



The Starbar® Product Guide



THE RIGHT LEVEL OF FLY CONTROL

Correct Placement Makes the Difference

HIGH-LEVEL

Ceilings, Offices, Breakrooms, Feed/Supply Rooms

- Flies rest up high
- Bright colors entice flies to land
- Hang at top of feed rooms

MID-LEVEL

Walls, Feed Lines

- Pheromones and feeding stimulants lure flies to traps
- Hang along sides of barn to attract more flies

LOW-LEVEL

Floors, Slats, Windows, Alleys

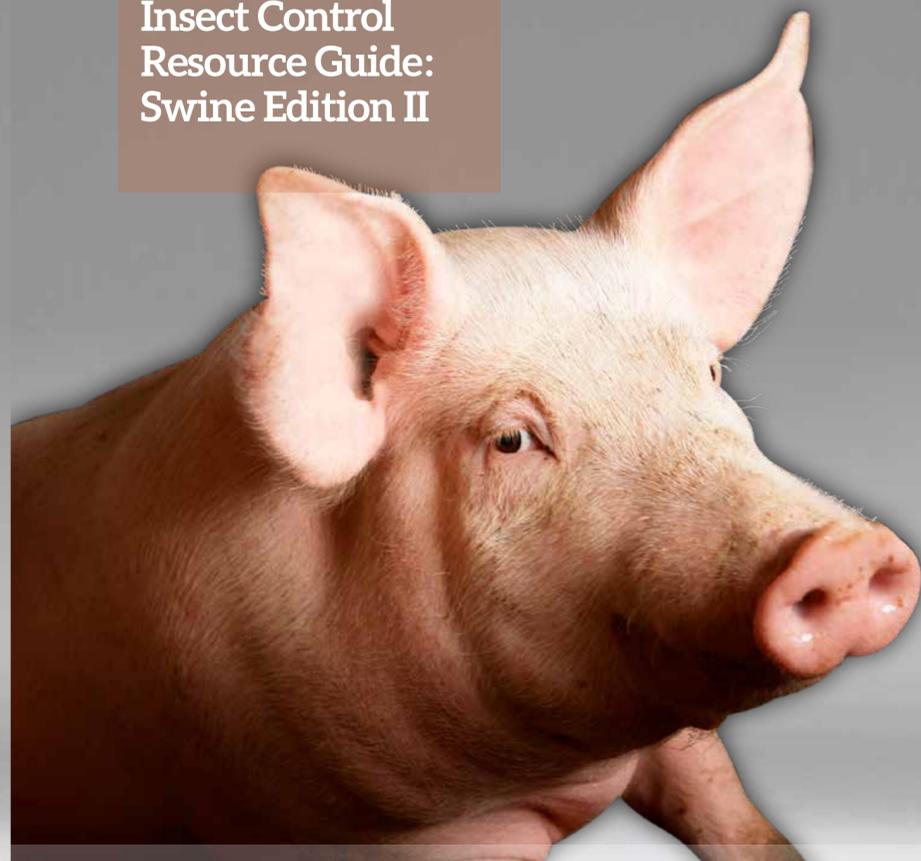
- Flies feed at low levels
- Sugar base and attractants encourage flies to feed
- Scatter on the ground out of pig's reach

IN, ON, AROUND

Structures and Animals

- Premise control solutions fight a variety of insects around out buildings and sties
- Sprays, pour-ons and backrubbers provide on-animal protection against biting flies

Insect Control Resource Guide: Swine Edition II



Always read and follow label directions. Clarifly, Clarifly Larvicide with design, Diacon, Diacon with design, Golden Malrin, Muscamone, PBO-8, Pyronyl, QuikStrike, Starbar, Starbar with design and Prolate/Lintox-HD are trademarks of Wellmark International. Bite Free, Captivator, EZ Trap, Fly Stik, Fly Terminator, Fly Relief, Lure Fly, Milk Jugg, Trap 'N Toss and the Red-Yellow Color Gradation are trademarks of Farnam Companies, Inc. Central Life Sciences with design is a registered trademark of Central Garden & Pet Company. ©2019 Wellmark International.

CTL 19-012



Meet Central Life Sciences

Central Life Sciences is dedicated to improving the health, well-being and the protection of companion animals, production livestock animals, plants, stored grains and the environment. To enhance the quality of life through products that are researched and developed in a scientific environment, Central Life Sciences creates trusted consumer and professionally-applied goods to control economic, nuisance and disease-carrying insects.

BUSINESS CARD FPO



		KEY TARGETED INSECTS: (see product label for full listing)																									
		Formulation Format	Size	Active Ingredients	On Animal Uses	Application Sites	Application Method(s)	Flies	House Fly	Stable Fly	Face Fly	Deer Flies	Fruit Flies	Gnats	Mosquitoes	Cockroaches	Crickets	Darkling Beetles	Dark Mealworms	Fleas	Lice	Mites	Mange Mites	Ticks			
BAITS	QuikStrike® Fly Bait	Granular	1 lb, 5 lb, 40 lb	0.5% Dinotefuran, 0.04% (Z)-9-Tricosene	None	In/Around Milking Parlors & Broiler Houses, Caged Layer Houses, Loafing Sheds, Swine Facilities, Feedlots, & Other Facilities where house flies are a nuisance	Scatter, Bait Station		★																		
	Golden Malrin® Fly Bait	Granular	10 lb, 40 lb	1% Methomyl, 0.049% (Z)-9-Tricosene	None		Scatter, Bait Station	★																			
	QuikStrike® Fly Bait Spray	Sprayable Powder	5 lb, 40 lb	0.5% Dinotefuran, 0.04% (Z)-9-Tricosene	None		Paint, Spray		★																		
	Cyanarox™ Insecticidal Bait	Granular	4 lb, 28 lb	0.5% Cyantraniliprole	None		Scatter, Bait Station		★																		
	QuikStrike® Fly Abatement Strip	Strip	2-pack	1% Nithiazine	None		Self Contained	★	★																		
SPRAYS	Pyronyl™ Crop Spray	Dilutable Spray	1 quart, 1 gallon, 55 gallon	6% Pyrethrins, 60% PBO	Cattle, Goats, Hogs, Horses, Poultry, Sheep	Barns, Dairies & Poultry Houses, Milking Parlors, Milk Rooms, Stables, Food Processing Plants, Outdoor Aerial Applications	Misting Systems, On Animal, Space Spray, Surface Spray	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★		
	Starbar® UL-100 EC Insecticidal Spray	Emulsifiable Concentrate	1 gallon, 55 gallon	0.96% Pyrethrins, 9.6% PBO	Cattle, Hogs, Horses, Poultry, Sheep	Barns, Dairies, Meat & Poultry Plants, Milking Parlors, Poultry Houses	On Animal, ULV, Space Spray, Surface Spray	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★		
	PBO-8® Synergist	Tank-Mix Partner (Synergist)	1 quart, 1 gallon	91.3% Piperonyl Butoxide	Tank Mix with Approved Product	Dairy & Production Facilities, Livestock Premises	Aerial, Chemigation, Crack & Crevice, Metered, On Animal, Space Spray, Surface Spray, ULV, Foggers																				
	Starbar® E-Pro Adulticide Spray	Dilutable Spray	1 quart, 1.25 gallon	36.8% Permethrin	Lactating & Non-Lactating Dairy Cattle, Beef Cattle, Sheep, Goats, Horses, Swine, Poultry	Barns, Dairies, Feedlots, Poultry Houses, Stables, Swine & Livestock Houses	Backrubber, Dip, Fog or Mist, On Animal, Surface Spray & Spot Treatment, Crack & Crevice	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★		
	Lambda 9.7 CS	Dilutable Spray	1 quart	9.7% Lambda-Cyhalothrin	None	Livestock/Poultry Housing Structures, Outdoor Surfaces, Perimeter Treatments	Crack & Crevice, Surface Spray, Spot Treatment, Foam Applications	★							★	★	★	★		★		★		★	★		
ON ANIMAL	Prolate/Lintox-HD™ Insecticidal Spray & Backrubber for Livestock	Dilutable Spray, Backrubber	1 quart, 1 gallon	11.75% Phosmet	Beef & Non-Lactating Dairy Cattle & Swine	On Animal	On Animal Spray, Backrubber														★		★	★			

*Ear & sheep ticks only

REFER TO PRODUCT LABEL FOR DILUTION INSTRUCTIONS FOR INSECT OR APPLICATION METHOD

TABLE OF CONTENTS

Small Insects Can Be a Big Problem	1-2
What is Integrated Pest Management?	3
Let's Protect Your Pigs Together	4
Insects to Defend Against	5-6
How ClariFly® Larvicide Prevents Flies	7
<i>Breaking the Life Cycle</i>	8
<i>How a Feed-Through Works</i>	8
<i>Picking the Right Product Formulation</i>	9
<i>Directions and Dosage</i>	10
<i>Case Study Results</i>	11-12
<i>Pig FAQ</i>	13-14
Other Products Part of a Pig IPM Plan	15
<i>Starbar® Products</i>	16
<i>Pyronyl™ Crop Spray</i>	16
<i>Diacon®-D IGR</i>	16
Addendum	
<i>Specimen Labels</i>	17-32
<i>Starbar® Products Chart</i>	Fold Out



SMALL
INSECTS
BIG
PROBLEM

Small Insects Can Be a Big Problem

Pig operations have to fight an abundance of insects, but perhaps none poses a bigger threat than the common house fly. Uncontrolled fly populations can have a negative effect on the profitability of a pig operation. **House flies are known to carry and proven to transmit several diseases such as PEDv, Seneca Valley Virus, and PRRS.** Grant Allison, DVM, and Iowa State University conducted a bioassay that proved flies can spread live PEDv to pigs. Since pigs are in close proximity, disease and illness can spread quickly in an operation. In addition to disease, flies place physical and emotional stress on pigs that puts them off feed, thus reducing weight gain.

Flies also pose a threat to neighboring communities. Flies can travel up to 4 miles, and if an infestation migrates, it can lead to neighbors filing nuisance complaints, possibly leading to fines and / or lawsuits. Additionally, an uncontrolled fly population creates an unpleasant and unhealthy work environment for employees of your operation.

Besides the common house fly, fruit flies can also be a problem on pig operations, creating annoyances and unnecessary stress for both your pigs and employees alike.





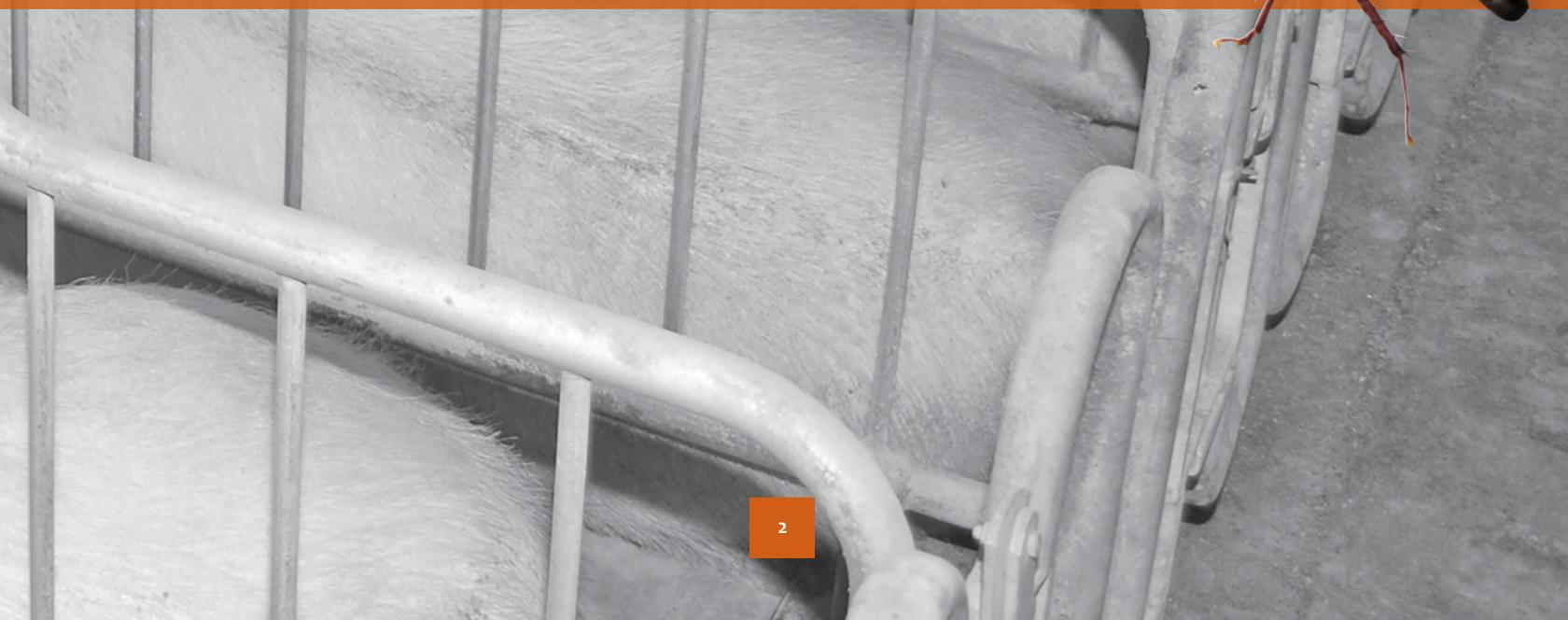
Cockroaches are another enemy of pigs. In addition to being a disgusting nuisance, cockroaches sometimes carry microbes that can include types of bacteria, worms, fungi and viruses that have the potential to lead to other diseases, such as dysentery, typhoid fever and cholera.

Other nuisance insects like spiders and ticks can also be problematic, causing stress on the pigs and unclean environments for your employees, as well.

Insect problems extend further than the animals on the operation. Indian meal moths and other stored grain insects feed on grains, infesting the food source of your pigs.

With all of these pests, you need an Integrated Pest Management (IPM) plan to effectively protect your pig operation.

We've got you covered.



What is Integrated Pest Management?

Integrated Pest Management (IPM) is a comprehensive program designed to help protect your pig operation from insects so that you can protect your profits. IPM is a pest control strategy that uses an array of complementary methods: natural predators and parasites, pest-resistant varieties, cultural practices, biological controls, various physical techniques, and ecologically-friendly insecticides.

It takes multiple practices and products all working together to provide the highest level of protection for your pig operation.

Let's Protect Your Pigs Together with an IPM Plan

An IPM program consists of three phases: planning, implementation and evaluation. In the planning phase, it is important to survey the extent of a pest problem by inspecting your operation to find the heaviest insect populations, and then charting a course to address the issues, including training your employees on the plan.



