

Tree Growth Regulator Application

Developed For:

Franklin Tree Commission Meeting - 28 September, 2015

By:

Middle Tennessee Electric
Membership Corporation

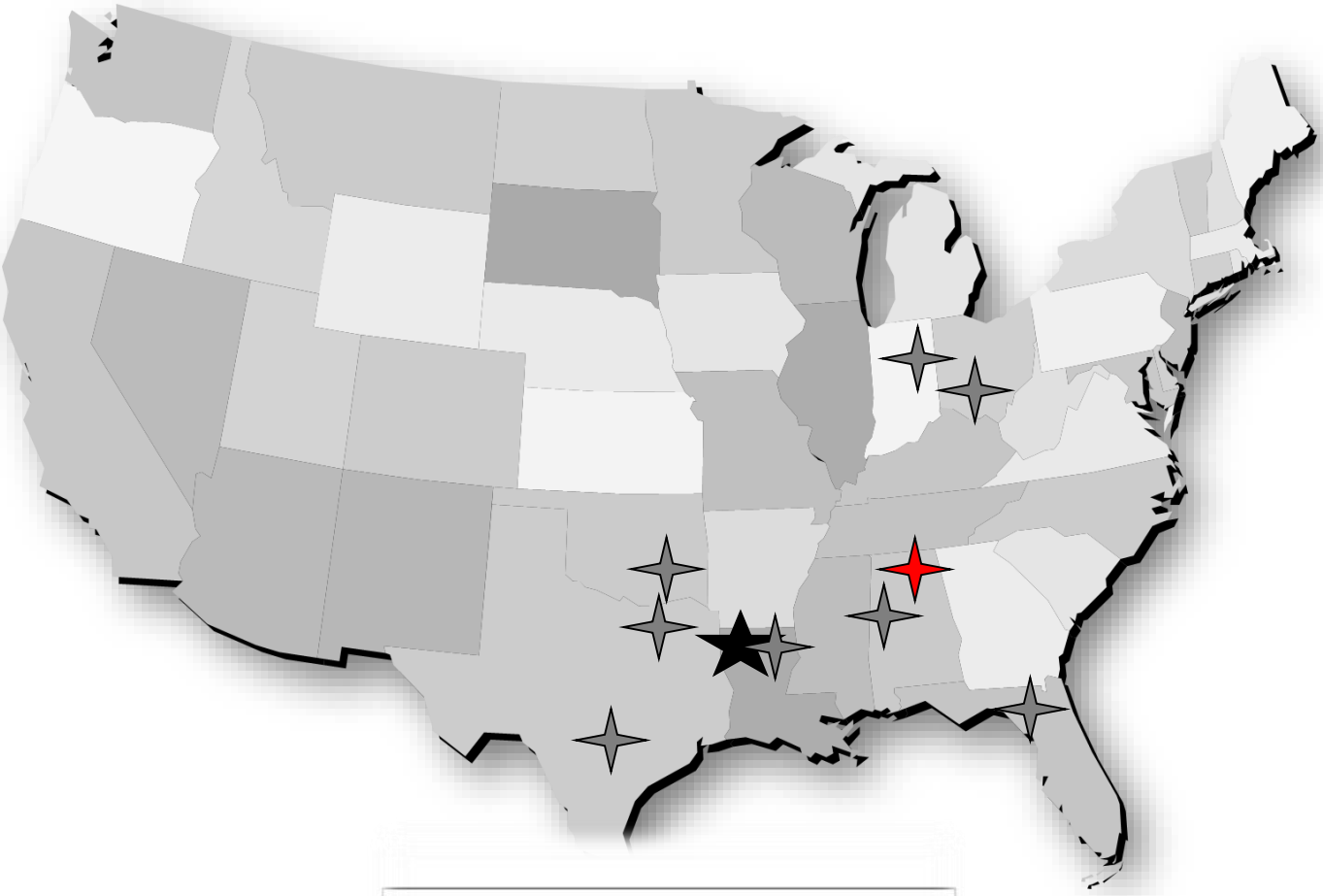


The logo for edko features the word "edko" in a bold, lowercase, sans-serif font. The letters are white and are set against a solid black rectangular background. The 'e' and 'd' are connected, and the 'k' and 'o' are also connected. The entire logo is centered within a white rectangular frame that has a thin black border.

