

# AUGEO™

## PLANT GROWTH REGULATOR

## SPECIMEN LABEL

**For reducing or breaking apical dominance in plant shoots and enhances lateral branching in Greenhouse, Lath and Shadehouse, Nurseries (field and containerized) and/or farms for deciduous, evergreen (broadleaf and needle) and conifer trees including, but not limited to Christmas tree farms and conifer farms.**

**ACTIVE INGREDIENT:**

Dikegulac-sodium (Sodium salt of 2,3:4,6-bis-O-(1-methylethylidene)-a-L-xylo-2-hexulofuranosonic

..... 18.5%

**OTHER INGREDIENTS:** ..... 81.5%

**TOTAL:** ..... 100.0%

**This product contains:** 1.67 lb dikegulac-sodium per gallon or 200 grams active ingredient per liter. (1.55 lb dikegulac acid equivalent per gallon or 17.1%)

EPA Reg. No. 2217-932-59807

EPA Est. No. 2217-KS-2

**KEEP OUT OF REACH OF CHILDREN**

### CAUTION

**STOP! READ THE ENTIRE LABEL FIRST. OBSERVE ALL PRECAUTIONS AND FOLLOW DIRECTIONS CAREFULLY.**

#### FIRST AID continued

#### HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1-800-356-4647 (24 hrs) for emergency medical treatment advice.

#### FIRST AID

<b>IF IN EYES:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15 - 20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF INHALED:</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF ON SKIN OR ON CLOTHING:</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF SWALLOWED:</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>Continued next column</b>	

#### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION:** Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing.

#### Personal Protective Equipment (PPE)

Mixers, loaders, applicators, and other handlers must wear: long-sleeved shirt, long pants, shoes and socks.

#### User Safety Requirements

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Discard clothing or other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

#### User Safety Recommendations

- Users should wash hands thoroughly with soap and water before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Users should remove clothing/ PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Users should remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**Net Contents: .5 gallon (64 fl.oz. or 1.892 L)**



## ENVIRONMENTAL HAZARDS

For terrestrial uses: Do not apply directly to water, or to areas where water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

- Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.
- For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.
- Do not apply through any type of irrigation system.
- Do not use on food or fodder crops.

### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170.

This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as soil or water, is:

- coveralls
- protective eyewear
- chemical-resistant gloves made of any waterproof materials and
- shoes plus socks

**AUGEO™** is a systemic plant growth regulator applied as a foliar spray that reduces or breaks apical dominance and enhances lateral branching. **AUGEO** is absorbed through the leaves and translocated to the shoot tips. Pinching effect is limited to sprayed branches. **AUGEO** will chemically pinch unpruned shoots and will also increase branching of trimmed shoots. **AUGEO** produces full, well branched plants with more abundant bloom. **AUGEO** reduces the need for mechanical pinching and pruning. **AUGEO** can increase lateral shoot development for use in vegetative cutting propagation.

### Mixing Instructions

Clean spray equipment before use. Rinse spray equipment with water after use and dispose of rinsate in an approved manner. Fill the spray tank with half the required amount of water. Use the DILUTION TABLE (Table 1) to determine the amount of **AUGEO** needed for the required concentration. Measure accurately the desired volume of product and add it to the tank.

Fill the tank with the remaining amount of required water. Agitate the mixture of **AUGEO** to assure uniform distribution during application.

Table 1: AUGEO Dilution Table

Spray Concentration	Dilution	
	fl.oz. AUGEO per gallon	mL (cc) AUGEO per gallon
400	¼	7.3
532	⅓	9.8
800	½	14.7
1064	⅔	19.6
1200	¾	22.1
1600	1	29.5
2132	1⅓	39.4
2400	1½	44.3
3200	2	59.1
4000	2½	73.9
4800	3	88.7
6400	4	118.2

### \* PPM Dikegulac-sodium

#### Application Techniques

Best response is obtained on lush growth or under good growing conditions. Avoid treating plants under cool weather conditions or extremely hot summer temperatures. Plants must be well rooted and actively growing. Do not treat wilted or dormant plants. Plants must be healthy and not under stress from drought, nutritional deficiency or disease. Avoid treating plants under conditions favoring root disease, such as standing water in poorly drained soil. **AUGEO** should be applied on shorter, more tender new shoots than usually considered appropriate for hand pinching. For optimal results, remove any flower buds or flowers present, and trim all long shoots. **AUGEO** is best absorbed by soft, fully developed leaves. If plants have been heavily pruned at least two pairs of expanded leaves should remain on each shoot.