The implementation phase calls for executing a multi-method approach to insect abatement. Methods include cultural, physical-mechanical, biological and chemical efforts. For the cultural phase, utilize good sanitation practices in manure management. Physical-mechanical measures include maintaining all physical structures and facilities to deny insects entry. The biological step incorporates naturally occurring fly enemies into the control effort. Finally, the chemical phase includes using a range of both conventional and biorational products. Central Life Sciences makes biorational products like ClariFly[®] Larvicide, which is a proactive product that helps prevent flies. Pyronyl[™] Crop Spray is a product from Central Life Sciences that helps quickly kill several different insects, such as spiders and cockroaches. Diacon[®]-D IGR can help protect stored grains, such as your feed, from stored product pest infestations.

Finally, the evaluation phase requires reviewing the program's effectiveness, and adapting as needed. The use of Starbar[®] products such as Lure Fly[™] Fly Catchers, Captivator[®] Fly Trap, EZ Trap[®] Fly Trap and Fly Stik[™] Sticky Fly Trap can help monitor fly populations so that you can document your progress and actions taken, as well as review and adjust your program as needed.



TARGET
INSECT
SPECIES

INSECTS TO DEFEND AGAINST

Pig operations face several insect enemies. That's why it takes a complete IPM program to achieve effective insect protection.

Here's everything to keep an eye out for and be protected against to help keep your pig operation clean, your employees and pigs stress free, and less disease risk on your profits:

HOUSE FLIES



House flies are non-metallic, dull grayish colored flies, approximately 6-7 mm in length with 4 distinct stripes on their thorax. The abdomen of the house fly is usually a pale color with yellowish sides and underside. Female house flies lay 1 mm long, slightly curved, whitish colored eggs that are normally deposited in batches of approximately 150 eggs in animal manure.

Signs of infestation

Visibly seeing several flies in the pig areas of your operation is cause for concern. The population will continue to grow, with the life cycle repeating, until something is done.

Recommended products

ClariFly® Larvicide Livestock Premix 0.67%, ClariFly® Larvicide 267, Pyronyl™ Crop Spray, Starbar® Products

DARK-EYED FRUIT FLIES



Dark-Eyed Fruit Flies, commonly referred to as gnats, are about 1/8" long with dark brown to black bodies and very dark colored eyes. Females may lay up to 500 eggs, which hatch to larvae. Larvae are much smaller and are a maggot-shaped off white. It takes around 8-10 days to go from egg to adult. Mating takes place hours after adult emergence, with egg laying occurring 24 hours later.

Signs of infestation

Put out a Fly Stik™ Sticky Fly Trap or use the EZ Trap® Fly Trap from Starbar products to monitor what kind of fly infestation you may be dealing with.

Recommended products

ClariFly® Larvicide 267, Pyronyl™ Crop Spray, Starbar® Products

INDIAN MEAL MOTHS



Featuring a distinctive rusty brown or bronze color on its wing tips, this small brownish moth can be found in many types of pantry foods in addition to processing and storage facilities. It measures about 3/8" long with a wingspan ranging from 1/2"- 3/4". Larvae are off-white with brown heads, and measure about 2/3" long.

Signs of infestation

Larvae will produce dense webbing which can often be found in the feed auger lines. Flying adults will be present in the vicinity of grain bins, with larvae climbing up walls.

Recommended products

ClariFly® Larvicide 267, Diacon®-D IGR, Pyronyl™ Crop Spray

SPIDERS



House spiders range in length from 1/8"- 5/16" between males and females. They have eight legs and are usually a yellowish brown, with an elongated abdomen.

Signs of infestation

Spiders thrive in barns and warehouses, especially around windows or other light sources. They prosper in very humid conditions. If not spotted by the eye, they can be found by their large webs.

Recommended products

Pyronyl™ Crop Spray (For use only on black widow spiders)

COCKROACHES



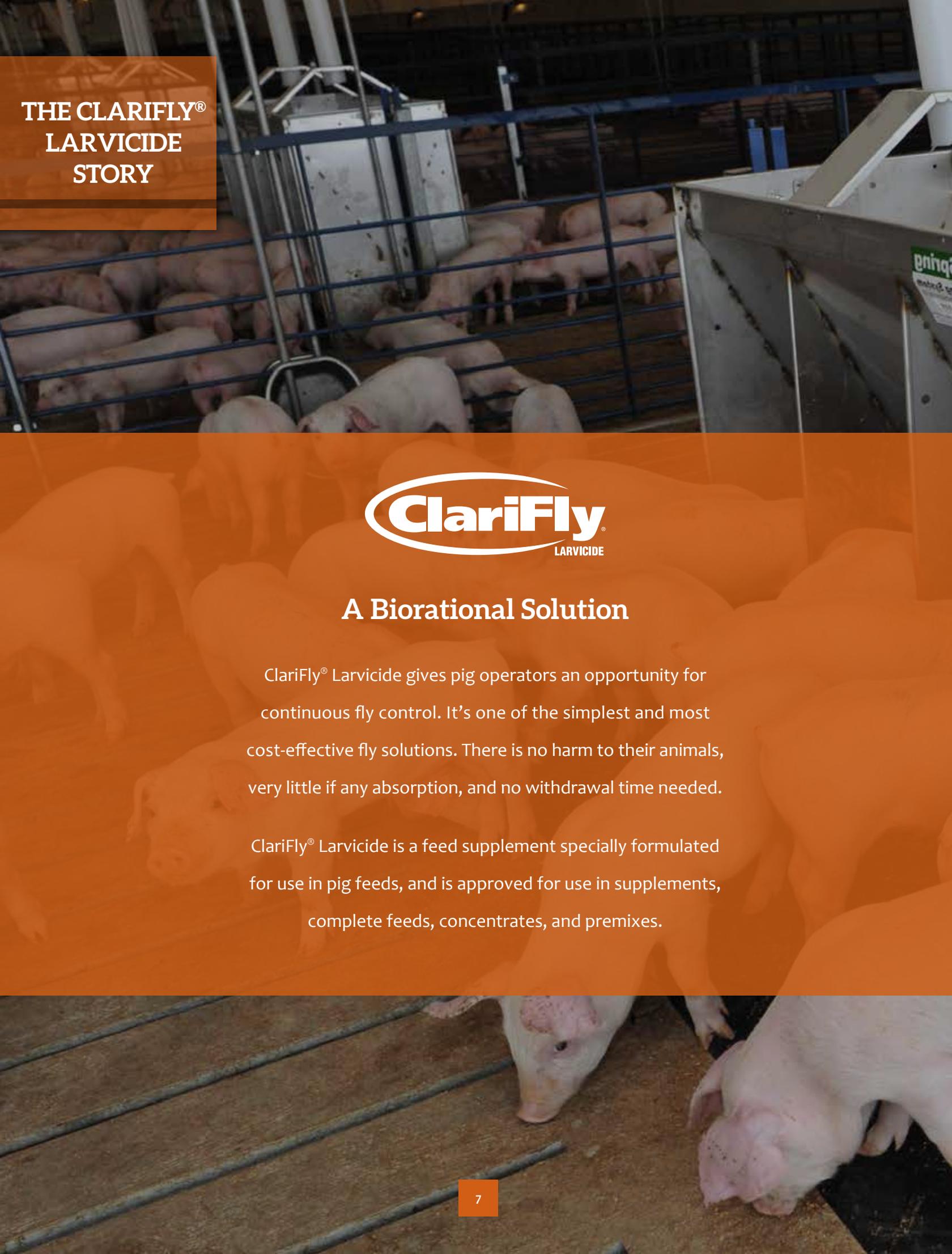
Cockroaches have six legs, are oval-shaped and are colored a reddish brown, with antennae. They range in length from 1 1/4"- 2 1/8". Their dark-colored egg capsules measure about 8 mm in length and may be found near food sources. Cockroaches prefer moist, dark environments, such as food storage and food preparation areas.

Signs of infestation

They can be seen scurrying toward dark areas. The droppings they leave in these low-light areas may look similar to mouse droppings. You may also be able to smell the "musty" odor they carry.

Recommended products

Pyronyl™ Crop Spray



THE CLARIFLY®
LARVICIDE
STORY



A Biorational Solution

ClariFly® Larvicide gives pig operators an opportunity for continuous fly control. It's one of the simplest and most cost-effective fly solutions. There is no harm to their animals, very little if any absorption, and no withdrawal time needed.

ClariFly® Larvicide is a feed supplement specially formulated for use in pig feeds, and is approved for use in supplements, complete feeds, concentrates, and premixes.

Breaking the Fly Life Cycle

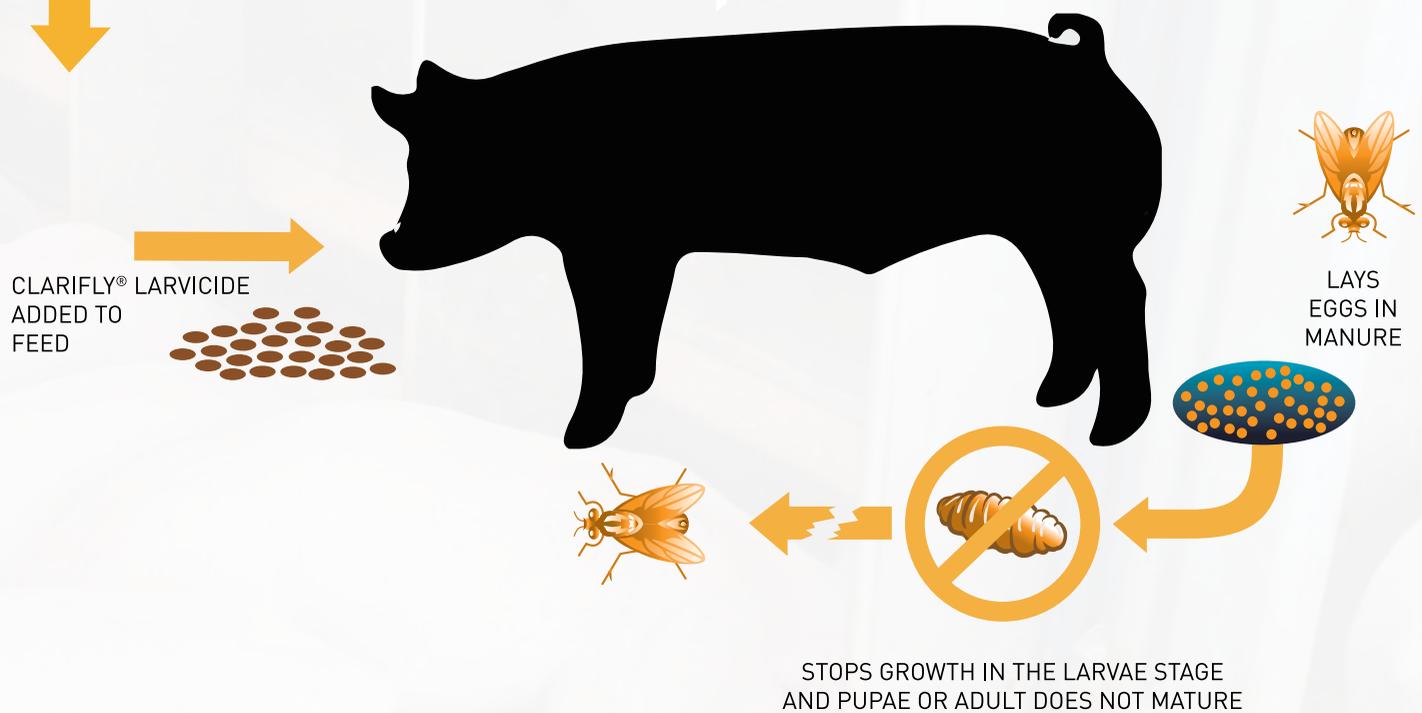


ClariFly® Larvicide is a feed additive with an active ingredient that prevents flies from developing in the manure of treated animals. Unlike conventional insecticides that attack the nervous system of insects through direct toxicity, ClariFly® Larvicide works by interrupting the flies' life cycle, preventing them from maturing. When mixed into pig feed, ClariFly® Larvicide passes through the animal's digestive system and into the manure.

The mode of action, specific to insects, disrupts the production of a substance called chitin, which is a key component of an insect's exoskeleton that is NOT found in mammals. Without a properly formed exoskeleton, the immature fly cannot survive to adulthood. Thus, the fly population cannot grow exponentially since the life cycle is halted.

ClariFly® Larvicide also has no meat or milk withholding period.

How a Feed-Through Works



When to Feed



The actual feeding period will depend on the regional climate. Starting a program during the fly season will require the use of other fly control measures to reduce the existing adult fly populations.

Flies tend to arrive early in the spring as temperatures begin to rise, and stay until first frost as temperatures drop. In this instance, it is recommended to feed your pigs ClariFly® Larvicide 30 days before flies become present, and 30 days after the first frost, when flies tend to leave. However, since pig operations are indoors and sheltered from the elements, it is likely flies may be present inside close to year-round, thus requiring ClariFly® Larvicide to be continuously fed to pigs to minimize fly populations.

Picking the Right Product Formulation

Selecting the right product formulation of feed-through for a specific operation is necessary for an effective IPM program. It is dependent on multiple factors, including the size of the operation, the animals' weights and the intensity of the fly problem.

ClariFly® Larvicide Livestock Premix 0.67% is premixed into feed with a 0.67% active ingredient level (also available for custom blending).

ClariFly® Larvicide 267 is specially formulated for use in pig feeds, and is approved for use in supplements, complete feeds, concentrates, and premixes.

CLARIFLY® LARVICIDE LIVESTOCK PREMIX 0.67%

Pigs weighing between 20-80 pounds should be given the 0.30 mg / kg dosage. Pigs weighing 100 pounds or more should be given the .20 mg / kg dosage. Limit Fed Gestating Swine should be fed the 0.10 mg / kg dosage.

MIXED-RATION FEEDING

Use the formulas below to calculate the inclusion level of ClariFly® Premix with grain or a feed supplement based on the target dosage. Use the higher inclusion for lighter weight pigs.

Use the following equation when calculating inclusion level based on a 0.30 mg DFB / kg of BW:

$$\text{Inclusion of ClariFly® Larvicide Livestock Premix 0.67\% (lbs / ton)} = \frac{\text{Body Weight (lbs)}}{100} \times 9 \div \text{Average Daily Feed Intake (lbs)}$$

Use the following equation when calculating inclusion level based on a 0.20 mg DFB / kg of BW:

$$\text{Inclusion of ClariFly® Larvicide Livestock Premix 0.67\% (lbs / ton)} = \frac{\text{Body Weight (lbs)}}{\text{Average Daily Feed Intake (lbs)}} \times 6$$

Use the following formula when calculating inclusion level based on a 0.10 mg DFB / kg of BW. This ration for limit fed gestating pigs only:

$$\text{Inclusion of ClariFly® Larvicide 0.67\% (lbs / ton)} = \frac{\text{Body Weight (lbs)}}{100} \times 3 \div \text{Average Daily Feed Intake (lbs)}$$

THOROUGHLY MIX THIS PRODUCT WITH GRAIN OR A FEED SUPPLEMENT. USE THE HEAVIEST WEIGHT OF A WEIGHT RANGE WHEN CALCULATING.