edko

VEGETATION MANAGERS

Office Locations



Staff

Owner/President/CEO – Mike Vasko (33 years)

Vice President – Jason Sellers (10 years)

District Manager – Brian Tekulve (8 years)

Supervisors – Clint Morgan (5 years)

– Chaise Oliver (2 years)



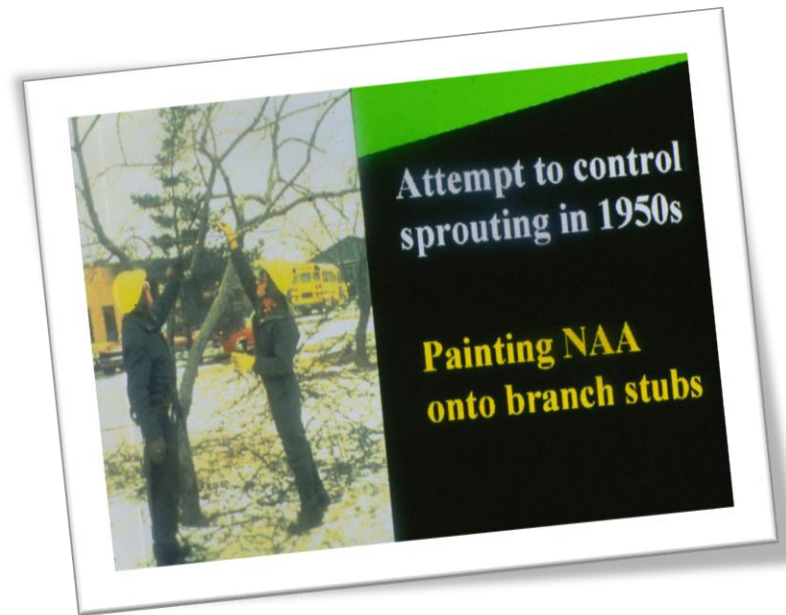
Edko Customer Sample

- **MTEMC**
- Alabama Power
- Huntsville Utilities
- Georgia Power
- Duke Energy - Florida
- **AEP** (Ohio Power, App Power, I&M Power, SWEPCO)
- Oklahoma Electric Coop



About TGRs

- **TGR research began in the 1950's**
- **First commercial growth regulators were herbicides used at reduced rates**
 - Caused a total stoppage of growth at point of contact
 - Useful to prevent sprouting of individual suckers
 - Best application via aerosol spray
 - Disfigurement if systemically applied



About TGRs – 1980's

- **New generation of growth regulator chemistry**
- **Reduce the amount of gibberellic acid**
 - Hormone responsible for cell elongation
 - Plant structures remain intact, but more compact
- **Three active ingredients**
 - Paclobutrazol, flurprimidol, uniconazole

