

CONNIE'S NOTES: VINEYARD FIRE ANT MANAGEMENT

Dr. Dale K. Pollet, Entomology Professor at LSU's AgCenter spoke at the March 14, 2007 North Carolina Muscadine Grape Association Winter Meeting in Raleigh, NC on the topic of Fire Ant Management in Vineyards. There are currently only 2 products labeled for fire ant control in vineyards, Extinguish (but not Extinguish Plus) and Esteem (known as Distance for ornamental use). [Please see attached product labels for more information.]



- These products work by sterilizing the entire colony – the queen lays sterile eggs.
- They don't kill the ants immediately, so they are still controlling other vineyard pests.
- They are environmentally-friendly, breaking down quickly with water.
- They don't store well – go rancid unless sealed in bags under vacuum.
- You don't need to cover every inch of ground with the product because the ants forage over a large distance – therefore treat only every other row.
- Rate: 1.5 lbs/acre
- Speed: 5-7 mph on a 4-wheeler
- Coverage: 12 grains per square foot
- You will see results from Extinguish in ~4-8 weeks
- You will see results from Esteem in ~2 weeks
- Apply once in the spring and once in the fall, when the ants are actively foraging (test for foraging behavior by placing hot dog/potato chips/sardines and checking them in 30 minutes for ant activity) – only apply when the ants are actively foraging.
- You should alternate products each year.
- Do not apply before March 15 because the ants aren't yet foraging

Notes taken by Connie Fisk, Extension Associate for Muscadine Grapes at NC State University, March 14, 2007.

To learn more about fire ant ecology, biology, natural pests and other management options, visit <http://attra.ncat.org/attra-pub/fireant.html> for a 2003 article by Preston Sullivan on Sustainable Fire Ant Management.

Recommendations for the use of chemicals are included in this publication as a convenience to the reader. The use of brand names and any mention or listing of commercial products or services in this publication does not imply endorsement by the North Carolina Cooperative Extension Service nor discrimination against similar products or services not mentioned. Individuals who use chemicals are responsible for ensuring that the intended use complies with current regulations and conforms to the product label. Be sure to obtain current information about usage and examine a current product label before applying any chemical. For assistance, contact an agent of the North Carolina Cooperative Extension Service in your county.

EXTINGUISH[®]

Professional Fire Ant Bait

- ELIMINATES FIRE ANT COLONIES
- STOPS THE DEVELOPMENT OF NEW MOUNDS
- NO WITHDRAWAL PERIOD OR GRAZING RESTRICTIONS ON TREATED AREAS
- CAN BE USED AROUND FLOWERS, SHRUBS, AND TREES
- WITH PRECOR[®] INSECT GROWTH REGULATOR

SPECIMEN LABEL

ACTIVE INGREDIENT:

(S)-Methoprene (CAS #65733-16-6) 0.5%

OTHER INGREDIENTS: 99.5%

Total. 100.0%

EPA Reg No. 2724-475

KEEP OUT OF REACH OF CHILDREN

CAUTION

See additional precautionary statements

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

FIRST AID

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 the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
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Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-347-8272 for emergency medical treatment information.

PERSONAL PROTECTIVE EQUIPMENT (PPE):

WPS USES:

Applicators and other handlers who handle this pesticide for any use covered by the Worker Protection Standard (40 CFR Part 170) - in general, agricultural-plant uses are covered - must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves
- Shoes plus socks

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

ENGINEERING CONTROLS STATEMENTS

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:

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- After handling this product, immediately wash the outside of gloves before removing them, then remove gloves and all other PPE. Immediately wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

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

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.

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 (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.