CLARIFLY® LARVICIDE 267

Pigs weighing between 20-80 pounds should be given the 0.30 mg / kg dosage. Pigs weighing 100 pounds or more should be given the .20 mg / kg dosage. Limit Fed Gestating Swine should be fed the 0.10 mg / kg dosage.

MIXED-RATION FEEDING

Use the formulas below to calculate the inclusion level of ClariFly® Larvicide 267 with grain or a feed supplement based on the target dosage. Use the higher inclusion for lighter weight pigs.

Use the following equation when calculating inclusion level based on a 0.30 mg DFB / kg of BW:

$$\text{Inclusion of ClariFly® Larvicide 267 (lbs / ton)} = \frac{\text{cwt}}{\text{Consumption (lbs)}} \times 2.25$$

Use the following equation when calculating inclusion level based on a 0.20 mg DFB / kg of BW:

$$\text{Inclusion of ClariFly® Larvicide 267 (lbs / ton)} = \frac{\text{cwt}}{\text{Consumption (lbs)}} \times 1.5$$

Use the following formula when calculating inclusion level based on a 0.10 mg DFB / kg of BW. This ration for limit fed gestating pigs only:

$$\text{Inclusion of ClariFly® Larvicide 267 (lbs / ton)} = \frac{\text{cwt}}{\text{Consumption (lbs)}} \times 0.75$$

THOROUGHLY MIX THIS PRODUCT WITH GRAIN OR A FEED SUPPLEMENT. USE THE HEAVIEST WEIGHT OF A WEIGHT RANGE WHEN CALCULATING.

CASE STUDY RESULTS



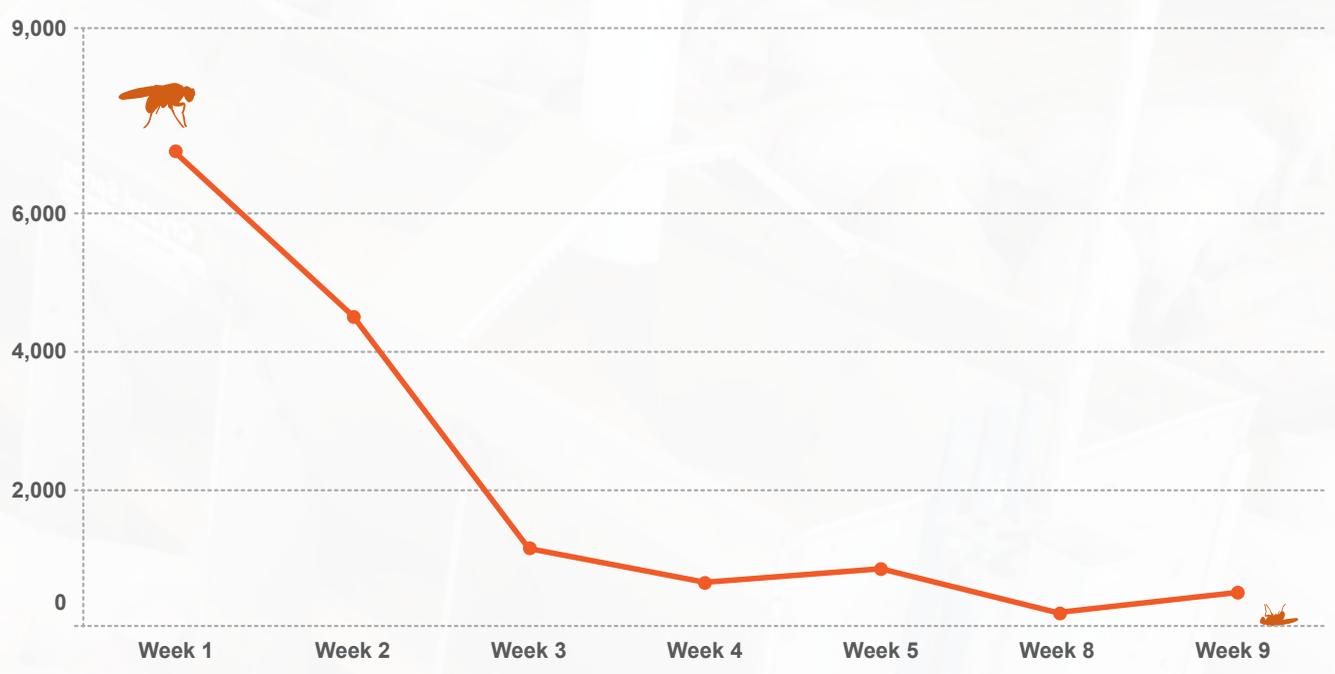
Finishing Pig Operation CTA Pork Achieves
99% Reduction
in House Flies With ClariFly® Larvicide

HOUSE FLY COUNT

Date	Room 1A	Room 1B	Room 2A	Room 2B
Week 1	1080	2100	916	636
Week 2	1200	1086	1900	1850
Week 3	972	873	1150	1265
Week 4	56	48	92	71
Week 5	4	10	8	3



Large Midwest Production System Sees Dramatic Drop Off in House Flies, Dark-Eyed Fruit Flies



FAQ

Q: *Is ClariFly® Larvicide harmful for employees at the mill to handle?*

A: No, ClariFly® Larvicide won't harm employees when handled according to label directions. As part of the approval process for ClariFly® Larvicide, the US EPA evaluated the occupational exposure from the normal use of the product and concluded it was permitted for employees to handle.

Q: *Will ClariFly® Larvicide affect performance of manure support products such as phytase?*

A: ClariFly® Larvicide should not impact the performance of products used to reduce phosphorus levels in pig manure. In addition, the active ingredient and carrier will not increase the amount of phosphorus being deposited in the manure.

Q: *With growing hogs having a range in feed rations, ex. 65-105 lbs., would feeding higher amounts of ClariFly® Larvicide to the lighter weight pigs in range have any negative effects other than increased cost?*

A: When formulating for a group of animals that range in weight, it is recommended to formulate for the heaviest animals in the group to ensure that all animals receive an effective dose. Lighter weight animals may receive a higher dose per kg of body weight for a time, but only if they are consuming the same amount as the larger animals. Many times this is corrected for, as the lighter weight animals are consuming less feed. It is important to treat **ALL** manure output to have maximum effect to control flies.

Q: *Does the active ingredient have any negative effects on feed ingredients such as vitamin or trace mineral packs, antibiotics, probiotics, amino acids, etc.?*

A: ClariFly® Larvicide has not been shown to negatively impact other feed ingredients or additives.



Q: Can ClariFly® Larvicide be used in pelleted feeds?

A: Yes, the active ingredient has been pelleted in animal feeds at temperatures up to 200°F without noticeable process losses.

Q: Can ClariFly® Larvicide be fed as part of an organic program?

A: ClariFly® Larvicide is **NOT** approved for use in organic programs.

Q: Can ClariFly® Larvicide be fed as part of a natural program?

A: Yes, but you need to check with your natural program to see if they allow ClariFly® Larvicide.

Q: How long does ClariFly® Larvicide stay in the manure?

A: ClariFly® Larvicide degrades rapidly in manure. The half-life of the active ingredient in soil is 7 days.

Q: Is ClariFly® Larvicide approved for use in ABF programs?

A: Yes. ClariFly® Larvicide is antibiotic free, making it acceptable for use in all ABF programs.



ADDITIONAL PRODUCTS

Other Products Part of a Pig IPM Plan

Being proactive and establishing an IPM program using multiple products is the best way to ensure your pig operation maximizes its value and limits infestations of multiple insects.

ClariFly® Larvicide by itself is not a “silver bullet” fly solution for pig operations, but it does allow you to catch up to the fly’s reproductive life cycle.

For starters, you’ll need sticky traps and jug traps to control any flies that do reach adulthood. Baits, such as QuikStrike® Fly Bait and Golden Malrin® Fly Bait, used in rotation will also be an integral part of an IPM plan to control fly populations. The Starbar® line of products has you covered for all these needs.

There are more insects on your pig operation than just house flies and dark eyed fruit flies, including cockroaches, spiders, ticks, etc. Pyronyl™ Crop Spray is a good solution for those pesky invaders.

As you know, how and what you feed your pigs matter. That means that you’re going to need proactive protection against any stored grain insects such as Indian meal moths to prevent them from feasting on your pig’s feed. Diacon®-D IGR can help with that.

Starbar® Products

With a wide range of products, the Starbar® line has a solution for almost every insect infestation your pig operation may face. It has fly traps to catch adult flies in ceilings. It has fly baits to kill flies on the ground quickly. It has insecticidal sprays to kill almost any insect that may be bugging your pig operation. See the foldout at the back of this catalog for more information on Starbar® Products.

FEATURES & BENEFITS:

- Products for insect control at all levels insects are found
- Products for insect control outside and inside
- Fast-acting and long-term control products

HIGH
LEVEL



MID
LEVEL



LOW
LEVEL



IN, ON
AROUND



Pyronyl™ Crop Spray

Pyronyl™ Crop Spray is a concentrated pyrethrum insecticide that features a high ratio of active ingredient to synergist for the flushing and rapid knockdown of multiple insects. This can help get rid of black widow spiders and cockroaches quickly.

FEATURES & BENEFITS:

- Controls multiple insects (see label)
- Contains synergized pyrethrins
- Ideal for the rapid knockdown of multiple species
- Quick degradation in the environment
- May be used as a fogging agent



Diacon®-D IGR

Ideal for stopping Indian meal moths and other stored grain insects, Diacon®-D IGR carries an active ingredient that has a different mode of action than other insecticides: it prevents the larvae of nuisance insects from maturing into adults, interrupting their life cycles to help prevent infestation. Diacon®-D IGR can be used on all stored grains, spices, feed and seeds, including those used for animal and human consumption.

FEATURES & BENEFITS:

- Approved for use in pelleted and premix feed
- Stable in high heat
- Apply 1/3 lb. per ton of animal feed
- Treated feeds may be fed immediately with no withholding period





ClariFly[®] Livestock Premix 0.67%

LARVICIDE

- USE AS PART OF AN INTEGRATED PEST MANAGEMENT PROGRAM FOR CONTROL OF FLIES DEVELOPING IN THE MANURE OF TREATED CATTLE, HORSES, AND SWINE

SPECIMEN LABEL

DIFLUBENZURON	GROUP	15	INSECTICIDE
---------------	-------	----	-------------

ACTIVE INGREDIENT (% by weight):

Diflubenzuron* (CAS # 35367-38-5)	0.67%
OTHER INGREDIENTS	99.33%
TOTAL	100.00%

*Contains 3.04 grams of diflubenzuron per pound.

EPA Reg. No. 89459-2

EPA Est. Nos. See container for reference

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

**PRECAUTIONARY STATEMENTS –
HAZARDS TO HUMANS – CAUTION:**

Causes moderate eye irritation. Avoid contact with eyes or clothing. Wear protective eyewear. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

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. • Call poison control center or doctor for treatment advice.
-------------------	---

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For additional information on this pesticide product (including health concerns, medical emergencies or pesticide incidents, call 1-800-347-8272, 24 hours per day, 7 days per week.

PERSONAL PROTECTIVE EQUIPMENT: Mixers and other handlers must wear long-sleeved shirt and pants, shoes plus socks, and chemical resistant gloves made of nitrile rubber, barrier laminate, neoprene rubber or viton ≥ 14 mils. 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.

ENVIRONMENTAL HAZARDS: This pesticide is toxic to aquatic invertebrates. Do not contaminate water when disposing of equipment washwaters.

USE INFORMATION: ClariFly[®] Larvicide Livestock Premix 0.67% (ClariFly[®] Premix) is intended for blending into feeds or supplements for beef and dairy cattle, horses, and swine rations to control manure breeding flies. This product prevents emergence of adult flies from the manure of the treated cattle, horses, and swine. Use this product only in cattle, horses, and swine supplements/rations.

Use ClariFly[®] Premix as part of an integrated pest management program aimed at reducing fly populations in the treated environment. Consult your veterinarian or retailer for program recommendations. In order to achieve optimum fly control, use this product in conjunction with Starbar[®] premise and on-animal products as well as good management and sanitation practices.

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

ClariFly[®] Premix contains diflubenzuron, which prevents the development of house flies, stable flies, face flies, horn flies, and manure breeding flies in the manure of treated beef and dairy cattle, horses, and swine, but is not effective against existing adult flies. Start feeding ClariFly[®] Premix early in the spring 30 days before flies begin to appear, and continue feeding throughout the summer and into the fall until cold weather restricts fly activity. In some cases, supplemental fly control measures may be needed in and around pastures, barns, and feedlots to control adult house and stable flies which can breed in other decaying organic matter or silage in the area, or that migrate in from other locations.

The dosage of ClariFly[®] Premix is proportional to the animal’s body weight and must be offered daily throughout the entire fly season. The following table provides the feeding rate for all approved species.

Species	Daily Feeding Rate of diflubenzuron AI	
	mg/kg	mg/cwt
Cattle - may be fed to beef and dairy cattle, including breeding cattle, lactating dairy cattle, growing and finishing cattle and calves, either in dry lot or on pasture up to slaughter and to lactating dairy cows without withholding milk from market during or after treatment.	0.10	4.55
Horses - may be fed to horses including ponies, burros, and donkeys.	0.15	6.82
Swine - may be fed to swine including nursery, grow-finish, and breeding stock (excluding limit fed gestating sows) with no withdrawal period. Use the higher inclusion rate for lighter weight pigs.	0.20 – 0.30	9.10 – 13.64
Limit Fed Gestating Swine - may be fed to limit fed gestating sows with no withdrawal period.	0.10	4.55

SWINE MIXING DIRECTIONS

MIXED-RATION FEEDING

Use the formulas below to calculate the inclusion level of **ClariFly® Premix** with grain or a feed supplement based on the target dosage. Use the higher inclusion rate for lighter weight pigs.

Use the following equation when calculating inclusion level based on a **0.20 mg/kg dosage**:

$$\text{Inclusion of ClariFly® Premix (lbs/ton)} = \frac{\text{Body weight (lbs)}}{100} \times 6 \div \text{Average Daily Feed Intake (lb)}$$

Use the following equation when calculating inclusion level based on a **0.30 mg/kg dosage**:

$$\text{Inclusion of ClariFly® Premix (lbs/ton)} = \frac{\text{Body weight (lbs)}}{100} \times 9 \div \text{Average Daily Feed Intake (lb)}$$

Use the following equation when calculating inclusion level based on a **0.10 mg/kg dosage**:

This ration for limit fed gestating sows only.

$$\text{Inclusion of ClariFly® Premix (lbs/ton)} = \frac{\text{Body weight (lbs)}}{100} \times 3 \div \text{Average Daily Feed Intake (lb)}$$

Thoroughly mix this product with grain or a feed supplement.