About TGRs – 1980's

- **New application techniques**
 - Capsules
 - Tree injections



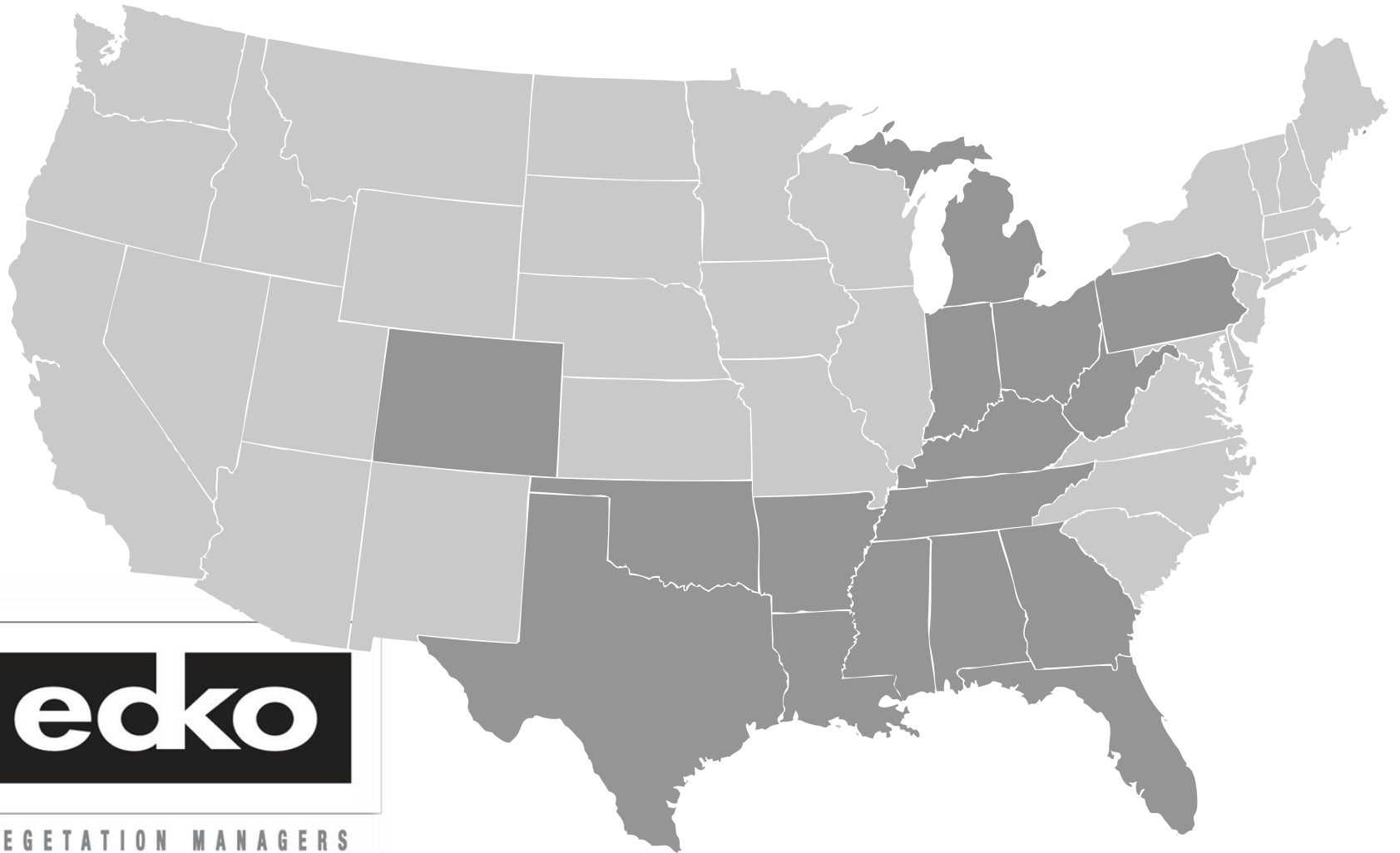
About TGRs – 1990's

- **More research on active ingredients, doses, and application techniques**
- **Systemic soil applications become preferred**
- **More consistent, predictable results**
- **May take up to 1 year to see results**
 - Effects may last for 3+ years



**TREE GROWTH
REGULATOR**

Applications in 16 States



edko

VEGETATION MANAGERS



Effectiveness

- **In general:**
 - 40-70% reduction in growth
 - All regions of the country
 - Different climates
 - Different soils
 - Different species



Sweetgum – North Carolina



Yellow tab - Florida

Growth Comparison

Clearwater, FL - 2012

Treated



Untreated



Mobile, AL - 2007



10 Months After Treatment



26 Months After Treatment

The cycle on these city trees was extended from 18-24 months to nearly 5 years!

Tree Growth Regulator Applications



- Slowing tree growth rates allows users to:
 - Extend and protect line clearing investments
 - Extend Trim cycles in
 - High Traffic Areas
 - Customer Sensitive Areas
 - Reduce mid-cycle trimming or trimming frequency
 - Improve service reliability
 - **Enhance overall safety**
 - Create a Win/Win for utility and homeowners



The Davey Tree Expert Co.

- **8,000+ employees**
- **Established in 1880**
- **17th largest employee-owned company**
- **4 major service lines**
 - Residential
 - **Utility**
 - Commercial
 - Resource Group (consulting)



The Davey Institute

- **Technical Services**
 - PhD support for all North American operations
 - Connecting “What we know” with “What we do”
- **Research**
 - Plant science
 - Ecosystem services, i-Tree, Energy Saving Trees
- **Education/Training**
- **Environmental Programs**
 - Regulatory compliance
 - Corporate environmental responsibility
- **Product Development**
 - Arborlock 2SC



Relative Toxicity

- **ArborLock 2SC**
 - Acute Dermal Toxicity LD50 = >5050 mg/kg
 - No known or suspected carcinogens
- **Purel**
 - Acute Dermal Toxicity LD50 = >5000 mg/kg
 - No known or suspected carcinogens
- **Deep Woods Off**
 - Acute Dermal Toxicity LD50 = 2000 mg/kg
 - No known or suspected carcinogens
- **Banana Boat Kids SPF50**
 - No Acute Dermal Toxicity
 - Contains known and suspected carcinogens

Frequently Asked Questions

Q: Are Tree Growth Regulators new?
 A: The first slow tree growth regulators have been introduced and used in the green industry since the late 1970's.