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 plants, soil, or water is: • Coveralls • Chemical-resistant gloves • Shoes plus socks

GENERAL INFORMATION

EXTINGUISH™ PROFESSIONAL FIRE ANT BAIT (EXTINGUISH)

contains an insect growth regulator (IGR) with specific activity to fire ants. The IGR is contained in an attractive bait that foraging fire ant workers take back to the mound to feed to the queen. IGR's are different from conventional products which provide a direct kill to fire ants. IGR's work by affecting queen reproduction. The effects of the treatment may not be immediately evident. IGR's are slower in activity than conventional products. Though slower in action, control is complete without the concern of rebounding or movement of the colony to another location. Reduction in colony size can be seen beginning at 3 weeks with colony elimination within 8 to 10 weeks. When existing workers die, replacement workers are not produced resulting in starvation and elimination of the queen and colony.

APPLICATION SITES

OUTDOOR USE

EXTINGUISH may be applied to, but not limited to, the following areas:

- Residential Turf & Landscapes (around flowers, shrubs, and trees)
- Perimeter Areas of Buildings, Homes, Sheds, Kennels, Barns, Poultry Houses, Swine Operations, Dairies, Electrical & Phone Boxes, Pump Houses and other Associated Areas

- Parks
- Sports Fields
- Golf Courses
- Zoos
- Cemeteries
- Airports
- Roadsides
- School Grounds
- Citrus Groves
- Pastures
- Rangeland
- Cropland
- Sod Farms
- Commercial Nurseries including Field Grown and Container Stock
- Forestry Sites

METHODS OF APPLICATION

GENERAL

Application during heat of the day or when rain is expected within 6 hours of application will reduce the effectiveness of this product. Moisture reduces the attractiveness of the bait in wet areas. In areas of heavy infestation, repeat applications may be necessary 10 to 12 weeks following the initial application.

- 1. Individual Mound Treatments** - Treat all visible mounds with 3 to 5 tablespoons of **EXTINGUISH** per mound. To treat the mounds, sprinkle the adjacent areas of the mound, applying evenly in a manner to encompass the mound to a perimeter of 4 feet. Do not disturb the mound during application. Worker ants will locate the bait quickly and begin taking it back to the mound.
- 2. Broadcast Applications** - Apply **EXTINGUISH** to areas at the rate of 1 to 1.5 pounds of product per acre (3.5 tablespoons/1000 ft²) using suitable application equipment. Backpack, hand, or motorized mechanical equipment may be used. No withdrawal or grazing restrictions are necessary on treated areas.

EXTINGUISH may be used as a preventative application to reduce the buildup of fire ants into unwanted areas. Two to three broadcast applications per year are recommended to prevent the encroachment and subsequent development of new mounds into an area.

Repeat applications may be made as often as fire ants are observed.

- 3. Hopper Blend** - Blend **EXTINGUISH** with other fire ant bait products such as ProBait^{®*}, Amdro Pro[™], or other bait products labeled for fire ant control. When blending products, the more restrictive label will apply. Use a 50/50 mix to blend **EXTINGUISH** and other bait. For broadcast applications, mix the required amount of bait so that the application is made using 0.75 lbs. **EXTINGUISH** and 0.75 lbs. of other bait for a total of 1.5 lbs. of total bait per acre. For mound treatments, blend a 50/50 mix of **EXTINGUISH** and other bait and apply at the rate of 3-5 tablespoons per mound.

RATES AND TIMING

Treatment	Rate	Comments
Broadcast Treatment	0.75 lbs. EXTINGUISH PROFESSIONAL plus 0.75 lbs. other bait product per acre	Mix bait products together thoroughly prior to application; distribute bait uniformly with ground equipment (granular spreaders).
Individual Mound Treatment	50/50 mix of EXTINGUISH plus other bait. Apply blended product at 3-5 tablespoons per mound.	Mix thoroughly and apply product around and on the mound.

Observe all restrictions and precautions which appear on all product labels.

- 4. Refillable Bait Stations - EXTINGUISH** may be used in refillable bait stations. Place up to 1 oz of **EXTINGUISH** per refillable bait station. Locate stations along the perimeter of a structure or fence line with 1 station every 15-30 linear feet. Locate stations near potential ant entry points of a structure or near locations where ants are a problem. Examples include: weep holes, foundation vents, stairs, decks, patios, picnic areas, utility areas, and other areas frequented by ants. Inspect stations frequently and replenish bait if soiled or wet. Affix a sticker to bait station indicating the contents.