CATTLE MIXING DIRECTIONS

MIXED WITH FREE-CHOICE MINERALS

Mix with free-choice-fed minerals to produce a **ClariFly® Premix** mineral mixture as shown in the table below¹.

	4 OZ PER DAY FEEDING RATE		2 OZ PER DAY FEEDING RATE	
ClariFly® Premix	13 lbs	6.10%	13.5 lbs	11.89%
Free-Choice Minerals	200 lbs	93.90%	100.0 lbs	88.11%
Total	213 lbs	100.00%	113.5 lbs	100.00%

¹These calculations are based on a 1,000 pound animal.

Place the **ClariFly® Premix** plus mineral mixture in feeders close to water sources and/or resting areas. Use one feeder for each 15 to 20 head. Fill the feeders with no more than a 5 to 7 day supply of the mixture at one time, and protect the mixture from rain.

MIXED-RATION FEEDING: Use the table below as a guide for mixing **ClariFly® Premix** with grain or a feed supplement.

Body Weight (lbs)	Feed Intake as a % Body Weight	Feed Intake (lbs /head/ day)	ClariFly® Premix (lbs/ton)
50-200	See table: "For Formulating Calf Starters"		
250	1.50%	3.75	2.0
500	1.50%	7.50	2.0
750	1.50%	11.25	2.0
1000	1.50%	15.00	2.0
1500	1.50%	22.50	2.0
250	2.00%	5.00	1.5
500	2.00%	10.00	1.5
750	2.00%	15.00	1.5
1000	2.00%	20.00	1.5
1250	2.00%	25.00	1.5
250	2.50%	6.25	1.2
500	2.50%	12.50	1.2
750	2.50%	18.75	1.2
1000	2.50%	25.00	1.2
1500	2.50%	37.50	1.2
250	3.00%	7.50	1.0
500	3.00%	15.00	1.0
750	3.00%	22.50	1.0
1000	3.00%	30.00	1.0
1250	3.00%	37.50	1.0

$$\text{Inclusion of ClariFly® Premix (lbs/ton)} = \frac{\text{Body weight (lbs)}}{100} \times 3 \div \text{Average Daily Feed Intake (lb)}$$

Thoroughly mix **ClariFly® Premix** with grain or a feed supplement. The mixing and feeding rates in the previous table will provide the required daily intake of 0.10 mg diflubenzuron/kg of body weight per day.

FOR FORMULATING CALF STARTERS: For formulating calf starters to be fed to calves weighing between 50 and 200 pounds, use the following table:

CALF WEIGHT	FEED INTAKE lb/head/day	INCLUSION RATE	
		lb of ClariFly® Premix/ton	g of Diflubenzuron /ton
50-99 lbs	1.0 – 1.4	3.0	9.1
100-150 lbs	1.0 – 1.4	4.5	13.6
100-170 lbs	1.5 – 1.7	3.6	10.9
100-200 lbs	≥1.8	3.0	9.1

EQUINE MIXING DIRECTIONS

MIXED-RATION FEEDING

Use the formula below to calculate the inclusion level of **ClariFly® Premix** with grain or a feed supplement.

$$\text{Inclusion of ClariFly® Premix (lbs/ton)} = \frac{\text{Body weight (lbs)}}{100} \times 4.5 \div \text{Average Daily Feed Intake (lb)}$$

Thoroughly mix this product with grain or a feed supplement.

STORAGE AND DISPOSAL: Do not contaminate water, food, or feed by storage or disposal.

PESTICIDE STORAGE: Keep this product in its tightly closed original container. Store in a cool, dry (preferably locked) area that is inaccessible to children and animals. Do not contaminate with pesticides or fertilizer.

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. Completely empty bag by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into mixing equipment. Then offer for recycling, if available, or dispose of bag in a sanitary landfill or by other procedures approved by state and local authorities.

CONDITIONS OF WARRANTY AND LIMITATION OF LIABILITY:

Read the entire Directions for Use, Conditions of Warranties and Limitations of Liability before using this product. If terms are not acceptable, return the unopened product container at once. By using this product, user or buyer accepts the following Conditions, Disclaimer of Warranties and Limitations of Liability.

CONDITIONS: The Directions for Use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Central Garden & Pet Company. All such risks shall be assumed by the user or buyer.

DISCLAIMER OF WARRANTIES: To the extent consistent with applicable law, Central Garden & Pet Company makes no other warranties, express or implied, of merchantability or of fitness for a particular purpose or otherwise, that extend beyond the statements made on this label. No agent of Central Garden & Pet Company is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. To the extent consistent with applicable law, Central Garden & Pet Company disclaims any liability whatsoever for special, incidental or consequential damages resulting from the use or handling of this product.

LIMITATIONS OF LIABILITY: To the extent consistent with applicable law, the exclusive remedy of the user or buyer for any and all losses, injuries or damages resulting from the use or handling of this product, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid or at Central Garden & Pet Company's election, the replacement of product.

IPM

INTEGRATED PEST MANAGEMENT

PLANNING

- Forecasting
- Education
- Identification
- Training

IMPLEMENTATION

- Sanitation
- Exclusion
- Monitor/Reassessing
- Physical Controls

EVALUATION

- Inspection
- Critique
- Learn
- Documentation

IMPLEMENT THE OPTIMUM IPM

House flies, stable flies, face flies and horn flies are pervasive and resilient pests. Make the most of your control efforts by incorporating an integrated pest management program (IPM) with **ClariFly® Larvicide Livestock Premix 0.67% (ClariFly® Premix)**. The ideal program will hit flies where they breed, and can help reduce populations to manageable levels.

IPM PROGRAM OVERVIEW

PLANNING

- Assess your operation and find the fly hot spots.
- Establish a plan to minimize pest damage by the most economical means, utilizing various control measures.
- Set an action threshold, a point at which pest populations or environmental conditions indicate that pest control action must be taken.
- Train other employees on the plan.

IMPLEMENTATION

Sanitation Control

- Keep buildings in good repair and your grounds free of debris where flies can breed.
- Keep animal areas as clean and dry as possible. Flies lay their eggs in manure, decaying silage, spilled feed, and soiled bedding.
- Calf hutches that are clean, well ventilated, and relocated with regularity will address a major breeding area for flies.
- Keep feed storage areas, bunks, and water troughs in good repair, clean, and as dry as possible.
- Keep grass and weeds around barns, feeders, hutches, and manure piles cut low. Overgrown areas provide an ideal resting and breeding ground for flies.

Non-Insecticidal Controls

- The Starbar® line of sticky/jug traps can be used for controlling adult flies and are ideal for keeping track of control efforts.
- Traps are good for areas where conventional chemical control is out of the question such as milking parlors and feeding areas.

Traditional Chemical Controls

- Scatter baits from Starbar such as QuikStrike®, Golden Malrin®, and Cyanarox™ baits are a form of chemical control that can be used in rotation to fight fly resistance. Scatter baits can be used in a variety of locations (consult labels) around the operation. However, keep away from animals and children.

IGR Larvicide Controls

- Incorporate an IGR larvicide into all cattle, horse and/or swine feeds.

EVALUATION

- Keep track of fly populations with speck cards as well as non-insecticidal jug and sticky traps.
- Document your progress with a concise record of locations, conditions, and action taken.
- Rotate traditional chemical control products to fight fly resistance.

No one aspect of an IPM will eliminate flies. Incorporation of all these steps into one program is key. ClariFly® Premix is an important component to help control fly populations in a successful IPM program on your operation. For more information about ClariFly® Larvicide, call 1-800-347-8272 or visit centralflycontrol.com. For more information about Starbar® products visit starbarproducts.com.

Manufactured for:

Central Garden & Pet Company
1501 East Woodfield Road 200W
Schaumburg, Illinois 60173

ClariFly, ClariFly Larvicide with design, Cyanarox, Golden Malrin, QuikStrike, and Starbar are trademarks of Wellmark International.



ClariFly[®] LARVICIDE 267

- **FOR USE IN SWINE FEEDS AND SUPPLEMENTS**
- **PROVIDE TO SWINE INCLUDING NURSERY, GROW-FINISH AND BREEDING STOCK TO STOP THE DEVELOPMENT OF HOUSE FLIES, STABLE FLIES AND OTHER MANURE BREEDING FLIES SPECIFICALLY DARK EYED FRUIT FLIES (*DROSOPHILA REPLETA*) PHORID FLIES AND DRAIN FLIES (*PSYCODIDS*)**
- **PREVENTS THE EMERGENCE OF STORED PRODUCT PESTS, SUCH AS INDIAN MEAL MOTH, RED FLOUR BEETLE, CONFUSED FLOUR BEETLE FROM TREATED FEED**

SPECIMEN LABEL

DIFLUBENZURON	GROUP	15	INSECTICIDE
---------------	-------	----	-------------

ACTIVE INGREDIENT:

Diflubenzuron [CAS# 35367-38-5].....2.67%

OTHER INGREDIENTS:.....97.33%

TOTAL:.....100.00%

Contains 0.42 ounces (12.12 grams) of diflubenzuron per pound.

EPA Reg.No. 89459-82

EPA Est. No. 75806-AZ-1

KEEP OUT OF REACH OF CHILDREN CAUTION

See additional Precautionary Statements

PRECAUTIONARY STATEMENTS – HAZARDS TO HUMANS AND DOMESTIC ANIMALS – CAUTION

Harmful if swallowed. Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

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. <p style="text-align: right;"><i>(continued)</i></p>
---------------------	---

If in Eyes

- 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.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For additional information on this pesticide product, including health concerns, medical emergencies, or pesticide incidents, you may call 1-800-347-8272, 24 hours per day, 7 days per week.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to aquatic invertebrates. 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 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.

When fed to swine according to label directions, **ClariFly[®] Larvicide 267** prevents the emergence of house flies, stable flies, other manure breeding flies, specifically dark eyed fruit flies (*Drosophila repleta*), phorid flies, drain flies (*Psychodids*), non-biting gnats (*Hippelates* spp.), and lesser dung flies (*Sphaerocerids*) from the manure of treated swine. Start feeding this product early in the spring before house and stable flies begin to appear and continue feeding throughout the summer and into the fall until cold weather restricts fly activity.

This product is not effective against existing adult flies. When starting a feeding program during the house and stable fly season, it is desirable to use other control measures to reduce the population of existing adult flies.

In some cases, supplemental fly control measures for the listed flies may be needed in and around swine barns to control adult house and stable flies which can breed not only in swine manure, but in decaying vegetable matter or silage on the premises. In order to achieve optimum control for house and stable flies and other manure breeding flies, use this product in conjunction with other good management and sanitation practices.

At label rates incorporated in feeds for swine, stored product pests (Indian meal moth, red and confused flour beetles) infesting treated feed will be controlled.

The dosage of **ClariFly® Larvicide 267** is proportional to the animal's body weight and must be offered daily throughout the entire house and stable fly season. The following table gives dosage information.

Species	Daily Feeding Rate of DFB AI	
	mg/kg	mg/cwt
Swine - ClariFly® Larvicide 267 may be fed to swine including nursery, grow-finish, and breeding stock with no withdrawal period. Use the higher inclusion rate for lighter weight pigs.	0.20 - 0.30	9.10 - 13.64
Limit Fed Gestating Swine - ClariFly® Larvicide 267 may be fed to limit fed gestating sows with no withdrawal period.	0.10	4.55

ClariFly® Larvicide 267 is a specially formulated granular material for use in swine feeds. It is approved for use in supplements, complete feeds, concentrates and premixes. It may also be used in liquid feeds when suspension agents are used to maximize the positional stability of the other feed ingredients.

Feed Mixing Directions - 0.20 mg/kg/day – 0.30 mg/kg/day
Use the following formula when mixing swine rations. Use the higher inclusion rate for lighter weight pigs.
For a dosage of 0.20 mg/kg/day: $\left(\frac{\text{CWT}}{\text{Consumption (lbs)}}\right) \times 1.5 = \text{lbs of ClariFly® Larvicide 267 per ton of product being manufactured}$
For a dosage of 0.30 mg/kg/day: $\left(\frac{\text{CWT}}{\text{Consumption (lbs)}}\right) \times 2.25 = \text{lbs of ClariFly® Larvicide 267 per ton of product being manufactured}$

Limit Fed Gestating Swine Feed Mixing Directions - 0.10 mg/kg/day
Use the following formula when mixing gestating swine rations.
For a dosage of 0.10 mg/kg/day: $\left(\frac{\text{CWT}}{\text{Consumption (lbs)}}\right) \times 0.75 = \text{lbs of ClariFly® Larvicide 267 per ton of product being manufactured}$

Manufactured for: **Central Garden & Pet Company**, 1501 East Woodfield Road, 200W, Schaumburg, Illinois 60173

NOTE: This specimen label is for informational purposes only. All uses may not be approved in all states. See product labeling for use directions.

ClariFly and ClariFly Larvicide with design are registered trademarks of Wellmark International.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Keep this product in its tightly closed original container. Store in a cool, dry (preferably locked) area that is inaccessible to children and animals. **PESTICIDE DISPOSAL:** Wastes resulting from the use of this pesticide may be disposed of on site or at an approved waste disposal facility. **CONTAINER HANDLING:** Nonrefillable container. Do not reuse or refill this container. Completely empty bag into mixing equipment. Offer for recycling if available, then dispose of empty bag in a sanitary landfill, or by other procedures approved by state and local authorities.

WARRANTY- IMPORTANT: READ BEFORE USE

Read the entire Directions for Use, Conditions, Disclaimer of Warranties, and Limitations of Liability before using this product. If terms are not acceptable, return the unopened product container at once. By using this product, user or buyer accepts the following Conditions, Disclaimer of Warranties and Limitations of Liability.

CONDITIONS: The Directions for Use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Central Garden & Pet Company. All such risks shall be assumed by the user or buyer.

DISCLAIMER OF WARRANTIES: To the extent consistent with applicable law, Central Garden & Pet Company makes no other warranties, express or implied, of merchantability or of fitness for a particular purpose or otherwise, that extend beyond the statements made on this label. No agent of Central Garden & Pet Company is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. To the extent consistent with applicable law, Central Garden & Pet Company disclaims any liability whatsoever for special, incidental or consequential damages resulting from the use or handling of this product.

LIMITATIONS OF LIABILITY: To the extent consistent with applicable law, the exclusive remedy of the user or buyer for any and all losses, injuries, or damages resulting from the use or handling of this product, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid or at Central Garden & Pet Company's election, the replacement of product.

