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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF
CHEMICAL SAFETY AND
POLLUTION PREVENTION

JAN 17 2012

W.A. Hawkins, Jr., Ph.D.
Arysta LifeScience North America, LLC
15401 Weston Parkway, Suite 150
Cary, NC 27513

Subject: Application for Pesticide Notification (PRN 98-10)
Submission Date: 12/16/11
Product Name: ARY 0494-005
EPA Reg. No.: 66330-394
EPA Decision Number: 459275

Dear Dr. Hawkins:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action(s) requested fall within the scope of PRN 98-10.

The Agency acknowledges the additional Container Handling instructions as well as the minor editorial changes on pages 7 and 8.

The label submitted with the application has been stamped "Notification" and will be placed in our records. If you have questions concerning this letter, please contact Heather Garvie at 703-308-0034 or me at 703-308-3194.

Sincerely,

Shaja Joyner
Shaja Joyner
Product Manager 20
Fungicide Branch
Registration Division (7505P)



EPA

United States
Environmental Protection Agency
Washington, DC 20460

- Registration
- Amendment
- Other:

OPP Identifier Number

Application for Pesticide - Section I

1. Company/Product Number 66330-394		2. EPA Product Manager Shaja B. Joyner		3. Proposed Classification <input type="checkbox"/> None <input type="checkbox"/> Restricted	
4. Company/Product (Name) ARY 0494-005		PM# 20			
5. Name and Address of Applicant (Include ZIP Code) Arysta LifeScience North America, LLC 15401 Weston Parkway, Suite 150 Cary, NC 27513 <input type="checkbox"/> Check if this is a new address			6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(I), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____		

Section - II

- Amendment - Explain below.
- Resubmission in response to Agency letter dated _____
- Notification - Explain below.
- Final printed labels in response to Agency letter dated _____
- "Me Too" Application
- Other - Explain below

Explanation: Use additional page(s) if necessary. (For Section I and Section II.)
 Notification of addition of disposal instructions for bags per PR Notice 2007-4 and PR Notice 98-10.
 This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 USC Sec 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

There are no PRIA fees associated with this action. Contact: alex.hawkins@arystalifescience.com

Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal	<input type="checkbox"/> Plastic
*Certification must be submitted		If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt. No. per container	<input type="checkbox"/> Glass	<input type="checkbox"/> Paper
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled				<input type="checkbox"/> Other _____	

Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application)					
Name W. A. Hawkins, Jr., Ph.D.		Title Regulatory Manager		Telephone No. (Include Area Code) 919-678-4886	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.				6. Date Application Received (Stamped)	
2. Signature <i>W. A. Hawkins, Jr.</i>		3. Title Regulatory Manager			
4. Typed Name W. A. Hawkins, Jr., Ph.D.		5. Date 12/16/11			

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ARY 0494-005

Plant Regulator

NOTIFICATION

JAN 17 2012

For Use on Cotton

Active ingredients:

Mepiquat Chloride*: N, N-Dimethylpiperidinium chloride.....90.00%

Other Ingredients:10.00%

Total100.00%

*Equivalent to 0.90 pounds of active ingredient per pound.

**KEEP OUT OF REACH OF CHILDREN
CAUTION/PRECAUCION**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

FIRST AID	
If swallowed	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If inhaled	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
HOT LINE NUMBER	
<p>EMERGENCY TELEPHONE NUMBERS: Have the product container or label with you when calling a poison control center or doctor or going for treatment. FOR 24-HOUR EMERGENCY MEDICAL ASSISTANCE CALL: 1-866-303-6952 FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident call CHEMTREC 1-800-424-9300</p>	

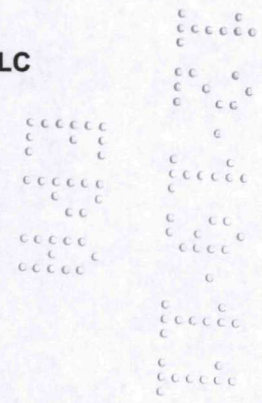
See inside booklet for complete **First Aid, Precautionary Statements, Directions for Use, and Warranty and Disclaimer Statement.**