INDOOR USE

Use **EXTINGUISH** indoors in homes, residences (apartments, nursing homes), commercial buildings and warehouses, and any other structures where ants may enter. Also for use in non-food/feed areas of institutions, restaurants, commercial food processing areas, including poultry and livestock operations. Apply bait as a crack, crevice, and void or to areas that are inaccessible such as attics, crawlspaces, wall voids. Apply 0.25 – 0.50 oz per crack, crevice, or void. For use in attics or crawlspaces, use 0.25 oz per 100 square feet in those areas that are inaccessible to children or pets.

STORAGE AND DISPOSAL

STORAGE

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

PESTICIDE DISPOSAL

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

CONTAINER DISPOSAL

Triple rinse (or equivalent). Then offer for recycling or reconditioning, 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.

*Except in California

Seller makes no warranty, expressed or implied, concerning the use and handling of this product other than indicated on the label. Buyer assumes all risks of use and handling of this material when such use and handling are not in accordance with directions.

For information call 1-800-347-8272 or visit our Web sites: www.starbarproducts.com and www.zoecon.com.



Wellmark International
Schaumburg, Illinois U.S.A.

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PRECOR® Insect Growth Regulator are registered
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April, 2003
Schaumburg, IL

Supplemental Label



Valent U.S.A. Corporation
P. O. Box 8025
Walnut Creek, CA 94596-8025

GROUP 7D INSECTICIDE

ESTEEM[®] ANT BAIT (Insect Growth Regulator)

EPA Reg. No. 59639-114

ESTEEM ANT BAIT INSECT GROWTH REGULATOR USES ON: GRAPE, LEGUME VEGETABLES (EXCEPT SOYBEANS), ONION (DRY BULB ONLY), PASTURE GRASS, RANGELAND, STRAWBERRY, UGLI FRUIT AND WHITE SAPOTE

DIRECTIONS FOR USE

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

READ ENTIRE LABEL. USE STRICTLY IN ACCORDANCE WITH PRECAUTIONARY STATEMENTS AND DIRECTIONS, AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS.

GENERAL INFORMATION

- Do not apply this product through any type of irrigation system.

MODE OF ACTION: *Esteem* Ant Bait is an Insect Growth Regulator similar to naturally occurring insect growth hormones which interfere with (stops) their growth or development. *Esteem* Ant Bait breaks the reproductive life cycle of ants, causing starvation of the colony. Ant workers pick up the bait granules and take them back to the colony. Workers feed the bait to both the queen and immature ants thereby preventing worker replacement. Due to degeneration of reproductive organs, the ant queen cannot replace workers. The lack of worker replacement results in colony death as the existing worker ants age and die. Within 3 to 4 weeks there is substantial colony mortality and within eight weeks the majority of the colony population has been eliminated.

RESISTANCE MANAGEMENT RECOMMENDATIONS

For resistance management purposes, *Esteem* Ant Bait is a group 7D insecticide. Any insect population may contain individuals naturally resistant to *Esteem* Ant Bait and other 7D insecticides. The resistant individuals dominate the insect population if these insecticides are used repeatedly. These resistant insects may not be controlled by *Esteem* Ant Bait or other 7D group insecticides, although local experts should be consulted for local resistance recommendations. The classification scheme is based on mode of action. It is recognized that resistance of insects and mites to insecticides and acaricides can also result from enhanced metabolism, reduced penetration or behavioral changes that are not linked to any site of action classification but are specific for individual chemicals or chemical groupings. Despite this, alternation of compounds from different chemical classes remains a viable management technique.

To delay insecticide resistance

- Avoid exclusive repeated use of insecticides from the same chemical subgroup.
- Integrate other control methods (chemical, cultural, biological) into insect control programs.