For information or in case of emergency, contact 1-800-347-8272.





- **AN INSECT GROWTH REGULATOR TO CONTROL STORED PRODUCT INSECTS BY BREAKING THE PEST LIFE CYCLE AND PREVENTING LARVAE FROM MATURING INTO ADULTS**
- APPROVED FOR USE ON ALL GRAINS, SPICES, FEEDS, AND SEEDS, INCLUDING COMMODITIES FOR HUMAN AND ANIMAL CONSUMPTION
- VERSATILE APPLICATION INCLUDES – DIRECT TO GRAIN, TOP-DRESS, MIXING INTO ANIMAL FEEDS, OR EMPTY PREMISE TREATMENTS

SPECIMEN LABEL

ACTIVE INGREDIENT:

(S)-Methoprene (CAS# 65733-16-6)..... 0.8%

OTHER INGREDIENTS:* 99.2%

TOTAL 100.0%

EPA Reg. No. 2724-788

EPA Est. No. 2724-TX-1

KEEP OUT OF REACH OF CHILDREN

CAUTION

See additional Precautions

PRECAUTIONARY STATEMENTS – HAZARDS TO HUMANS & DOMESTIC ANIMALS CAUTION

Harmful if inhaled or absorbed through the skin. Causes moderate eye irritation. Avoid breathing dust. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove contaminated clothing and wash before reuse. Wear chemical resistant gloves, protective eyewear, and dust mask.

Personal Protective Equipment (PPE): Handlers and applicators must wear a dust mask, chemical-resistant gloves, and protective eyewear.

FIRST AID

IF INHALED • 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 treatment advice.

IF ON SKIN • 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 IN EYES • 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 eyes. • Call a poison control center or doctor for treatment advice.

IF SWALLOWED • 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 to an unconscious person.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-248-7763 for emergency medical treatment information.

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 equipment washwater or rinsate.

GENERAL INFORMATION

DIACON®-D IGR is a ready-to-use formulation that can either be applied to commodities and feed prior to storage, top-dressed to commodities already stored, or used as an empty premise treatment for areas where commodities will be stored. The residual activity of **DIACON®-D IGR** prevents the emergence of stored product insects during storage of commodities/feed. (S)-Methoprene, the active ingredient in **DIACON®-D IGR** protects the stored commodity from damaging insects by interfering with the normal process of insect development. Unlike traditional pesticides, **DIACON®-D IGR** is not an adulticide, but its residual activity prevents the development of larval insects into viable reproducing adults. **DIACON®-D IGR**, when used according to the label directions, prevents adult emergence and subsequent new generations of insects. **DIACON®-D IGR** is effective against

insect pests, such as: almond moth, Indian meal moth, lesser grain borer, sawtooth grain beetle, merchant grain beetle, red and confused flour beetle, and other insect pests that are affected by Insect Growth Regulators (IGR's). If the commodity is known to be infested when it is initially being placed into storage, fumigate the commodity to eliminate the existing insect populations following filling of bins or other storage facilities. Then apply **DIACON®-D IGR** for residual protection.

Apply **DIACON®-D IGR** to any food commodity (including but not limited to: cereal grains, corn, sunflower, canola, legumes, popcorn, wheat, spices, sorghum, rice, cocoa, peanuts, oats, millet and processed foods readied for packing) for control of insect larvae. **DIACON®-D IGR** may also be used to treat bulk or bagged pet food, livestock feed, birdseed, or any other animal feed. **DIACON®-D IGR** may be applied to any seed stock. Treated commodities may be processed immediately. **Applications of DIACON®-D IGR to finished animal feeds, birdseed or other finished products DO NOT require package labeling since the application is made to control pests in the package and no other claims are made on the final package.**

DIRECTIONS FOR USE

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

DIRECTIONS FOR TREATMENT OF COMMODITIES PRIOR TO STORAGE

For protection of stored food, grain, animal feed, seeds used for oil, and seed stock against stored product insects - for optimum results, thoroughly clean and treat storage areas prior to storing commodities. **DIACON®-D IGR** may be used in conjunction with aeration.

Wearing a dust mask and protective gloves, apply **DIACON®-D IGR** to grain or other commodities as they are being loaded or turned into storage facilities. Apply 8-10 pounds of **DIACON®-D IGR** per 1000 bushels of commodity. Apply the dust as uniformly as possible to the commodity stream to assure even coverage. Apply in such a manner to reduce the potential of the product blowing off target in windy conditions. The higher application rate will provide longer residual.

DIRECTIONS FOR TOP-DRESS TREATMENT OF STORED GRAIN

Use **DIACON®-D IGR** as a top-dressing application for commodities which were previously stored in bins or other storage areas. To apply as a top-dressing; wearing a dust mask and protective gloves, uniformly apply the **DIACON®-D IGR** over the commodity's surface. Dust the bin headspace paying particular attention to the top of the commodity mass, beams, ceilings, and rafters. Use equipment capable of applying a uniform layer of **DIACON®-D IGR**. Thorough coverage is essential.

As a top-dressing application, apply 8 pounds of **DIACON®-D IGR** per 1000 ft² of commodity surface area. Raking the top layer will enhance protection from invading insects infesting the top surfaces of the commodity. When raking commodity surface, rake to a depth of 1 foot.

DIRECTIONS FOR MIXING INTO ANIMAL FEEDS

DIACON®-D IGR is suitable to be used in the production of bulk or bagged animal feeds (including but not limited to: pet food, livestock feed, birdseed, and all other animal feeds). Wearing a dust mask and protective gloves, add **DIACON®-D IGR** to achieve a thorough mix within the feed. Apply 0.33 pounds (150 gms) – 0.26 pounds (126 gms) per ton of animal feed and mix to ensure uniformity. Treated feeds may be fed immediately with no withdrawal required.

DIRECTIONS FOR EMPTY BIN, WALL VOID, CRACK AND CREVICE TREATMENT

Use **DIACON®-D IGR** to treat bins, warehouses, mills, food processing and packaging facilities, feed mills, and other areas where stored product pests may harborage. For applications to hard surfaces within these sites, wearing a dust mask and protective gloves, apply **DIACON®-D IGR** at a rate of 1.5 oz (45 grams) per 1000 ft² of surface area. Pay particular attention to cracks, crevices, and voids where food commodities can accumulate and attract pests. Use a bulb duster or other suitable equipment to apply the material.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal. **Storage** - Store in a cool, dry place. **Pesticide Disposal** - Wastes resulting from use of this product may be disposed of on site or at an approved waste disposal facility. **Container Disposal** – Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then dispose of empty bag and container in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

WARRANTY AND CONDITIONS OF SALE

To the fullest extent permitted by law, 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 contrary to label instructions.

For information or in case of an emergency, call 1-800-248-7763.

www.bugfreegrains.com

Wellmark International

1501 East Woodfield Road 200W
Schaumburg, Illinois 60173

Diacon and Diacon with design are trademarks of Wellmark International.
©2012 Wellmark International.

April, 2012
Schaumburg, IL

Pyronyl™

Crop Spray

KILLS: Ants, Aphids, Bed Bugs, Black Widow Spiders, Cockroaches, Crickets, Face Flies, Fleas, Horse Flies, House Flies, Lice, Mosquitoes, Stable Flies, Stored Product Insects (including Almond Moths, Confused Flour Beetles, Granary Weevils, Indian Meal Moths, Lesser Grain Borers, Rice Weevils, Saw-toothed Grain Beetles and others listed on this label) Ticks, and Thrips

FOR USE AS: Stored Product Protection, Livestock and Poultry Spray

Refer to the label for additional use sites.

ACTIVE INGREDIENTS:

Pyrethrins6%
Piperonyl Butoxide*60%

OTHER INGREDIENTS:**34%

TOTAL 100%

* (butylcarbityl)(6-propylpiperonyl) ether and related compounds.

** Contains Petroleum Distillates

EPA Reg. No. 89459-26
EPA Est. No. 2724-TX-1

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Harmful if swallowed. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

FIRST AID	
If swallowed	<ul style="list-style-type: none"> • Immediately call a Poison Control Center or physician. • Do not induce vomiting unless told to do so by a Poison Control Center or physician. • Do not give any liquid to the person. • Do not give anything by mouth to an unconscious person.
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 physician for treatment advice.
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 physician for treatment advice.

Have the product container or label with you when calling a Poison Control Center or doctor, or going for treatment. You may contact 1-800-248-7763 for information including health concerns, medical emergencies or pesticide incidents.

NOTE TO PHYSICIAN: Contains petroleum distillate – vomiting may cause aspiration pneumonia.

Personal Protective Equipment (PPE): Some materials that are chemical-resistant to this product are made of barrier laminate, nitrile rubber, neoprene rubber, viton.

SPECIMEN LABEL

KEEP OUT OF REACH OF CHILDREN

CAUTION

See additional Precautionary Statements,
First Aid Statements and Directions for Use

Mixers, loaders, applicators, and other handlers must wear the following:

- long-sleeve shirt,
- long pants,
- shoes and socks and
- chemical-resistant gloves.

In addition to the above PPE, applicators using a high pressure handwand in an enclosed area must wear at least a NIOSH-approved respirator with:

- a filter with NIOSH approval number prefix TC-21C or
- any R, P, or HE filter.

In addition to the above PPE, applicators using hand held foggers in an enclosed area must wear a half-face, full-face, or hood-style NIOSH-approved respirator with:

- a filtering cartridge (NIOSH approval number prefix TC-21C), or
- a canister (NIOSH approval number prefix TC-14G), or
- a cartridge or canister with any R, P, or HE filter.

See Engineering Controls for additional requirements.

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

User Safety Recommendations: Users should wash hands 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.

Engineering Controls Statements: Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(6)].

Human flagging is prohibited. Flagging to support aerial application is limited to use of the Global Positioning System (GPS) or mechanical flagger.

ENVIRONMENTAL HAZARDS

For terrestrial applications: This product is toxic to aquatic organisms, including fish and invertebrates. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. This product may contaminate water through runoff. This product has potential for runoff for several weeks after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product.

This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are foraging the treatment area.

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.

For wide area mosquito adulticide applications: This pesticide is toxic to aquatic organisms, including fish and invertebrates. Runoff from treated areas or deposition of spray droplets into a body of water may be hazardous to fish and aquatic invertebrates.

This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively foraging the treatment area.

Before making the first application in a season, it is advisable to consult with the state or tribal agency with primary responsibility for pesticide regulation to determine if other regulatory requirements exist.

Do not apply over bodies of water (lakes, rivers, permanent streams, natural ponds, commercial fish ponds, swamps, marshes or estuaries), except when necessary to target areas where adult mosquitoes are present, and weather conditions will facilitate movement of applied material away from the water in order to minimize incidental deposition into the water body. Do not contaminate bodies of water when disposing of equipment rinsate or washwaters.

{For containers equal to or greater than 5 gallons} Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA. Do not contaminate water when disposing of equipment washwaters. Apply this product only as specified on this label.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. For any requirements specific to your state or tribe, consult the agency in your state 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 the 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 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: coveralls, chemical-resistant gloves made of any waterproof material and shoes plus socks.

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

For surface spray use:

- Except when applying to livestock and as a mosquito adulticide, do not enter or allow others to enter treated area until sprays have dried.

For space spray use:

- Except when applying as a **mosquito adulticide**, do not enter or allow others to enter until vapors, mists and aerosols have dispersed and the treated area has been thoroughly ventilated.

Use Restrictions:

- Remove or cover exposed food and drinking water before application.
 - Remove or cover dishes, utensils, food processing equipment and food preparation surfaces or wash them before use.
 - Remove pets and birds, and cover fish aquariums before spraying.
 - Do not remain in treated area. Exit area immediately and remain outside the treated area until aerosols, vapors, and/or mists have dispersed.
 - Do not make space spray applications when facility is in operation
 - Prior to space spray applications, cover or remove food.
 - Prior to space spray applications, cover food processing surfaces or clean after treatment and before use.
 - Do not apply directly into sewers or drains or to any area like a gutter where drainage to storm sewers, water bodies or aquatic habitat can occur. Do not allow the product to enter any drain during or after application.
 - Do not use in aircraft cabins.
 - Except when applying to livestock or as a mosquito adulticide, do not enter or allow others to enter until sprays have dried and vapors, mists, and aerosols have dispersed, and the treated area has been thoroughly ventilated.
 - Except when applying to livestock or as a mosquito adulticide, do not apply this product in a way that will contact workers or other persons, either directly or through drift.
 - Except when applying to livestock or as a mosquito adulticide, only protected handlers may be in the area during application.
 - When used in dairy barns or facilities: Close milk bulk tank lids to prevent contamination from spray and from dead or falling insects. Remove or cover milking utensils before application. Wash teats of animals before milking.
 - For use on animals: Do not apply more than 1 time per day.
 - Not for use in outdoor residential mosquito misting systems.
 - Not for use in residential metered release devices (indoor or outdoor).
 - When applied to outdoor residential surfaces: All outdoor applications must be limited to spot or crack-and-crevice treatments only, except for the following permitted uses: 1) Treatment to soil or vegetation around structures; 2) Applications to lawns, turf and other vegetation; 3) Applications to building foundations, up to a maximum height of 3 feet.
- Other than applications to building foundations, all outdoor applications to impervious surfaces such as sidewalks, driveways, patios, porches and structural surfaces (such as windows, doors and eaves) are limited to spot and crack-and-crevice applications only.
- Do not make applications during rain.
 - Do not wet plants to point of runoff or drip.
 - Do not water the treated area to the point of runoff.
 - For use on growing crops: Do not reapply within 3 days except under extreme pest pressure. In case of extreme pest pressure, do not reapply within 24 hours. Do not apply more than 10 applications per season. Do not harvest until spray has dried.
 - For use on trees, shrubs, flowers and foliage plants and use on turf and grass. Do not apply more than 1 time per day.
 - For use on greenhouse fruit, vegetable, flower and foliage plants and on hydroponically grown vegetables: Do not reapply within 3 days except under extreme pest pressure. In case of extreme pest pressure, do not reapply within 24 hours. Do not harvest until spray has dried.
 - For use on harvested fruit and for stored product protection: Do not apply more than 1 time per day. Do not reapply within 7 days.
 - For surface treatment of stored grain and seed: Do not reapply within 30 days.

DIRECTIONS FOR APPLICATION THROUGH IRRIGATION SYSTEMS (CHEMIGATION)

Pyronyl™ Crop Spray may be applied alone or in combination with other pesticides registered for application through sprinkler irrigation systems. To insure compatibility, pour the products into a small container of water in the correct proportions. After thorough mixing, let stand for five minutes. If the combination remains mixed, or can be remixed readily, the mixture is compatible.