EPA Reg. 66330-394
EPA Est. XXXXX-XX-XX

AD 031810N2

Net Weight: _____

Manufactured For:
Arysta LifeScience North America, LLC
15401 Weston Parkway, Suite 150
Cary, NC 27513



Precautionary Statements

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Hazards to Humans and Domestic Animals

Caution: Harmful if swallowed. Causes moderate eye irritation. Avoid contact with eyes, skin or clothing.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants.
- Chemical Resistant gloves made of any waterproof material
- Shoes plus socks

USER SAFETY REQUIREMENTS

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

Engineering Controls Statement

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations
<p>Users should:</p> <ul style="list-style-type: none"> • Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. • Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. • 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.

Environmental Hazards

Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters 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.

All applicable directions, restrictions, precautions, and Warranty and Disclaimer Statement are to be followed. This labeling must be in the user's possession during application.

Agricultural Use Requirements
<p>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 (PPE), and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.</p> <p>Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 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 plants, soil, or water, is:</p> <ul style="list-style-type: none"> • Coveralls • Chemical resistant gloves made of any waterproof material. • Shoes plus socks

Storage and Disposal

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

Storage: Do not store below 32° F or above 100° F. Store in a dry place away from heat or open flame.

Pesticide Disposal: Pesticide wastes are toxic. Wastes resulting from this product may be disposed of on site or at an approved waste disposal facility. Improper disposal of excess pesticide, spray mix, or rinsate is a violation of federal law. If these wastes cannot be disposed of according to label instructions, contact the state agency responsible for pesticide regulation or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container Handling:

Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed, by State and local authorities, by burning. If burned, stay out of smoke. Offer for recycling, if available.

Plastic Containers: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. 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. 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.

Steps to be taken in case material is released or spilled:

Wear the personal protective equipment specified on the label or the Material Safety Data Sheet. Recover the material for re-use according to label whenever possible. Sweep up and place in an appropriate container for disposal. Remove and wash clothing and personal protective equipment prior to re-use. Keep the spill out of all sewers and open bodies of water.

In case of large-scale spillage regarding this product, call:
CHEMTREC at 800-424-9300

I. General Information

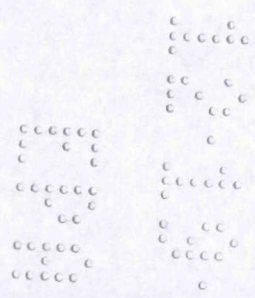
ARY 0494-005 plant regulator is a foliar-applied plant regulator that modifies the cotton plant in several beneficial ways. **ARY 0494-005** allows the grower to manage the cotton plant for **short-season production** leading to reduced risk of yield and quality loss due to delayed and prolonged harvest. The use of **ARY 0494-005** will also result in several or all of the following:

- height reduction and more open canopy
- better early boll retention and/or larger bolls
- less boll rot
- improved defoliation
- reduced trash and lower ginning costs
- better harvest efficiency
- darker green leaf color.

Most of these effects may favorably influence the yield potential of the cotton plant.

Spray Coverage

Under most circumstances, water is the recommended diluent, however oil is permitted in the following states for ultra low volume (ULV) aerial applications: Alabama, Arkansas, Florida, Georgia, Louisiana, Missouri, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, and Texas. Refer to **Air and Ground Application**



sections for spray volumes. Regardless of method or gallonage of application, thorough coverage of the cotton foliage is required. When a mixture with oil is planned, ARY 0494-005 must be fully pre-mixed with water prior to mixing with any oil carrier. Extra emulsifiers will be needed for this mixture. See the section below Spray Volume for further information.

Cleaning Application Equipment

Clean application equipment thoroughly using a strong detergent or commercial sprayer cleaner according to the manufacturer's directions before and after applying this product, particularly if a product with the potential to injure crops was used.

