

## Now there is a new and better way to manage tree growth while enhancing tolerance to stress and drought.

Mastiff PGR provides beneficial growth reduction and acts to:

- Manage growth of trees under power lines, which reduces pruning labor and the risk of power outages.
- Maintain scenic views with less pruning.
- Manage the growth of trees planted too close together.
- Reduce the growth of trees planted too close to homes, decks, foundations, sidewalks, or other structures.
- Stimulate fibrous root systems.
- Improve stability of trees in mild decline.
- Boost drought and stress tolerance.
- Speed recovery from stress brought on by drought, pollution, and temperature extremes.



## Wedgle® Direct-Inject™ Tree Treatment System

Mastiff is specially formulated to be applied using the Wedgle Direct-Inject Tree Treatment System. An innovative trunk injection system, the Wedgle lets applicators place a chemical dose into the active layer of the tree, where the tree can easily use it. The Wedgle Direct-Inject System is also the ONLY method of trunk injection that does NOT require the drilling during the application process. Drilling holes in a tree can cause permanent wounding and should be avoided.

## What impact can PGRs have on people, pets, wildlife or the environment?

PGRs meet rigorous standards set by the Environmental Protection Agency (EPA), which requires years of testing and helps ensure that PGRs do not pose unreasonable adverse effects to humans, animals, or the environment. In addition, only trained professional applicators using proven application methods can apply PGRs.

## What about birds or other wildlife?

PGRs don't accumulate in fruit or nuts, so there is little risk to birds or squirrels.

## Can Mastiff PGR contaminate the groundwater supply?

While soil-injected chemicals have the potential to cause groundwater contamination, Mastiff is trunk injected so there is virtually no risk of soil or groundwater contamination. Mastiff moves upward with the tree's natural translocation process.

## Can I burn the leaves or wood from a treated tree?

Trace amounts of PGRs found in the leaves or wood of treated trees break down into harmless elements when burned. There is no need to avoid burning.

## Can leaves of treated trees be used as mulch or garden cover?

Yes, leaves of treated trees can be used as mulch around shrubs, flowerbeds, and gardens.

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*Information for our neighbors:*

# Facts about trees, powerline safety, and plant growth regulators.

Each year, thousands of trees near overhead powerlines need to be pruned to prevent branches from causing power interruptions or outages.

To reduce the frequency of pruning, we are treating selected trees with a plant growth regulator that will also boost tree tolerance to drought, stress, and disease. This brochure answers many common questions about this process.

## Mastiff PGR for trees:

- **Lowers power outage risks**
- **Reduces the need to prune trees**
- **Cuts city maintenance costs**
- **Boosts tree stress tolerance**

 **ArborSystems**   
The No-Drill Injection Solution

## Q What is Mastiff™ PGR?

**A** Plant growth regulators (PGRs) produce desirable growth reduction in a wide variety of plants and trees. PGRs have been used successfully for over 50 years in many applications, from growing nursery stock to managing tree growth. Mastiff PGR is a plant growth regulator that controls growth in the tree's crown (branches) while also boosting tree tolerance to stress and drought.

### Why use Mastiff PGR instead of just pruning trees?

Mastiff PGR is used to reduce the frequency of costly, laborious, and sometimes dangerous pruning. When it is anticipated that trees will grow into power lines, or that they may limit desirable views, plant growth regulator (PGR) use can greatly reduce the need for pruning over the life of the tree. A single application of Mastiff can reduce tree growth up to 70% over three to five years.

Trees near power lines are generally pruned every three years. Mastiff PGR can extend the frequency of pruning cycles by five or more years, providing considerable cost savings. If a three-year pruning cycle is maintained, pruning is less severe which can result in a more natural-looking tree.

### Will Mastiff PGR eliminate pruning?

No. Mastiff does not eliminate growth, it simply slows and condenses growth so pruning is required less often. Mastiff cannot replace pruning when trees already need to be pruned.

**Compare  
1 year growth  
in untreated  
and  
treated Cottonwood**



### How will Mastiff PGR affect a tree's appearance or health?

Because stem growth is compacted, leaves will be more closely spaced, producing a thicker, healthier look. You may notice shorter "internodal" growth, the distance between where groups of leaves attach to a branch. The energy a tree usually spends growing longer stems is used instead to increase the tree's defenses, leading to higher tolerance to a variety of stresses and disease. Leaves on a treated tree often appear thicker and darker green.



### Do treated trees need special care?

Treated trees require no special care. In fact, field studies indicated that treated trees generally are able to better withstand the stress of drought or excessive heat compared to untreated trees.

### Will Mastiff PGR affect neighboring trees, surrounding grass, or bedding plants?

A unique benefit of Mastiff PGR is that it is applied using the latest in microinjection technology. Injections are made through the bark using the Wedgle Direct-Inject Tree Treatment System. Many other PGRs are soil injected which can result in damage to grass, plants, or other vegetation at the base of the tree. Mastiff PGR, injected with the Wedgle system, will affect only the tree being treated.

The Wedgle process is a closed system, which virtually eliminates off-target chemical impact. The Wedgle Direct-Inject System is also the ONLY method of trunk injection that does NOT require the drilling during the application process. Drilling holes in a tree can cause permanent wounding and should be avoided.

### What time of year should trees be treated?

Trunk injections can be made anytime the tree is accepting chemical (usually from early spring to late summer). In the case of Mastiff, injections made in the late summer will reduce growth the following spring and for several subsequent years. If injecting in the spring, results will be seen in following years. In any event, timing is not as important with Mastiff because of the three-year residual growth reduction.

### How long will Mastiff PGR affect my tree?

Depending on the location and other environmental factors, Mastiff PGR will manage tree growth for three to five years. When longer stems begin to appear between leaves, it is time to treat again.



### How are PGRs used?

Plant growth regulators have been used in the nursery and florist industries since the 1960s to produce more compact and attractive ornamental plants. Today, the most common use for trees is on those planted near overhead power lines. The use of PGRs on trees near power lines not only helps manage growth, it also reduces the risk of power outages resulting from overgrown branches damaging power lines.

PGRs have many other applications. Cities use PGRs to control the size of street trees to keep retail and street signage visible. Homeowners use PGRs to maintain desirable views or to control growth of trees planted too close together, or too close to sidewalks or decks.

Mastiff PGR is a Direct-Inject™ chemical from



The No-Drill Injection Solution