For best results use **AUGEO** on rooted cuttings or young liners. One application is usually sufficient to get good frame branching. Subsequent pinching of older plants can be done with **AUGEO** to further improve branching.

In frost susceptible regions, the final treatment should be made sufficiently early in the season so that the new growth will harden off before frost. Overdosing with **AUGEO** may result in marked chlorosis, necrotic terminal shoots and delayed re-growth. Under-dosing or applications made late in the crop cycle may result in little or no pinching effect.

#### AFTER TREATING PLANTS WITH AUGEO:

- Allow sufficient time for the chemical pinching response. There is no visible effect for the first 7 to 10 days. Trimming or hand pinching after applying **AUGEO** may interfere with the action of the product.
- One (1) to two (2) weeks after treatment, the terminal growth and young leaves will often show distinct yellowing or chlorosis. This is normal and indicates **AUGEO** is working. This effect is transient and cannot be stopped by giving additional nutrients.
- **AUGEO** treated plants will not grow for some weeks and thus will require less fertilizer and water than hand pinched plants, until the axillary buds break and new growth begins. Do not over fertilize and overwater during this period.
- If growing conditions favor disease, make preventive fungicide applications.

- Give the plants enough space and light for new shoots to develop after axillary buds have broken.
- Cuttings taken from **AUGEO** treated plants root and grow normally.

### Spray Drift Management

Non-target terrestrial plants can be adversely affected when exposure to this product. Avoid spray drift to non-target terrestrial plants during application.

- Do not apply when wind velocity exceeds 15 mph, or when wind gusts approach 15 mph.
- Do not apply this product if the wind direction does not favor on-target deposition.
- Use only spray equipment with medium or coarser spray nozzles according to ASAE (S572) definition for standard nozzles. In conditions of low humidity and high temperatures, applicators must use a coarser droplet size.

### Spray Application

Use rates of **AUGEO** vary with different species (Tables 2 to 4). Where a dosage range is given use a concentration in the lower part of the indicated range. For tender, sensitive varieties use a concentration in the lower part of the indicated range. For vigorous, rank-growing varieties or if temporary retardation of growth is desired use a concentration in the higher part of the indicated range.

Sprays should be applied either to un-pinched shoots when they reach 1 to 3 inches long or to trimmed plants within 3 days after cutting back new growth. For annuals and other nursery plants produced during a short growing season use one application. For perennials and other nursery plants produced during a long growing season under favorable condi-

tions, two applications may be required to break apical dominance. The interval between applications can range from two weeks for less responsive plants (such as hollies, photinia, osmanthus, and glossy abelia) to 8 weeks for more responsive plants (such as azalea). Spray entire plant until wet. Thorough coverage of foliage is the key to good results. Use a spray volume of 2 quarts per 100 sq.ft. of area. Large plants may require higher spray volumes.

The spray solution should be used the same day it is prepared. Do not mix **AUGEO** with fertilizers or other pesticides. A surfactant is incorporated in the product. No additional wetting agent is needed for foliar applications. Plant foliage should be dry when spray is applied. On very hot, sunny days, spray preferably early in the morning or late in the afternoon. After spray has dried, re-spraying may overdose previously treated plants. Be careful to avoid overlapping treatment of plants. Effectiveness may be reduced if treated plants are subject to rainfall or overhead irrigation within 6 hours after spraying. Trimming after applying **AUGEO** may interfere with the action of the product.

### Application rates (spray concentrations) for Greenhouse, Lath and Shadehouse, Nurseries (field and containerized) and/or farms for deciduous, evergreen (broadleaf and needle) and conifer trees including, but not limited to Christmas tree farms and conifer farms.

Rate determination for plants varies greatly from genera, species and varieties. It is impossible to determine the optimum rate for all crops grown. The user should conduct trials on a small number of plants, adjusting the rate of **AUGEO** to achieve the desired level of control. For plants not listed in Tables 2,3, and 4 it is recommended the user trial **AUGEO** on a small number of plants at 800 PPM and adjust up or down to achieve the desired level of control. User assumes all risk for species not listed on label.