II. Application Instructions

Early Application

On both short-staple and Pima cotton, the grower has the option of low-rate multiple applications (see **Table 1**) or higher, less frequent applications (see **Table 2**) which greatly facilitates his management flexibility. The multiple application option gives the producer the ability to discontinue usage of **ARY 0494-005** if any significant stresses occur after an earlier application. In such a case, the total quantity of **ARY 0494-005** used over a season may be reduced. If stress is relieved, the grower has the option of continuing treatments with **ARY 0494-005**. In addition, the rate and timing ranges indicated in the **Application Rates and Timings Tables** allow the grower to tailor his usage of **ARY 0494-005** to the degree of vegetative vigor in a given field. In areas where insecticides, miticides, fungicides, biostimulants or foliar fertilizers are frequently applied, the timings are such that tank mixing is often possible. (See section **VI. General Restrictions and Limitations**)

Fields should be carefully scouted and **ARY 0494-005** should not be applied if plants are under severe stress from weather factors, mite, insect or nematode damage, disease stress, herbicide injury, or fertility stress. In the absence of these stresses, up to 5 low-rate multiple applications can be made each season.

After the first application (at matchhead square in the absence of stress), the rate and timing of subsequent applications will depend on vegetative vigor. Under good growing conditions, additional treatments should be made at 7 - 14 day intervals. However, if new growth at any time is excessive, higher rates of **ARY 0494-005** can be used.

If significant loss of squares or young bolls has occurred earlier due to insect pressure or other stresses, but now these stresses have been alleviated, the need for **ARY 0494-005** is increased --- excess vegetative growth is likely because of poor boll load.

Late Season Application

Late application of ARY 0494-005 **plant regulator** (approximately during the fourth to sixth week of blooming) can provide certain benefits to cotton. However, it should not and does not substitute for early season use --- the time of the greatest benefit from the use of **ARY 0494-005**. Late season application can lead to one or more of the following:

- reduction in late season vegetative growth or regrowth after cutout or defoliation
- more complete and manageable cutout
- better defoliation
- earlier maturity
- reduction in trash
- lower ginning costs

Some of these effects may favorably influence the yield potential and fiber quality. A late season application of **ARY 0494-005** should be applied only if fields are not drought or nutrient stressed; that is, those fields likely to experience additional vegetative growth or regrowth. However, fields that are very rank and extremely vigorous due to a combination of poor boll load and excellent growing conditions may not respond as much as desired to late season applications at the specified rates.

Timing for Late Season Applications

• **On fields where cotton cuts out and then starts regrowth:** Apply when regrowth begins, as evidenced by new leaves in the terminal and stem elongation. This application time is often, but not always, 5-6 weeks after the first bloom.

• **On fields where cotton never completely cuts out:** Apply **ARY 0494-005** when there are 4-6 nodes above the white flower (NAWF). Measure NAWF by counting the number of mainstem nodes from the first position white bloom (the one closest to the mainstem) to the terminal. Count the node with the first position white bloom as zero and the last node in the terminal, which is counted, should have a leaf at least the size of a quarter. Generally, the NAWF first reaches 4-6 nodes during the fourth to sixth week of bloom. During this time, the NAWF should be decreasing about one node every 5-6 days --- if its rate of decrease is less, the plant is not cutting out soon enough (the crop is too vigorous). If the fifth week of bloom arrives and NAWF is still above 5-6, apply **ARY 0494-005**.

Use Rate for Late Season Application

Apply 0.4 – 1.2 oz per acre. Use the lower rate on cotton with only moderate additional growth potential, and the higher rate on fields likely to continue vigorous growth.

Air Application

Spray Volume

- **Water as Diluent:** Use a minimum of 2 gallons of water per acre in all states except California. In California, use a minimum of 5 gallons of water per acre.
- **Oil as Diluent:** Use a minimum of 1 quart of oil per acre. When using oil as a diluent, the oil concentrate must contain either a petroleum or vegetable oil base and must meet all of the following criteria:
 - be nonphytotoxic
 - contain only EPA-exempt ingredients
 - provide good mixing quality in the jar test
 - be successful in local experience.