Apply this product only through sprinkler [including center pivot, lateral move, end tow, side (wheel) rolls, traveler, big gun, solid set, or hand move]; furrow; border; or drip (trickle) irrigation systems. Do not apply this product through any other type of irrigation system.

Do not apply this product through any type of irrigation system to crops not listed on the product label.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts. Do not connect the irrigation system used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments if the need arises.

CHEMIGATION SYSTEM CONNECTED TO PUBLIC WATER SYSTEMS

1. Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
2. Chemigation systems connected to public water systems must contain a functional, reduce-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line, upstream from the point of pesticide introduction. As an option to the RPZ, discharge the water from the public water system into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
3. The pesticide injection pipeline must also contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
4. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump, and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
5. The system must contain functional interlocking controls to automatically shut off the pesticide injection when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
7. Do not apply when wind speed favors drift beyond the area intended for treatment.
8. Agitation is recommended in the pesticide supply tank if the product is diluted in that tank prior to injection into the irrigation system.
9. Follow product dilution guidelines as shown in the "CALIBRATION CHART" in the product labeling to determine proper dilution rates for control of target insects.

SPRINKLER CHEMIGATION

1. The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
2. The pesticide injection pipeline must also contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
3. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump, and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
5. Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
6. Do not apply when wind speed favors drift beyond the area intended for treatment.
7. Agitation is recommended in the pesticide supply tank if the product is diluted in that tank prior to injection into the irrigation system.
8. Follow product dilution guidelines as shown in the "CALIBRATION CHART" in the product labeling to determine proper dilution rates for control of target insects.

FLOOD (BASIN), FURROW AND BORDER CHEMIGATION

1. Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop structure or weir box to decrease potential for water source contamination from backflow if water flow stops.
2. Systems utilizing a pressurized water and pesticide injection system must meet the following requirements:
 - The system must contain a functional check valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
 - The pesticide injection pipeline must also contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
 - The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump, and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
 - The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
 - The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
 - Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
3. Agitation is recommended in the pesticide supply tank if the product is diluted in that tank prior to injection into the irrigation system.
4. Follow product dilution guidelines as shown in the "CALIBRATION CHART" in the product labeling to determine proper dilution rates for control of target insects.

DRIP (TRICKLE) IRRIGATION

1. The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
2. The pesticide injection pipeline must also contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
3. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump, and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
7. Agitation is recommended in the pesticide supply tank if the product is diluted in that tank prior to injection into the irrigation system.
8. Follow product dilution guidelines as shown in the "CALIBRATION CHART" in the

product labeling to determine proper dilution rates for control of target insects.

SPRAY DRIFT MANAGEMENT FOR AGRICULTURAL CROPS

Avoiding spray drift at the application site is the responsibility of the applicator and the grower. The interactions 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.

Do not apply at wind speeds greater than 10 mph at the application site.

Do not make any type of application into temperature inversions.

Apply as a medium or coarser spray (ASABE standard 572).

Additional requirements for aerial applications:

Do not release spray at a height greater than 10 feet above the ground or crop canopy. The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter.

Aerial applicators must consider flight speed and nozzle orientation in determining droplet size.

When applications are made with a cross-wind, the swath will be displaced downwind. The applicator must compensate for this displacement at the downwind edge of the application area by adjusting the path of the aircraft upwind.

Additional requirements for ground applications:

Do not release spray at a height greater than 4 feet above the ground or crop canopy.

Additional requirements for air blast applications:

Direct sprays into the canopy.

Turn off outward pointing nozzles at row ends and when spraying outer rows.

PYRONYL™ CROP SPRAY MAY BE APPLIED TO THE FOLLOWING CROPS

ROOT AND TUBER VEGETABLES: Arracacha; arrowroot; artichoke, Chinese; artichoke, Jerusalem; beet, garden; beet, sugar; burdock, edible; canna, edible; carrot; cassava, bitter and sweet; celeriac (celery root); chayote (root); chervil, turnip-rooted; chicory; chufa; dasheen (taro); ginger; ginseng; horseradish; leren; parsley, turnip-rooted; parsnip; potato; radish; radish, Oriental (daikon); rutabaga; salsify (oyster plant); salsify, black; salsify, Spanish; skirret; sweet potato; tanier (cocoyam); turmeric; turnip; yam bean; and yam, true.

LEAVES OF ROOT AND TUBER VEGETABLES: Beet, garden; beet, sugar; burdock, edible; carrot; cassava, bitter and sweet; celeriac (celery root); chervil, turnip-rooted; chicory; dasheen (taro); parsnip; radish; radish, Oriental (daikon); rutabaga; salsify, black; sweet potato; tanier (cocoyam); turnip; and yam, true.

BULB VEGETABLES (*Allium* spp.): Garlic, bulb; garlic, great headed (elephant); leek; onion, dry bulb and green; onion, spring (scallions); onion, Welsh; and shallot.

LEAFY VEGETABLES: Amaranth (leafy amaranth, Chinese spinach, tampala); arugula (roquett); cardoon; celery; celery, Chinese; celtuce; chervil; chrysanthemum, edible leaved; chrysanthemum, garland; corn salad; cress, garden; cress, upland (yellow rocket, winter cress); dandelion; dock (sorrel); endive (escarole); fennel, Florence (finocchio); lettuce, head and leaf; orach; parsley; purslane, garden; purslane, winter; radicchio (red chicory); rhubarb; spinach; spinach, New Zealand; spinach, vine (Malabar spinach, Indian spinach); and Swiss chard.

BRASSICA (COLE) LEAFY VEGETABLES: Broccoli; broccoli, Chinese (gai lan); broccoli raab (rapini); Brussel sprouts; cabbage; cabbage, Chinese (bok choy); cabbage, Chinese (napa); Chinese mustard (gai choy); cauliflower; cavalo brocollo; collards; kale; kohlrabi; mizuna; mustard greens; mustard spinach; and rape greens.

LEGUME VEGETABLES (SUCCULENT OR DRIED): Adzuki beans, asparagus beans, black-eyed peas, broad beans (fava beans), catjang, chick peas (garbanzo beans), Chinese longbeans, cowpeas, crowder peas, field beans, guar, jackbeans, sword beans, kidney beans, lablab beans (hyacinth beans), lima beans, lentils, moth beans, mung beans, navy beans, peas (dwarf, edible, pod, English, garden green, field, snowpeas, sugar snap peas), pigeon peas, pinto beans, rice beans, runner beans, snap peas, southern peas, soybeans, grain lupin, sweet lupin, white lupin, pole beans, tepary beans, urd beans, wax beans, yardlong beans.

LEAVES OF LEGUME VEGETABLES: Plant part of any legume vegetables included in the legume vegetable group that will be used as animal feed, including any variety of beans and field peas.

FRUITING VEGETABLES: African eggplant; bush tomato; cocona; currant tomato; eggplant; garden huckleberry; goji berry; ground cherry; martynia; naranjilla; okra; pea eggplant; pepino; pepper, bell; pepper, non-bell; roselle; scarlet eggplant; sunberry;

tomatillo; tomato; tree tomato and cultivars, varieties and/or hybrids of these.

CUCURBIT VEGETABLES: Chayote (fruit); Chinese wax gourd (Chinese preserving melon); citron melon; cucumber; gherkin; gourd, edible (hyotan, cucuzza, hechima, Chinese okra); *Momordica* spp. (balsam apple, balsam pear, bitter melon, Chinese cucumber); muskmelon (hybrids and/or cultivars of *Cucumis melo*) (true cantaloupe, cantaloupe, casaba, Crenshaw melon, golden pershaw melon, honeydew melon, honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon and snake melon); pumpkin; squash, summer (crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini); squash, winter (butternut squash, calabaza, hubbard squash, acorn squash, spaghetti squash); watermelon (includes hybrids and/or varieties of *Citrullus lanatus*).

CITRUS FRUITS: Australian desert lime; Australian finger lime; Australian round lime; Brown river finger lime; calamondin; citron; citrus hybrids; grapefruit; Japanese summer grapefruit; kumquat; lemon; lime; Mediterranean mandarin; Mount White lime; New Guinea wild lime; orange, sour; orange, sweet; pummelo; Russel river lime; Satsuma mandarin; sweet lime; *tachibana* orange; Tahiti lime; tangelo; tangerine (Mandarin); tangor; trifoliolate orange; uniuq fruit; cultivars, varieties and/or hybrids of these.

POME FRUITS: Apple; crabapple; loquat; mayhaw; pear; pear, Oriental; quince.

STONE FRUITS: Apricot; cherry, sweet; cherry, tart; nectarine; peach; plum; plum, Chickasaw; plum, Damson; plum, Japanese; plumcot; prune (fresh).

BERRIES: Blackberry (bingleberry, black satin berry, boysenberry, Cherokee blackberry, chesterberry, Sheyenne blackberry, coryberry, darrowberry, dewberry, Dirksen thornless berry, Himalayaberry, hullberry, lavacaberry, lowberry, Lucretiaberry, mammoth blackberry, marionberry, nectarberry, olallieberry, Oregon evergreen berry, phenomenalberry, rangeberry, ravenberry, rossberry, Shawnee blackberry, youngberry, and varieties and/or hybrids of these); blueberry; cranberry; currant; elderberry; gooseberry; grape; huckleberry; loganberry; raspberry, black and red; strawberry.

TREE NUTS: Almond; beech nut; Brazil nut; butternut; cashew; chestnut; chinquapin; filbert (hazelnut); hickory nut; macadamia nut (bush nut); pecan; pistachio; walnut, black and English (Persian).

ORIENTAL VEGETABLES: Japanese artichoke, Chinese broccoli (gai lan), Chinese cabbage (bok choy), Chinese mustard cabbage (gai choy), dasheen, ginger, ginseng, Chinese longbeans, mung beans, citron melon, balsam pear (bitter melon), Japanese radish (daikon), Chinese spinach, Chinese wax gourd.

CEREAL GRAINS: Barley; buckwheat; corn (field, pop and sweet); millet, pearl; millet, proso; oats; rice; rye; sorghum (milo); teosinte; triticale; wheat; wild rice.

FORAGE, FODDER AND STRAW OF CEREAL GRAINS: Barley; buckwheat; corn (field, pop and sweet); millet, pearl; millet, proso; oats; rice; rye; sorghum (milo); teosinte; triticale; wheat; wild rice.

GRASS FORAGE, FODDER AND HAY: Includes any grass (Gramineae), green or cured, except sugarcane and those listed under "cereal grains", that will be used to graze or feed livestock, such as pasture grasses, range grasses, grasses grown for hay or silage, Bermuda grass, bluegrass, bromegrass, fescue, annual ryegrass, festulolium, hybrid ryegrass, Italian ryegrass, meadow fescue, orchard grass, Sudan grass, sorghum-Sudan, tall fescue, timothy, wheat hay, turfgrasses, bentgrass, Kentucky bluegrass, specialty grasses.

NON-GRASS ANIMAL FEEDS: Alfalfa; bean, velvet; clover; kudzu; lespedeza; lupine; sainfoin; trefoil; vetch; vetch, crown; vetch, milk.

HERBS AND SPICES: Allspice; angelica; anise (seed); anise, star; annatto (seed); balm (lemon balm); basil; borage; burnet; chamomile; caper buds; caraway; caraway, black; cardamom; cassia bark; cassia buds; catnip; celery seed; chervil (dried); chive; chive, Chinese; cinnamon; clary; clove buds; coriander (cilantro or Chinese parsley [leaf]); coriander (cilantro) (seed); costmary; culantro (leaf); culantro (seed); cumin; curry (leaf); dill (dillweed); dill (seed); fennel (common); fennel, Florence (seed); fenugreek; grains of paradise; horehound; hyssop; juniper berry; lavender; lemongrass; lovage (leaf); mace; marigold; marjoram (sweet or annual marjoram, wild marjoram or oregano and pot marjoram); mustard (seed); nasturtium; nutmeg; parsley (dried); pennyroyal; pepper, black; pepper, white; poppy (seed); rosemary; rue; saffron; sage; savory, summer and winter; sweet bay (bay leaf); tansy; tarragon; thyme; vanilla; wintergreen; woodruff; wormwood.

OILSEED CROPS: Canola, crambe, rapeseed, flax safflower, sesame, soybeans, sunflowers.

SUBTROPICAL FRUITS: Avocado, banana, carob, cherimoya, dates, durian (Jackfruit),

feijoa, figs, guava, kiwifruit, lychee, mango, papaya, passion fruit, paw paw, persimmon, pineapple, pomegranate.

ADDITIONAL CROPS: Artichoke, asparagus, avocado, coffee, cotton, hemp, hops, jojoba, mushrooms, olives, okra, peanuts, safflower, sesame, sugar cane, sunflowers, tea, tobacco.

ORNAMENTALS: African violet, ageratum, aster, azalea, begonia, cacti, calceolaria, calendula, calla, camella, carnation, ceanothus, chrysanthemum, cineraria, coleus, cyclamen, cypress, daffodil, dahlia, delphinium, eucalyptus, ferns, ficus, foliage plants, fuschia, gardenia, geranium, gladiolus, gloxinia, gypsophilla, hyacinth, hydrangea, imitari, feles, iris, ivy, lily, maidenhair fern, marigold, narcissus, orchid, pansy, pelargonium, peony, petunia, philodendron, phlox, pyracantha, rhododendron, rose, rubber plant, snapdragon, stock, sweet pea, tulip, viburnum, wandering jew, zinnia and Andromeda, arbor vitae, ash, beech, birch, boxwood, butternut, chamaecyparis, cherry, cotoneaster, crabapple, dogwood, Douglas fir, elm, euonymus, fir, firethorn, forsythia, hackberry, hawthorn, hemlock, hickory, holly, honey locust, horse chestnut, juniper, larch, laurel, lilac, linden, London plane, magnolia, maple, mimosa (silk tree), mountain ash, myrtle, oak, pachysandra, peach, pine, planetree, poplar, privet, quince, spruce, sycamore, Taxus, tulip tree, viburnum, walnut, willow, yew.