<b>Table 2. Bedding, Flowering and Foliage Plants</b>			
<b>Plant</b>	<b>Rate Range PPM AUGEO*</b>	<b>fl.oz. AUGEO per gallon</b>	<b>mL (cc) AUGEO per gallon</b>
<i>Aeschynanthus</i> spp. - Lipstick vine	532 to 1064	1/3 to 2/3	9.8 to 19.6
<i>Begonia</i> - Elatior hybrids <i>Begonia x cheimantha</i> Treat unpinched plants with 2 to 3 inch (5 to 8 cm) long shoots 8 to 10 weeks before finishing for sale. Rooted leaf cuttings can also be treated.	800 to 1600	1/2 to 1	14.7 to 29.5
<i>Cissus</i> spp. - Grape ivy, Tree bine	800 to 1600	1/2 to 1	14.7 to 29.5
<i>Coleus</i> spp.	800	1/2	14.7
<i>Fuchsia</i> hybrids - Fuchsia, lady's-eardrops Treated rooted cuttings with 2 to 3 pairs of leaves or as soon as branching becomes desirable, but not later than 10 to 12 weeks before finishing for sale.	800 to 2400	1/2 to 1 1/2	14.7 to 44.3
Ivy, English - <i>Hedera helix</i>	1600	1	29.5
Ivy, Geranium, hanging geranium - <i>Pelargonium peltatum</i>	1600	1	29.5
<i>Kalanchoe</i> hybrids To induce lateral branching, more compact growth with a greater number of inflorescences, treat 2 days after pinching the main shoot.	1064 to 2400	2/3 to 1 1/2	19.6 to 44.3
<i>Lantana camara</i> - large leaf lantana	800 to 1600	1/2 to 1	14.7 to 29.5
<i>Lantana</i> sp. 'Son' series - trailing and weeping lantana	800 to 1600	1/2 to 1	14.7 to 29.5
<i>Pachystachys lutea</i> - Shrimp plant Treat 1 day after mechanical pinching.	800 to 1600	1/2 to 1	14.7 to 29.5
<i>Petunia</i> hyb. Trailing 'opera'	800	1/2	14.7
<i>Schefflera arboricola</i>	3200	2	59.1
Verbena hybrids Treat unpinched seedlings, or plants from cuttings 1 day after manual pinching.	532 to 1064	1/3 to 2/3	9.8 to 19.6
<i>Verbena</i> spp.	800 to 1600	1/2 to 1	14.7 to 29.5

\*PPM Dikegulac-sodium

Table 3. Shrub Plants			
Plant	Rate Range PPM AUGEO*	fl.oz. AUGEO per gallon	mL (cc) AUGEO per gallon
<i>Abelia x grandiflora</i> , glossy abelia	800	½	14.7
<i>Acacia farnesiana</i> - Sweet acacia	1600	1	29.5
American arborvitae, northern white cedar – <i>Thuja occidentalis</i>	400	¼	7.3
Azaleas (Rhododendron hybrids) Start treating rooted cuttings. Greenhouse azaleas may be treated several times during the first year of growth. For the final pinch treat no later than early July to avoid delayed bud development and subsequent bloom.	3200 to 6400	2 to 4	59.1 to 118.2
Bottlebrush, crimson - <i>Callistemon lanceolatus</i>	1600 to 3200	1 to 2	29.5 to 59.1
Bougainvillea - <i>Bougainvillea</i> spp.	1600	1	29.5
<i>Buddleia</i> spp. - Butterfly bush	532 to 1600	⅓ to 1	9.8 to 29.5
Cherry-laurel - <i>Prunus laurocerasus</i>	1600 to 3200	1 to 2	29.5 to 59.1
<i>Clerodendrum</i> spp. - Glory-bower, Kashmir bouquet, tube flower	1064 to 2132	⅔ to 1⅓	19.6 to 29.4
<i>Cleyera japonica</i>	3200	2	59.1
<i>Cotoneaster</i> spp.	800 to 1600	½ to 1	14.7 to 29.5
<i>Eugenia myrtifolia</i>	1600 to 2400	1 to 1½	29.5 to 44.3
<i>Euonymus</i> spp. - burning bush, climbing spindle tree	800 to 1600	½ to 1	14.7 to 29.5
<i>Fatsyhedera lizei</i> - Aralia ivy, botanical wonder, tree ivy	1200 to 1600	¾ to 1	22.1 to 29.5
<i>Forsythia</i> spp.	1600 to 3200	1 to 2	29.5 to 59.1
<i>Gardenia jasminoides</i> - Cape jasmine	2400 to 4800	1½ to 3	44.3 to 88.7
<i>Gelsemium sempervirens</i> - Evening trumpet flower	1600 to 3200	1 to 2	29.5 to 59.1
Holly, inkberry, winterberry - <i>Ilex</i> spp. To induce branching treat vegetative growth in early spring. To prevent berry set on Japanese holly, <i>Ilex crenata</i> , use ⅔ to 1½ fluid ounces of <b>AUGEO</b> per gallon at any time from prebloom, tight bud stage through midbloom.	1064 to 4000	⅔ to 2½	19.6 to 73.9
<i>Ligustrum</i> spp. - Privet	800 to 1600	½ to 1	14.7 to 29.5
<i>Oleander</i> – <i>Nerium oleander</i> , rose-bay oleander	1600 to 2400	1 to 1½	29.5 to 44.3
<i>Osmanthus</i> spp. - devil-weed, Aerican olive, fragrant olive, sweet osmanthus	1600 to 3200	1 to 2	29.5 to 59.1
<i>Photinia fraseri</i> After mechanical pinching or trimming apply two treatments at a 10 to 14 day interval to induce lateral bud break.	3200 to 6400	2 to 4	59.1 to 118.2
<i>Pittosporum tobira</i> - Australian laurel, house blooming mock-orange, Japanese pittosporum	1600 to 3200	1 to 2	29.5 to 59.1
<i>Pyracantha coccinea</i> - Indian hawthorn	3200 to 4800	2 to 3	59.1 to 88.7
<i>Raphiolepis indica</i> Apply a single treatment or two treatments at a 10 to 14 day interval to induce lateral bud break.	2400 to 4000	1½ to 2½	44.3 to 73.9
<i>Viburnum</i> spp.	2400 to 3200	1½ to 2	44.3 to 59.1
<i>Xylosma</i> spp.	2400 to 3200	1½ to 2	44.3 to 59.1