ARY 0494-005 must be pre-mixed with water prior to adding to the oil carrier. The exact composition of suitable products will vary; however, vegetable and petroleum oil concentrates should contain emulsifiers to provide good mixing quality. If the oil does not contain an emulsifier, one must be added during mixing at a volume equal to 3% of the final volume of the mixing tank. Do not apply **ARY 0494-005** by ULV without using emulsifiers. Highly refined vegetable oils have proven more satisfactory than unrefined vegetable oils. For additional information, see **Compatibility Test for Mix Components**.

Spray Drift Management

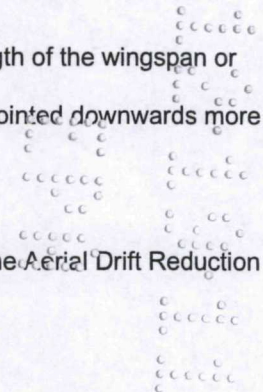
Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-and-weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

1. The distance of the outermost nozzles on the boom must not exceed $\frac{3}{4}$ the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

Where states have more stringent regulations, they must be observed.

The applicator should be familiar with and take into account the information covered in the **Aerial Drift Reduction Advisory Information**.

AERIAL DRIFT ADVISORY INFORMATION



INFORMATION ON DROPLET SIZE

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversions).

CONTROLLING DROPLET SIZE

Volume - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.

Pressure - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure. **Number of nozzles** - Use the minimum number of nozzles that provide uniform coverage. Use up to 40 psi.

Nozzle Orientation - Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.

Nozzle Type - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

BOOM LENGTH

For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.

APPLICATION HEIGHT

Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

SWATH ADJUSTMENT

When applications are made with a crosswind, the swath will be displaced downward. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc).

WIND

Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

TEMPERATURE AND HUMIDITY

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

TEMPERATURE INVERSIONS

Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

SENSITIVE AREAS

The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, nontarget crops) is minimal (e.g. when wind is blowing away from the sensitive areas). Do not apply ARY-0494-006 by air if sensitive species are within 200 feet.

Ground Application

Spray Volume

- **Water as Diluent:** Use a minimum of 2 gallons of water per acre. Increase water volume to at least 10 gallons of water per acre if grass foliage or crop canopy is dense.

III. Additives

If rain is expected within 8 hours, use a high-quality, EPA-exempt, surfactant to make **ARY 0494-005** rain-safe after 4 hours.

Compatibility Test for Mix Components

Add components in the following sequence using 2 teaspoons for each pound or 1 teaspoon for each pint of specified recommended label rate per acre.

- 1) **Water:** --- For 20 gallons per acre spray volume, use 3.3 cups (800 ml) of water. For other spray volumes, adjust rates accordingly. Use only water from the intended source at the source temperature.
- 2) **Products in PVA bags:** Cap the jar and invert 10 cycles.
- 3) **Water-dispersible products:** --- (dry flowables, wettable powders, suspension concentrates, or suspo-emulsions) Cap the jar and invert 10 cycles.
- 4) **Water-soluble products:** --- (such as **ARY 0494-005**) Cap the jar and invert 10 cycles.
- 5) **Emulsifiable concentrates:** --- oil concentrate Cap the jar and invert 10 cycles.
- 6) **Water-soluble additives:** --- Cap the jar and invert 10 cycles.
- 7) Let the solution stand for 15 minutes.
- 8) **Evaluate** the solution for uniformity and stability. The spray solution should not have free oil on the surface, nor fine particles that precipitate to the bottom, nor thick (clabbered) texture. Do not use any spray solution that could clog spray nozzles.