TO KILL THE FOLLOWING INSECTS

Achemon sphinx moth, alfalfa caterpillar, alfalfa looper, alfalfa weevil, almond moth, Angoumois grain moth, ants, aphids, apple maggot, armyworm, artichoke plume moth, asparagus beetle, bagworm, bean beetle, bean leaf beetle, bed bug, beet armyworm, beet webworm, beetles, biting flies, black widow spider, blister beetle, blossom weevil, blowflies, blueberry maggot, boll weevil, bollworm, boxelder bug, budmoth bug, cabbage looper, cadelle, cankerworm, carpet beetle, carrot rust fly, carrot weevil, caterpillars, centipede, cereal leaf beetle, cherry fruit fly, chigger, chinch bug, cicada, cigarette beetle, clothes moth, clover mite, clover weevil, cockroach, codling moth, Colorado potato beetle, collembola, confused flour beetle, corn borer, corn earworm, corn flea beetle, corn rootworm, corn sap beetle, cotton leaf perforator, crane fly, cricket, cross-striped cabbageworm, cucumber beetle, cutworm, darkling beetle, darkling ground beetle, deer fly, deer tick, diamondback moth caterpillar, digger wasp, Douglas fir tussock moth, dried fruit beetle, drugstore beetle, earwig, eastern tent caterpillar, Egyptian alfalfa weevil, elm bark beetle, elm leaf beetle, European corn borer, European pine tip moth, face fly, fall webworm, fire ants, firebrat, fireworm, flat grain beetle, fleas, flea beetle, flies, forest tent caterpillar, fruit flies, fulgorid, fungus gnat, garden webworm, granary weevil, grape leafhopper, grapeleaf skeletonizer, grasshopper, grapevine root borer, green bug, green cloverworm, green fruitworm, green June beetle, green peach aphid, gypsy moth, harlequin bug, *Heliothis*, hessian fly, hickory shuckworm, hornet, horn fly, hornworm, horse fly, house fly, Indian meal moth, imported cabbageworm, Japanese beetle, katydid, lace bug, leaf beetle, leaf-footed bugs, leafhopper, leafminer, leaf roller, leaf-tier, lesser cornstalk borer, lesser grain borer, lice, little house fly, loopers, *Lygus*, maize weevil, mealybug, Mediterranean flour moth, melonworm, merchant grain beetle, Mexican bean beetle, midges, millipede, mosquitoes, mushroom flies, Nantucket pine tip moth, navel orangeworm, nitidulid, oakworm, onion maggot, Oriental fruitmoth, peachtree borer, pear psylla, phorid, pickleworm, pillbug, pine needle miner, pine tube moth, pine weevil, plant bugs, plum curculio, plum moth, potato aphid, potato leafhopper, potato tuberworm, psyllid, range caterpillar, redbanded leafroller, redhumped caterpillar, red flour beetle, rice weevil, rusty grain beetle, sap beetle, saw-toothed grain beetle, sciarids, shield bug, silverfish, skipper, sod webworm, sorghum midge, sowbug, soybean looper, square-necked grain beetle, spittlebug, springtail, squash beetle, squash bug, squash vine borer, stable fly, stalk borer, stink bug, strawberry mite, strawberry weevil, tabanids, tarnished plant bug, tent caterpillar, thrip, tick, tomato hornworm, tomato pinworm, tortoise beetle, tortix, tussock moth, velvetbean caterpillar, vinegar flies, walnut caterpillar, wasps, webworm, weevil, whiteflies, woolly bear caterpillar, yellow-striped armyworm, yellow jackets.

USE ON GROWING CROPS

USED ALONE: Pyronyl™ Crop Spray is designed for use on minor crops and as a pre-harvest spray when other materials cannot be used due to pre-harvest interval restrictions. Pyronyl™ Crop Spray may be used up to and including the day of harvest. Apply up to 0.05 pounds (up to 12 fl oz as shown in following Calibration Chart) of pyrethrins per acre and repeat as required to maintain effective control. Use the Calibration Chart listed below to calculate the desired application rate. Use in sufficient water for thorough coverage of upper and lower leaf surfaces.

CALIBRATION CHART

Pounds of Pyrethrin Per Acre	Fluid Ounces Pyronyl™ Crop Spray Per Acre	Acres Treated Per Gallon of Pyronyl™ Crop Spray
0.004	1	128
0.008	2	64
0.016	4	32
0.032	8	16
0.050	12	11

USED IN COMBINATION WITH OTHER INSECTICIDES

Pyronyl™ Crop Spray may be combined with other insecticides if a quicker and more complete control is needed and as an exciter to flush insects out of hiding and into contact with spray residues. The application must conform to the accepted use precautions and directions for both products. Pyronyl™ Crop Spray may be tank-mixed at rates of up to 0.05 pounds of pyrethrins with the amount of companion insecticide specified for one acre.

Prior to tank-mixing, conduct a small jar compatibility test using the proper proportions of chemicals and water to ensure the physical compatibility of the mixture. Tank-mix applications must be made in accordance with the more restrictive of label limitations and precautions. No label application rates may be exceeded. This product cannot be mixed with any product with label prohibitions against such mixing.

USE ON GREENHOUSE FRUIT, VEGETABLE, FLOWER AND FOLIAGE PLANTS

USED ALONE: Combine 12 to 24 fluid ounces of Pyronyl™ Crop Spray (0.05 – 0.10 lb pyrethrin) with 100 gallons of water for applications with conventional hydraulic sprayers or 1 to 2 teaspoons per gallon of water for applications with compressed air sprayers.

USED IN COMBINATION WITH OTHER INSECTICIDES: To provide quick knockdown of insects when used with a residual insecticide, tank-mix 1 to 4 fluid ounces of Pyronyl™ Crop Spray with the proper amount of companion insecticide in 100 gallons of water and apply with a conventional hydraulic sprayer. Apply in accordance with the more restrictive of label limitations and precautions. No label application rates may be exceeded. This product cannot be mixed with any product with label prohibitions against such mixing.

IMPORTANT NOTE: Plant safety is an important consideration when using insecticides in a greenhouse. However, it is not possible to evaluate the phytotoxicity of Pyronyl™ Crop Spray towards numerous plant varieties that may react differently to insecticides in different growth stages or under varying environmental conditions. Before making widespread applications of Pyronyl™ Crop Spray, treat a limited number of plants and observe for phytotoxicity over a 10 day period.

USED OUTDOORS ON TREES, SHRUBS, FLOWERS AND FOLIAGE PLANTS

USED ALONE: Combine 12 to 24 fluid ounces of Pyronyl™ Crop Spray with 100 gallons of water for applications with conventional hydraulic and airblast sprayers or 12 to 24 fluid ounces of Pyronyl™ Crop Spray with 10 gallons of water for applications with low volume mist blowers or 1 to 2 teaspoons per gallon of water for applications with compressed air sprayers.

USED IN COMBINATION WITH OTHER INSECTICIDES: To provide quick knockdown of insects when used with a residual insecticide, tank-mix 1 to 4 fluid ounces of Pyronyl™ Crop Spray with the proper amount of companion insecticide in 100 gallons of water (10 gallons of water for low volume application with mist blowers) and apply with conventional hydraulic or airblast sprayers.

Apply in accordance with the more restrictive of label limitations and precautions. No label application rates may be exceeded. This product cannot be mixed with any product with label prohibitions against such mixing.

FOR CONTROL OF GYPSY MOTH CATERPILLARS AND ADULTS: Combine 8 to 12 fluid ounces of Pyronyl™ Crop Spray with 100 gallons of water for applications with conventional hydraulic sprayers or 8 to 12 fluid ounces of Pyronyl™ Crop Spray with 10 gallons of water for applications with airblast sprayers. To provide quick knockdown of gypsy moth caterpillars when used with a residual insecticide, tank-mix 1 to 4 fluid ounces of Pyronyl™ Crop Spray with the proper amount of companion insecticide in 100 gallons of water (10 gallons of water for airblast sprayers) and apply with a conventional hydraulic sprayer.

Apply in accordance with the more restrictive of label limitations and precautions. No label application rates may be exceeded. This product cannot be mixed with any product with label prohibitions against such mixing.

USED INDOORS ON TREES, SHRUBS, FLOWERS AND FOLIAGE PLANTS

USED ALONE: Combine 12 to 24 fluid ounces of Pyronyl™ Crop Spray with 100 gallons of water for applications with conventional hydraulic sprayers or 1 to 2 teaspoons of Pyronyl™ Crop Spray per gallon of water for applications with compressed air sprayers.

USED IN COMBINATION WITH OTHER INSECTICIDES: To provide quick knockdown of insects when used with a residual insecticide, tank-mix 1 to 4 fluid ounces of Pyronyl™ Crop Spray with the proper amount of companion insecticide in 100 gallons of water and apply with a conventional hydraulic sprayer.

Apply in accordance with the more restrictive of label limitations and precautions. No label application rates may be exceeded. This product cannot be mixed with any product with label prohibitions against such mixing.

USE ON TURF AND GRASS

USED ALONE: To control ants, armyworms, billbugs, chinch bugs, chiggers, crickets, cutworms, earwigs, fleas, grasshoppers, Hyperodes weevils (adults), Japanese beetles (adults), mole crickets, sod webworms and ticks, dilute and apply per the instructions in the following table.

Treatment Area (Square Feet)	Fluid Ounces of Pyronyl™ Crop Spray	Suggested Volume ^a of Water (Gallons)
1,000	0.25 to 0.5	2.5 to 5.0
5,000	1.25 to 2.5	12.5 to 25.0
20,000	5.0 to 10.0	50.0 to 100.0
43,560 ^b	12.0 to 24.0	110.0 to 220.0

^a Dilute with enough water to obtain thorough coverage.

^b 43,560 square feet = 1 acre.

USED IN COMBINATION WITH OTHER INSECTICIDES: To provide quick knockdown of insects when used with a residual insecticide, tank-mix Pyronyl™ Crop Spray with the proper amount of companion insecticide and apply at the rates listed above.

Apply in accordance with the more restrictive of label limitations and precautions. No label application rates may be exceeded. This product cannot be mixed with any product with label prohibitions against such mixing.

USED AS A TURF PEST DIAGNOSTIC AID: To detect turf insects prior to making an insecticide application or to evaluate control from previous treatments, dilute one tablespoon of Pyronyl™ Crop Spray per gallon of water and apply evenly with a sprinkling can over one square yard of turf. Record the species and number of insects present ten minutes after application. Sample 3 to 5 sites per 5,000 square feet. **Note:** this procedure does not bring white grubs or billbug grubs to the surface. Use other methods to sample for these pests.

USE WITH HYDROPONICALLY GROWN VEGETABLES

AS A WATER SYSTEM TREATMENT: To control aquatic diptera larvae, apply Pyronyl™ Crop Spray to the water at the rates outlined in the following table:

Pyrethrins Concentration	mL of Pyronyl™ Crop Spray	Gallons of Water
0.1 ppm	64.6	1,000
0.01 ppm	6.46	1,000
0.001 ppm	0.646	1,000

USE ON HARVESTED FRUIT

Apples, blackberries, blueberries, boysenberries, cherries, crabapples, currants, dewberries, figs, gooseberries, grapes, guavas, loganberries, mangoes, muskmelons, oranges, peaches, pears, pineapples, plums, raspberries, tomatoes.

DIRECT SPRAY TO FRUITS IN BASKETS, ON TRUCKS OR IN PROCESSING PLANTS: To kill vinegar flies and fruit flies, dilute 1 part Pyronyl™ Crop Spray with 1,200 parts of water (1 pint per 150 gallons or 1 teaspoon per 12.5 pints of water). Thoroughly mix the emulsion in the spray tank and apply at high pressure at the rate of 2.5 to 3 pints of the diluted spray per ton of fruit. Direct the spray for maximum coverage of the baskets or hampers. It is important to spray between and beneath the containers.

USE AS A SURFACE SPRAY

IN HOMES, RESTAURANTS, FOOD PROCESSING PLANTS, INDUSTRIAL INSTALLATIONS AND WAREHOUSES: To kill accessible, exposed stages of crawling insects including, but not limited to, ants, cockroaches, caddisflies, cigarette beetles, confused flour beetles, dark mealworms, dried fruit beetles, drugstore beetles, grain mites, red flour beetles, rice weevils, saw-toothed grain beetles, spider beetles, yellow mealworms, dilute 1 part Pyronyl™ Crop Spray with 59 parts water and apply at the rate of 1 gallon to 750 square feet, paying special attention to force the spray into all cracks and crevices.

IN COMBINATION WITH RESIDUAL INSECTICIDES: To provide flushing and quick knockdown of insects, this product may be tank-mixed with other insecticides at the rate of ¼ to ½ fluid ounce (equivalent to ½ to 1 tablespoon or 7.4 ml. to 14.8 ml.) per gallon of finished spray.

IN USDA INSPECTED FACILITIES: To kill accessible, exposed stages of crawling insects including, but not limited to, ants, cockroaches, caddisflies, cigarette beetles, confused flour beetles, dark mealworms, dried fruit beetles, drugstore beetles, grain mites, red flour beetles, rice weevils, saw-toothed grain beetles, spider beetles, yellow mealworms, dilute 1 part of Pyronyl™ Crop Spray with 19 parts of water and apply at the rate of 1 gallon to 750 square feet, paying special attention to force the spray into all cracks and crevices.

USE AS A SPACE SPRAY

To kill crawling and flying insects in sites that include homes, restaurants, food processing plants, industrial installations and warehouses, dilute Pyronyl™ Crop Spray with water and apply as a space spray. For best results, close doors and windows before spraying and keep them closed for 30 minutes after treatment. Where oil residues are not undesirable, Pyronyl™ Crop Spray can be diluted in deodorized base oil instead of water and applied with mechanical, thermal or ULV applicators.

CRAWLING AND FLYING INSECTS: To kill accessible, exposed stages of CRAWLING INSECTS including ants, cockroaches, caddisflies, cigarette beetles, confused flour beetles, dark mealworms, dried fruit beetles, drugstore beetles, grain mites, red flour beetles, rice weevils, saw-toothed grain beetles, spider beetles, yellow mealworms and FLYING INSECTS including Angoumois grain moths, Indian meal moths, mosquitoes, Mediterranean flour moths, small flying moths, tobacco moths, add 10.67 fl oz (1 part to 11 parts water or oil) of Pyronyl™ Crop Spray per gallon of oil or water and apply at the rate of 1 fluid ounce per 1,000 cubic feet of space. Direct the spray towards the ceiling and upper corners of the area and behind obstructions. Keep the area closed for at least 30 minutes after treatment.

FLYING INSECTS: To kill flying insects including Angoumois grain moths, cheese skippers, fruit flies, fungus gnats, gnats, house flies, Indian meal moths, mosquitoes, Mediterranean flour moths, small flying moths, tobacco moths, dilute 1 part of Pyronyl™ Crop Spray with 47 parts of water or oil (2.67 fluid ounces per gallon) and apply at the rate of 1 fluid ounce per 1,000 cubic feet of space. Direct the spray towards the ceiling and upper corners of the area and behind obstructions. Keep the area closed for at least 30 minutes after treatment.

