There are a multitude of processes that take place when a plant is unable to take in enough water. The resulting deficiencies on the plant are as follows.

- Impaired Nutrient Uptake & Distribution - In drought, nutrient uptake is inhibited. When the available water to a root system is low, the plant is often unable to disseminate the nutrients it absorbs throughout the plant.
- Reduction in Photosynthesis - In an effort to conserve water and energy, a plant will greatly reduce photosynthesis and in turn growth.
- Decline of Root Shoot Growth - As the plant's energy declines it is unable to produce more root shoots, thus limiting its resource base and growth.

Thus, in order to be more drought resistant, a plant needs to reduce water loss or acquire more water. This is where PGRs come in.
In reducing the growth rate of the plant material, PGRs are able to reduce the required water a plant needs to survive. It helps the plant to make do with what it has by stimulating the growth of drought-resistant characteristics.

- Reduction of Evapotranspiration - In reducing the growth rate of the plant material, the PGR is decreasing evapotranspiration (which is just a fancy word that means that less water is taken in by the plant and thus left in the soil). Greenhouse research has confirmed that growth regulators can reduce turf evapotranspiration by up to 29%.
- Increase Leaf Water Content - Plants absorb water when their water potential is negative. A plant can decrease its water potential by accumulating solutes (sugar, amino acids, and organic acids and ions - like potassium K+).
- Improve Root System - PGRs can improve the growth of extensive rooting. Increasing growth of extensive root systems can produce a plant better able to resist drought. Deeper more extensive rooting allows exploration of more stored soil moisture & because of the greater reservoir, reduces a potential degree of water stress at any stage between irrigations.

The extent to which PGRs will increase drought resistance varies across the board for different plant types. We recommend a multi solution approach to addressing drought and water restrictions. You can find some of these solutions on our blog.

On JPA:

In accord with this month's main article, JPA will be applying PGRs to drought stressed hedges throughout the properties we maintain. As with most living entities, plants do not respond uniformly to treatments. Plant material that is already drought tolerant by nature is less likely to benefit from PGRs as they already have modest growth rates. We expect to see the greatest development from plants like Privet, Escalonia, Xylosma, Pittosporum, Rhaphiolepis, and Ivy.

This month we will also be attending the CAI sponsored event Ladies Tea in Pleasanton. We hope to see those of you in the industry there.

Plant of the Month: Impatiens

The Bizzie Lizzie, Touch-me-not, Blue Diamond, Poor Man's Rhododendron...

These are just a few varieties of the nearly 1,000 impatient species. We have chosen Impatiens this month because of their characteristic use in Spring Color palettes. Impatiens do best in a partial to full shade and come in a wide variety of colors making them an attractive choice. You can see some of our Seasonal Color work with impatiens on our Facebook Page.

Impatiens originated from the eastern part of Africa. They were introduced to the western world in 1896. Until the 1950s Impatiens were only available as an open pollination plant with a minimal variety of colors. Since then growers have developed seed through hybridization to create the varieties we see today. Impatiens, historically, as is true today, are frequently used in varying herbal remedies to treat bee stings, insect bites, and some rashes.

As one of their less favorable traits, Impatiens now have their own fungal disease called Impatiens downy mildew. This disease was wide spread last year, affecting plant stock throughout the country and limiting their availability.

This Month in Maintenance

- Begin turf weed control

- Manual weed control (as required)
- Spot treat weeds
- Complete Spring Color install*
- Bait for snails
- Replenish bark areas*
- Tip prune shrubs (not inclusive of flowering shrubs)
- Treat for aphids*
- Evaluate current irrigation programs

*Items marked with an asterisk are not included in all maintenance service contracts. If you are interested in any of these services, now is the time to have them done. Please respond to this email with your request for pricing.

In conclusion, we would like to remind you to get your Spring Color requests and approvals in as soon as possible to ensure the best selection and availability. We hope you enjoyed this months article on plant growth regulators and their utilization in the world-wide drought predicament. Be sure to check out our Blog for old Newsletter posts and our Facebook page for more information and photos.