IV. Mixing Order

- 1) **Water:** Begin by agitating a thoroughly clean sprayer tank half full of clean water.
- 2) **Products in PVA bags:** Rinse the tank thoroughly before adding any material in PVA bags as boron residue will prevent adequate mixing. Place the water-soluble PVA bag into the mixing tank. The water-soluble PVA bag will dissolve in water to allow the contents to disperse. Wait until all water-soluble PVA bags have fully dissolved and the plant regulator is evenly mixed in the spray tank before continuing. To prepare spray solution for aerial application, use a mixing tank or mixing vat first to get the product into suspension before transferring suspension to air application equipment.
- 3) **Water-dispersible products:** (dry flowables, wettable powders, suspension concentrates, or suspo-emulsions)
- 4) **Water-soluble products**
- 5) **Emulsifiable concentrates**
- 6) **Water-soluble additives**
- 7) Remaining quantity water

Only moderate agitation should be used while mixing and transporting.

V. General Tank Mixing Information

ARY 0494-005 is compatible with most insecticides and miticides. You may combine **ARY 0494-005** with foliar fertilizers if prior experience has shown the original liquid formulation of **Mepichlor 4.2 Liquid** to be compatible and noninjurious under your conditions. Always perform a **Compatibility Test for Mix Components** before preparing a tank mix application. Read and follow the **applicable Restrictions and Limitations and Directions For Use** on all products involved in tank mixing. The most restrictive labeling applies to tank mixes.

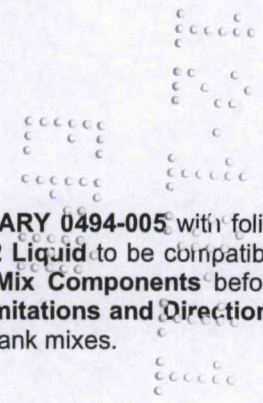


Table 1 Application Rates and Timing: Low Rate Multiple Applications

The times and rates of application have been carefully researched and the **Directions For Use** must be observed as specified below. See section VI. **General Restrictions and Limitations.**

Geographic Area	Time of Application	Fields with Moderate Vegetative Vigor: Rate Per Acre	Fields with High Vegetative Vigor: Rate Per Acre
AL, AR, AZ, FL, GA, LA, MO, MS, NC, NM, OK, SC, TN, TX, VA	First application: Optimal results will be achieved when plants are in the matchhead square ¹ stage of growth.	0.1 oz	0.2 oz
	Second application: 7-14 days later, or when regrowth occurs.	0.1 oz	0.2 oz
	Third application: 7-14 days later, or when regrowth occurs.	0.1 - 0.2 oz ²	0.2 - 0.6 oz ²
	Fourth application: 7-14 days later, or when regrowth occurs	0.1 - 0.4 oz ²	0.2 - 0.6 oz ²
	Fifth application (if needed): 7-14 days later, or when regrowth occurs.	0.2 - 0.4 oz ²	0.2 - 0.6 oz ²
	Late season: Refer to Late Season Application of ARY 0494-005 .	0.4 - 0.8 oz ²	0.6 - 1.2 oz ²

¹Matchhead square is when the first square of a typical cotton plant is 1/8-1/4 inches in diameter. The first application should be applied when 50% of the plants have one or more matchhead squares.
²Use higher rates if previous application was not made or if growing conditions are conducive to vigorous growth.

Table 2 Application Rates and Timing, High Rate, Less Frequent Applications

The times and rates of application have been carefully researched and section II. **Application Instructions** must be observed as specified below. See section VI. **General Restrictions and Limitations.**