FOR USE ON SWEET POTATOES IN STORAGE IN COMMERCIAL STORAGE/ WAREHOUSES PREMISES: To kill fruit flies and vinegar flies, dilute this concentrate at 1 part to 19 parts water (6.4 fluid ounces per gallon (51 ml/L)). Apply as a space fog with a mechanical fogger capable of producing particles of aerosol size at the rate of 1 gallon diluted spray per 100,000 cubic feet (1.34 ml/m²) of space. Apply only when flying insects are present. Several applications may be necessary during periods of heavy infestation. Do not reapply within 7 days except under extreme pest pressure. In case of extreme pest pressure, do not reapply within 24 hours. Do not apply more than 10 times to sweet potatoes.

IN BARN, MILKING PARLORS, MILK ROOMS, DAIRIES, AND POULTRY HOUSES: To kill flying insects including flies, fruit flies, mosquitoes, gnats, wasps, hornets and small flying moths, dilute 1 part of Pyronyl™ Crop Spray with 63 fluid ounces of water (2 fluid ounces per gallon) and apply at the rate of 1 to 2 fluid ounces per 1,000 cubic feet. Apply as a fog or fine mist, directing the nozzle for maximum coverage of area. For best results, close doors and windows before spraying and keep them closed for ten to fifteen minutes.

COMMERCIAL BARNs, STABLES, ANIMAL QUARTERS INDOOR MISTING SYSTEMS

To kill listed flying insects, dilute 2 fluid ounces of Pyronyl™ Crop Spray per gallon of water (100 fluid ounces of concentrate in 50 gallons of water).

Not for use in outdoor residential misting systems (indoor or outdoor).

Do not apply when food, feed and/or water is present.

When using this product, installers and service technicians must comply with the license, certification or registration requirements of the state(s), tribe(s) or local authority(ies) where they are installed.

When applying via a remote activation device, do not apply when people and pets are present. If possible, when applying via automatic timer, set the timing for application when people and pets are unlikely to be present.

Direct nozzles to spray towards the target area and away from areas where people are typically present.

Do not use in an evaporative cooling system.

Do not use in misters located within 3 feet of air vents, air conditioner units or windows.

If used in a system with a reservoir tank for the end use dilution, the system reservoir tank must be locked. Securely attach the end use pesticide label and a dilution statement to the system reservoir tank in a weather protected area or plastic sleeve. The dilution statement must be phrased as follows: this container holds ___ parts Pyronyl™ Crop Spray to ___ parts water.

If used in a direct injection system, the pesticide container must be locked. Securely attach the end use label to the pesticide container in a weather protected area or plastic sleeve.

This product must only be used in systems that have been calibrated to apply no more than the maximum application rate of 0.000476 lbs pyrethrins and 0.008 lbs piperonyl butoxide per 1,000 cubic feet per day. This is equivalent to 7.3 fluid ounces of diluted product per 1,000 cubic feet per day.

USE IN STORED PRODUCT PROTECTION

AS A GRAIN AND SEED PROTECTANT: Pyronyl™ Crop Spray may be applied to the following grains and seeds: barley, beans, birdseed, buckwheat, cocoa beans, corn, cottonseed, flax, oats, peas (field), rice, rye, sorghum and wheat to protect them from grain storage insects for a full season or approximately 8 months. Pyronyl™ Crop Spray may be used in combination with a registered fumigant for use on heavily infested stored products.

TO KILL STORED PRODUCT INSECTS INCLUDING almond moths, Angoumois grain moths, cadelles, cigarette beetles, confused flour beetles, drugstore beetles, flat grain beetles, granary weevils, Indian meal moths, lesser grain borers, maize weevils, Mediterranean flour moths, merchant grain beetles, red flour beetles, rice weevils, rusty grain beetles, saw-toothed grain beetles and square-necked grain beetles, dilute at the rate of 1 part Pyronyl™ Crop Spray with 29 parts water (1 pint with 3 gallons 5 pints water). Thoroughly mix the emulsion and apply at the rate of 4 to 5 gallons per 1,000 bushels of grain or seed as it is carried along a belt or as it enters the auger or elevator.

SURFACE TREATMENT OF STORED GRAIN AND SEED: To kill Indian meal moths, Angoumois grain moths and Mediterranean flour moths, inspect monthly after the grain is placed in storage. If the top 2 or 3 inches are infested, dilute 1 part of Pyronyl™ Crop Spray with 19 parts of water and apply at the rate of 1 to 2 gallons per 1,000 square feet of grain. Rake the mixture into the grain to a depth of 4 inches.

ON ALMONDS, PEANUTS AND WALNUTS IN BULK OR IN BAGS: To kill stored product insects including almond moths, Angoumois grain moths, ants, cadelles, cigarette beetles, confused flour beetles, drugstore beetles, flat grain beetles, granary weevils, Indian meal moths, lesser grain borers, maize weevils, Mediterranean flour moths, merchant grain beetles, red flour beetles, rice weevils, rusty grain beetles, saw-toothed grain beetles and square-necked grain beetles, dilute 1.33 fluid ounces of Pyronyl™ Crop Spray per gallon of water and apply a coarse wet spray over the top of stored nuts or the outer surface of stacked bagged nuts at the rate of 4 gallons per 1,000 square feet. Apply at weekly intervals for about 6 weeks and then at 15 day intervals. Apply the first two applications at the rate of 2 gallons per 1,000 square feet.

STORAGE SITES: To treat grain and seed storage sites, warehouse bins, trucks, cargo ships and planes prior to filling with grain or seed, thoroughly clean the site by sweeping out the waste, cobwebs and other debris on the walls and rafters as well as on the floor and about the door frames, paying special attention to the material lodged

in the cracks and crevices. Remove these accumulations and burn to kill eggs and insects that might be present.

In mills and elevators, pay particular attention to the bin hoppers to remove all grain infested accumulations. Clean and insure that conveying equipment are free of trash deposits that could maintain an infestation. For farms, clean up and around the used feed and grain bags, grain residues from wagons, harvesting equipment and feed troughs. Do not place newly harvested grain in the same bin with carry-over grain and fumigate all carry-over grain stocks not treated with grain protectant. Perform cleaning operations within two or three weeks before harvest.

To treat the storage site prior to using it for storage, dilute 1 part of Pyronyl™ Crop Spray with 59 parts of water (1 pint with 7 gallons 3 pints of water) and apply to walls, floors, ceilings and partition boards at the rate of one gallon per 750 sq. feet. It is important to thoroughly treat all cracks and crevices.

SPACE SPRAY ON STORED SWEET POTATOES: To kill vinegar flies and fruit flies, dilute 1 part Pyronyl™ Crop Spray with 19 parts of water (6.4 fluid ounces per gallon) and apply at the rate of 1 gallon per 100,000 cubic feet. Apply only when flying insects are present. Several applications may be necessary during periods of heavy infestation, but do not make more than 10 applications.

USE AS A LIVESTOCK AND POULTRY SPRAY

TO KILL AND REPEL HORN FLIES, HOUSE FLIES, MOSQUITOES AND GNATS: Dilute at the rate of ½ to 1 fluid ounce per gallon of water and apply to wet the hair thoroughly, with particular attention to top-line, underlain, flanks, withers and other infested areas. Repeat treatment at intervals of 5 to 12 days for small insect populations or as needed when flies are emerging in large numbers.

TO KILL AND REPEL STABLE FLIES, HORSE FLIES, AND DEER FLIES: Dilute at the rate of 2 fluid ounces per gallon of water and apply at a quart per adult animal to wet the hair thoroughly with particular attention to legs, flanks, barrel, topline and other body areas commonly attacked by these flies or allow the animals to walk through the mist from mechanical spray equipment. Repeat treatment each week as needed.

TO KILL AND REPEL FACE FLIES: Dilute at the rate of 2 fluid ounces per gallon of water and apply using spray which produces large wetting droplets. Apply to the face of the animal in the morning before releasing to pasture. Apply sufficiently to wet the face but not more than 1½ fluid ounces per animal. Repeat daily as needed.

TO CONTROL BITING AND SUCKING LICE ON CATTLE, HORSES, SHEEP, GOATS AND HOGS: Dilute at the rate of 1 quart with 150 gallons of water (1 tablespoonful with 2 gallons) and spray to thoroughly wet the hair of the animal including the head and brush of the tail. Repeat treatment in 10 days to kill newly hatched lice.

TO CONTROL POULTRY LICE: It is not necessary to remove poultry from the housing unit during treatment. Dilute 0.21 fluid ounces per gallon of water and spray roosts, walls and nests or cages thoroughly. Spray over the birds with a fine mist.

TO CONTROL BED BUGS AND MITES ON POULTRY AND IN POULTRY HOUSES: Dilute at the rate of 0.21 fluid ounces per gallon of water and spray crevices of roost poles, cracks in walls and cracks in nests where the bed bugs and mites hide. This should be followed by spraying over the birds with a fine mist.

TO CONTROL SHEEP "TICK" OR KED: Dilute at the rate of 1 fluid ounce per 4 gallons of water and thoroughly wet all portions of the body by dripping or spraying with sufficient pressure and with a nozzle adjustment that penetrates the wool. Treat at a rate sufficient to thoroughly wet the animal.

TO CONTROL FLEAS AND TICKS ON LIVESTOCK

Dilute at the rate of 1½ fluid ounces per gallon of water and wet the animal by dipping or spraying.

USE IN MOSQUITO CONTROL

RESTRICTION: For use only by federal, state, tribal, or local government officials responsible for public health or vector control, or by persons certified in the appropriate category or otherwise authorized by the state or tribal lead pesticide regulatory agency to perform adult mosquito control applications, or by persons under their direct supervision.

WIND SPEED: Apply only when wind speed is greater than or equal to 1 mph and less than 10 mph.

The maximum application rate for wide area mosquito adulticide applications is 0.0025 lbs pyrethrin/acre, or 0.025 lbs piperonyl butoxide/acre, whichever is lower per application. When targeting *Aedes taeniorhynchus* and other difficult species, applications may be made up to 0.008 lbs pyrethrin/acre/day, or 0.08 lbs piperonyl butoxide/acre/day, whichever is lower.

Do not apply more than 0.2 lbs pyrethrin/acre/year, or 2 lbs piperonyl butoxide/acre/year, whichever is lower, in any treated area. More frequent treatments may be made to prevent or control a threat to public and/or animal health determined by a state, tribal, or local health or vector control agency on the basis of documented evidence of disease causing agents in vector mosquitoes or the occurrence of mosquito-borne disease in animal or human populations, or if specifically approved by the state or tribe during a natural disaster recovery effort.

Pyronyl™ Crop Spray may be used for mosquito control programs involving residential, industrial, recreational and agricultural areas as well as swamps, marshes, overgrown waste areas, roadsides and pastures where adult mosquitoes occur. Pyronyl™ Crop Spray may be used over agricultural crops. For best results, apply when meteorological conditions create a temperature inversion and wind speed does not exceed 10 miles per hour. Apply so the wind will carry the insecticidal fog into the area being treated. Treatment may be repeated as necessary to achieve the desired level of control.

Ground-based wide area mosquito abatement application:

Spray equipment must be adjusted so that the volume median diameter is less than 30 microns ($D_{v,0.5} < 30 \mu\text{m}$) and that 90% of the spray is contained in droplets smaller than 50 microns ($D_{v,0.9} < 50 \mu\text{m}$). Directions from the equipment manufacturer or vendor, pesticide registrant or a test facility using a laser-based measurement instrument must be used to adjust equipment to produce acceptable droplet size spectra. Application equipment must be tested at least annually to confirm that pressure at the nozzle and nozzle flow rate(s) are properly calibrated.

To kill adult mosquitoes and biting flies, apply up to 0.0025 pounds (6 fl oz) of pyrethrins per acre (use a 300 foot swath width for acreage calculations).

Truck-Mounted ULV Application – Dilute 5 parts of Pyronyl™ Crop Spray with 1 part of oil and apply at the rate of 2 to 2.25 fluid ounces per minute (.002 to .0025 lb of pyrethrin per acre) while the machine is traveling 5 miles per hour. The nozzle should be positioned approximately 30° above horizontal off the side of the truck bed. The delivery rate and truck speed may be varied as long as the application rate is 0.002 to 0.0025 pounds of pyrethrins per acre (use a 300 foot swath width for acreage calculations).

Backpack Sprayer Application – Apply 0.002 to 0.0025 pounds of pyrethrins per acre. Dilute 1 part of Pyronyl™ Crop Spray with 12 parts of oil and apply at the rate of 7 fluid ounces per acre (based on a 50 foot swath, 7 fluid ounces should be applied while walking 870 feet).

When used in cold aerosol generators that produce a fog with the majority of droplets in the 5-50 micron range, Pyronyl™ Crop Spray should be diluted with light mineral oil (specific gravity of approximately 0.8 at 60° F; boiling point: 500-840° F). An N.F grade oil is preferred.

Aerial wide area mosquito abatement application:

Spray equipment must be adjusted so that the volume median diameter produced is less than 60 microns ($D_{v,0.5} < 60 \mu\text{m}$) and that 90% of the spray is contained in droplets smaller than 80 microns ($D_{v,0.9} < 80 \mu\text{m}$). The effects of flight speed, and for non-rotary nozzles, nozzle angle on the droplet size spectrum must be considered. Directions from the equipment manufacturer or vendor, pesticide registrant or a test facility using a wind tunnel and laser-based measurement instrument must be used to adjust equipment to produce acceptable droplet size spectra. Application equipment must be tested at least annually to confirm that pressure at the nozzle and nozzle flow rate(s) are properly calibrated.

RELEASE HEIGHT FOR AERIAL

Fixed wing: Apply using a nozzle height of no less than 100 feet above the ground or canopy.

Rotary wing: Apply using a nozzle height of no less than 75 feet above the ground or canopy.

Fixed Wing and Helicopter – To control adult mosquitoes and biting flies, apply up to 0.0025 pounds of pyrethrins per acre with equipment designed and operated to produce a ULV spray application.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE AND SPILL PROCEDURES: Store upright at room temperature. Avoid exposure to extreme temperatures. In case of spill or leakage, soak up with absorbent material such as sand, sawdust, earth, fuller's earth, etc. Dispose of with chemical waste.

PESTICIDE DISPOSAL: Pesticide, spray mixture, or rinse water that cannot be used according to label instructions must be disposed of at or by an approved waste disposal facility.

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying. **{Containers 5 gallons or less}** 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 (or solvent used to dilute product) 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. Then, offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other approved state and local procedures. **{For containers greater than 5 gallons}** Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water (or solvent used to dilute product). Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution for 30 seconds. Stand the container on its end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other approved state and local procedures.

NOTICE: To the extent consistent with applicable law, buyer assumes all responsibility for safety and use not in accordance with directions.

Central Garden & Pet Company, 1501 East Woodfield Road, 200W, Schaumburg, Illinois 60173

NOTE: This specimen label is for informational purposes only. All uses may not be approved in all states. See product labeling for use directions.

Pyronyl is a trademark of Wellmark International. © 2015, 2017 Wellmark International.

FR 18-001