\*PPM Dikegulac-sodium

**Table 4. Trees**

Plant	Rate Range PPM AUGEO*	fl.oz. AUGEO per gallon	mL (cc) AUGEO per gallon
Crape myrtle - <i>Lagerstroemia indica</i> For miniature crape myrtle varieties, use 1 fluid ounce of AUGEO per gallon.	1600 to 3200	1 to 2	29.5 to 59.1
<i>Elaeagnus</i> spp.	1600 to 2400	1 to 1½	29.5 to 44.3
<i>Fraxinus Pennsylvanica</i> - Green Ash	400 to 800	¼ to ½	7.3 to 14.7
<i>Juniperus</i> spp. – Juniper	3200 to 6400	2 to 4	59.1 to 118.2
<i>Quercus rubra</i> – Red Oak	400 to 800	¼ to ½	7.3 to 14.7

\*PPM Dikegulac-sodium

**STORAGE AND DISPOSAL**

Do not contaminate water, food, or feed by storage and disposal.

**PESTICIDE STORAGE:** Store in original container in a locked storage area. Keep from freezing.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**CONTAINER HANDLING:** Nonrefillable container. Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Then offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

**OR**

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**LIMITED WARRANTY AND DISCLAIMER**

**IMPORTANT:** Read this LIMITED WARRANTY AND DISCLAIMER before buying or using this product. By opening and using this product, buyer and all users agree to accept the terms of this LIMITED WARRANTY AND DISCLAIMER in their entirety and without exception. If the terms are not acceptable, return this product unopened immediately to the point of purchase, and the purchase price will be refunded in full.

It is impossible to eliminate all risks inherently associated with use of this product. Damage to the treated article, ineffectiveness, or other unintended consequences can result from use of the product under abnormal conditions such as weather, presence of other materials, or the manner of use or application, etc. Such factors and conditions are beyond the control of the manufacturer, and **BY PURCHASING AND USING THIS PRODUCT THE BUYER AND ALL USERS OF THIS PRODUCT AGREE TO ACCEPT ALL SUCH RISKS.** Buyer and all users further agree to assume all risks of loss or damage from the use of the product in any manner that is not explicitly set forth in or that is inconsistent with label instructions, warnings and cautions.

The manufacturer warrants only that this product conforms to the chemical description given on the label, and that the product is reasonably suited for the labeled use when applied according to the Directions for Use, subject to the inherent risks described below. **TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE MANUFACTURER NEITHER MAKES NOR INTENDS ANY OTHER EXPRESS OR IMPLIED WARRANTIES, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY EXPRESSLY DISCLAIMED.**

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