For further information contact your local distributor.

CROPS	PESTS	PRODUCT RATES PER ACRE	SPECIAL INSTRUCTIONS
<p>Grape</p> <p>Legume Vegetables (Except Soybean)</p> <p>Onion (Dry Bulb Only)</p> <p>Pasture Grass</p> <p>Rangeland</p> <p>Strawberry</p> <p>Ugli Fruit</p> <p>White Sapote</p>	<p>Ants</p> <p>Big-Headed Ant</p> <p>Pavement Ant</p> <p>Red Imported Fire Ant</p> <p>Southern (California) Fire Ant</p>	<p>1.5 to 2.0 lbs.</p>	<p>Broadcast or Aerial Application: Apply uniformly with ground or aerial equipment calibrated to give the correct dosage. Repeat after 12 to 16 weeks if needed.</p> <p>WHEN TO APPLY <i>Esteem</i> Ant Bait should be applied in the early Spring or Summer at the first sign of fire ant activity. Applications may be made any time of the day but are more effective when ants are actively foraging, usually when the soil temperature is above 60° F. Avoid application if rain is expected within 4 to 6 hours. Do not water treated area for 24 hours after application. In the event of prolonged rains after initial treatment, reapplication may be necessary.</p> <p>A second application of <i>Esteem</i> Ant Bait may be advisable after 12 to 16 weeks in areas of heavy infestations, or when the mounds remain active, or when a reinfestation occurs. In large mounds, some worker fire ants may persist for a while after the queen is dead. For 7 to 10 days after treatment, do not apply any other fire ant pesticide. This is to allow sufficient time for the worker ants to seek out the bait and take it back to the mound. After 14 days, it may be desirable to apply a registered fire ant pesticide to kill remaining foraging ants.</p> <p>Individual Mound Treatment: Apply 2 to 4 level Tbsps. of <i>Esteem</i> Ant Bait per mound, uniformly distributing material 3 to 4 ft. around the mound. Do not disturb the mound. Do not apply to top of mounds. Repeat after 12 to 16 weeks if needed.</p>
<ul style="list-style-type: none"> • Do not apply within 24 hours of harvest. • For Pasture Grass and Rangeland: Do not plant any crop other than those with registered pyriproxyfen uses in treated areas sooner than 30 days after the last application. • Regardless of formulation, the maximum amount of pyriproxyfen that may be applied per acre per season is as follows: <ul style="list-style-type: none"> ○ For Ugli Fruit, do not exceed 0.134 lb. pyriproxyfen per acre per season. ○ For White Sapote, do not exceed 0.134 lb. pyriproxyfen per acre per season. ○ For Grapes, do not exceed 0.22 lb. pyriproxyfen per acre per season. ○ For Legume Vegetables (except Soybean), do not exceed 0.134 lb. pyriproxyfen per acre per season. ○ For Onions (Dry Bulb Only), do not exceed 0.11 lb. pyriproxyfen per acre per season. ○ For Strawberry, do not exceed 0.134 lb. pyriproxyfen per acre per season. 			

THIS LABELING MUST BE IN THE POSSESSION OF THE USER AT THE TIME OF APPLICATION. PLEASE REFER TO CONTAINER LABEL FOR ADDITIONAL PRECAUTIONARY STATEMENTS. FOLLOW ALL APPLICATION DIRECTIONS, RESTRICTIONS, AND PRECAUTIONS ON THE EPA REGISTERED LABEL.

PLEASE CONTACT VALENT U.S.A. CORPORATION AT 800-6-VALENT (682-5368) TO DETERMINE IF THIS USE IS REGISTERED IN YOUR STATE.

Manufactured for
Valent U.S.A. Corporation
P. O. Box 8025
Walnut Creek, CA 94596-8025
www.valent.com

Made in U.S.A.



Products That Work, From People Who Care™ | www.valent.com | 800-6-VALENT (682-5368)

Read and follow the label instructions before using.

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