Q: Will ArborLock™ 2SC affect the appearance of my tree?
 A: There is no visible effect on the appearance of the tree. The product will typically have a thin green film that can be attributed to an increase in chlorophyll concentration.

Q: Can I use the tree leaves as mulch or green lawn?
 A: Yes. Leaves from treated trees can be used as mulch around trees or in gardens.

Q: Can ArborLock™ 2SC affect surrounding vegetation?
 A: Yes. It is possible to affect the surrounding vegetation if the roots come in contact with the product. Pesticides. The plant growth will be slowed with similar effects as on trees.

Q: Is ArborLock™ 2SC safe for people, pets, and wildlife?
 A: ArborLock™ 2SC has an EPA Registration. The effects of ArborLock™ 2SC are highly specific to processes found in plants. There are no reported cases of adverse effects on people, pets, or wildlife. ArborLock™ 2SC, by its nature, must always be applied according to label instructions.

Q: What is the effect of ArborLock™ 2SC on plant growth?
 A: Industry standards require laboratory and field studies of all ArborLock™ 2SC applications to ensure an accurate understanding of all which means extensive testing is required.

Q: How long will ArborLock™ 2SC stay in the tree?
 The active ingredient in ArborLock™ 2SC is a plant hormone. It is not a pesticide. It is a natural substance that is naturally present in all plants which means it is not toxic to plants. It is a natural substance that is naturally present in all plants which means it is not toxic to plants.

ArborLock™ 2SC
 GROWTH REGULATOR FOR TREES

For questions regarding ArborLock™ 2SC, check out our website www.davey.com/2SC
 952.217.3378 | Sales.Fred@davey.com



About ArborLock™ 2SC

ArborLock™ 2SC is a tree growth regulator (GDR) that slows tree canopy growth without affecting the tree. The active ingredient in ArborLock™ 2SC is called Paclobutrazol. Trees treated with ArborLock™ 2SC will typically have a denser green appearance to the foliage.

Benefits of ArborLock™ 2SC

For Utilities

- Reduces branch growth 65% - 85%
- Reduces density from 50% to 20%
- May extend the utility life cycle

For Land Owners

- Denser green appearance of foliage
- Less frequent pruning may be needed
- Prolonging tree life expectancy

Application of ArborLock™ 2SC

ArborLock™ 2SC must be applied to a target species of tree to be effective. Application can be made through the trunk or by spraying the canopy. The tree's natural growth rate is determined by its genetic makeup and by the combination of other factors including canopy and environmental conditions.

ArborLock™ 2SC must be applied by Certified Applicators based on regional growth requirements. All Certified Applicators are trained in application protocols and the use of the product. All applicators and operators are advised to read the instructions, application process, and safety label.

The Science of ArborLock™ 2SC

Trees are sophisticated organisms with many complex and highly differentiated parts. Their growth and development is regulated by the balance of numerous plant hormones, one of them is most often associated with growth.

ArborLock™ 2SC applied near the base of a tree is absorbed within the xylem toward the growing tip where it inhibits endogenous growth by reducing the synthesis of gibberellins, a natural plant hormone. Gibberellins are a "growth hormone" - one of the main functions of gibberellins is to increase cell elongation. If cell elongation is inhibited, stem elongation occurs.

About The Davey Tree Expert Company
 Founded in 1882 and employee owned since 1978

DAVEY
 TREE EXPERT COMPANY

Strong brands. Engaged employees. Exceptional service.

With operations throughout North America, our branches have expanded, but our commitment to exceptional, expert horticultural and environmental products and services and outstanding client service has never wavered.

If you're interested in careers regarding ArborLock™ 2SC, please contact us at 952.217.3378 or visit www.ArborLock2SC.com




Questions?

Middle Tennessee Electric
Membership Corporation



Thank You!