Geographic Area	Time of Application	Rate Per Acre
AL, AR, AZ, FL, GA, LA, MO, MS, NM, NC, SC, TN, VA	First application: Apply ARY 0494-005 to actively growing cotton that is 20-30" tall, provided cotton is not more than 7 days beyond early bloom stage (5-6 blooms per 25 row feet). If cotton is 24" tall and has no blooms, apply ARY 0494-005 . Use 0.4 - 0.8 oz per acre on cotton where excessive vegetable growth is not likely to be a problem, and 0.8 oz per acre in areas tending to have excessive vegetative growth.	0.4 - 0.8 oz
	Second application for control of excessive vegetable growth: If the cotton field has a history of vigorous growth or if conditions after the first application of ARY 0494-005 favor vigorous growth, make a second application 2-3 weeks after the first application.	0.4 - 0.8 oz
	Third Application for control of excessive vegetative growth: If the cotton field has a history of vigorous growth or if conditions continue to favor vigorous growth, make a third application 1-2 weeks after the second application.	0.4 - 0.8 oz
	Late season application: Refer to Late Season Application in section II. Application Instructions.	0.4 - 1.2 oz
OK, TX (except Rio Grande Valley)	Areas where excessive vegetative growth is not a problem First application: Apply ARY 0494-005 to actively growing cotton in the early bloom stage (5-6 blooms per 25 row feet). If no blooms are present and the cotton is 20" tall and actively growing, apply ARY 0494-005 .	0.4 oz
	Second application: If conditions after the first application of ARY 0494-005 favor vigorous growth, make a second application 2-3 weeks after the first application.	0.4 oz
	Third application: If conditions after the second application of ARY 0494-005 continue to favor vigorous growth, make a third application 1-2 weeks after the second application.	0.4 oz
	Late season application: Refer to Late Season Application in section II. Application Instructions.	0.4 - 1.2 oz
OK, TX	Areas where excessive vegetative growth is a problem First application:	

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Geographic Area	Time of Application	Rate Per Acre
(including Rio Grande Valley)	Apply ARY 0494-005 to actively growing cotton that is 20-30" tall, provided cotton is not more than 7 days beyond early bloom stage (5-6 blooms per 25 row feet). If cotton is 24" tall and has no blooms, apply ARY 0494-005 .	0.8 oz
	Second application for control of excessive vegetative growth: If cotton field has a history of vigorous growth, or conditions after the first application of ARY 0494-005 favor vigorous growth, make a second application 2-3 weeks after the first application.	0.4 – 0.8 oz
	Third application: If conditions after the second application of ARY 0494-005 continue to favor vigorous growth, make a third application 1-2 weeks after the second application.	0.4 – 0.8 oz
	Late season application: Refer to Late Season Application in section II. Application Instructions .	0.4 – 1.2 oz

VI. General Restrictions and Limitations

Maximum seasonal use rate:

- Do not apply more than a **total of 2.35 oz** of **ARY 0494-005 plant regulator** (0.132 pounds a.i.) per acre, per season.
- The sum of all products and formulations containing mepiquat chloride must not exceed **0.132 pounds** of mepiquat chloride per acre per season. This maximum equals **48 fluid ounces (3 pints)** of standard liquid **Pix or Pix Plus** or 2.35 oz of **ARY 0494-005**. (**Note:** All products containing mepiquat chloride or mepiquat pentaborate used should be included in this calculation.)

Preharvest Interval (PHI):

- Do not apply within **30 days** of harvest.

Restricted Entry Interval (REI): 12 hours.

- Do not plant another crop within 75 days of last treatment.

Stress:

- Do not apply to cotton plants under severe stress due to adverse weather conditions, mite, insect, or nematode damage, disease, herbicide injury, or fertility stress. If using the low-rate multiple option, discontinue use until the stress is alleviated. Do not apply a single application of 0.4 – 0.8 oz of **ARY 0494-005** to cotton that is stressed due to lack of soil moisture.
- Do not graze or feed cotton forage to livestock.
- Do not apply through any type of **irrigation** equipment.

Table 3 Restrictions and Limitations

Crop	Minimum Time From Application to Harvest (PHI)	Maximum Rate Per Acre Per Application	Maximum Rate Per Acre Per Season	Livestock Grazing or Feeding	Aircraft Application
Cotton	30 days	1.2 oz	2.35 oz	No	Yes

Table 4 Equivalence Chart

One Pound of ARY 0494-005 Treats					
Rate	0.2 oz	0.4 oz	0.6 oz	0.8 oz	1.2 oz
Acres Treated	80	40	26.6	20	13.3

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Crops: This product can be used on the following crop:
Cotton
Look inside for complete Restrictions and Limitations and Application Instructions .

