

Livestock

Horses

Table 1. Flies and mosquitoes

Insecticides	Rates/Mixing/Dilution
Co-Ral (6.15%)	Mix 5 ounces in 4 gallons of water. Spray thoroughly. Do not make applications less than 10 days apart.
Python (0.075%) Dust	Apply up to 2 ounces evenly per animal and not more than every 3 days.
<p>Many commercial products containing the following common name chemicals are available as concentrates and ready-to-use diluted formulations for either spray or wipe-on:</p> <p>Pyrethrins + PBO (synergist)</p> <p>Permethrin</p> <p>Permethrin + Pyrethrins</p> <p>Resmethrin</p> <p>Resmethrin + Pyrethrins + PBO</p> <p>Cypermethrin</p> <p>Cypermethrin + Pyrethrins + PBO</p>	<p>Refer to the labels of concentrates for mixing instructions. Refer to all product labels for minimum treatment intervals. Some ready-to-use products may also contain repellants such as dipropyl isocinchomeronate (MGK 326) and/or butoxypolypropylene (Stabilene).</p>

Table 2. Lice and ticks

Insecticides	Rates/Mixing/Dilution
Co-Ral (6.15%)	Mix 5 ounces per 4 gallons water for lice and 10 ounces per 4 gallons water for ticks. Do not make applications less than 10 days apart.
Python (0.075%) Dust	Apply up to 2 ounces evenly per animal and not more than every 3 days. For ear ticks, apply 1/3 ounce (1 Tbsp.) per year.
<p>The following are common name insecticides sold under numerous trade names. Refer to labels for mixing and treatment instructions.</p> <p>Permethrin</p> <p>Resmethrin (Ticks only)</p> <p>Cypermethrin</p>	<p>Follow label.</p>

Table 3. Bots

Insecticides	Rates/Mixing/Dilution
Use worming products for internal parasites.	Refer to labels for application instructions: Ivermectin (sold as Zimectrin, Eqvalan, and Phoenectrin), Moxidectin (sold as Quest).

For a simple searchable list of products and formulations registered in Louisiana, please visit the following website: http://veterinaryentomology.ucr.edu/vet_pesticides.html.

Livestock (Cattle, Hogs, Poultry, Sheep, and Goats)

The most important pests of livestock in Louisiana are horse flies, horn flies, mosquitoes, lice, ticks, cattle grubs, mites, and houseflies. These pests are responsible for large losses to the livestock industry of Louisiana.

Extreme care should be exercised when applying insecticides on livestock.

Observe the following safety precautions:

1. Do not treat sick animals.
2. Do not use more insecticide than is recommended.
3. Since some of the insecticides are secreted in milk or stored in body fat, it is highly important to observe all precautions and conform to the regulations regarding the minimum time allowed from the last treatment to slaughter or the freshening interval for dairy cattle.
4. Do not use insecticide formulations for livestock treatment unless this use is listed on the container label.
5. Do not use any insecticide in a dip unless this use is recommended.
6. When using an emulsifiable concentrate, be sure it mixes uniformly with the water. If an oil layer forms, do not use it.
7. When selecting an insecticide for use, read the precautions listed in this guide and the precautions listed on the label of the container.
8. When applying insecticides to livestock or around barns, do not contaminate feed or food and water troughs or allow runoff into streams.

The following pages include lists of commonly used products used on livestock animals.

For a simple searchable list of products and formulations registered in Louisiana, please visit the following website: http://veterinaryentomology.ucr.edu/vet_pesticides.html.

Table 4. Beef Cattle

Pest	Insecticides	To Make 50 gallons	To Make 3 gallons	Minimum Days Treatment to Slaughter	Remarks
Cattle Grubs	Ivomec (0.5%) (and other Ivermectin products)	See label.	See label.	48	<ul style="list-style-type: none"> • Pour-ons. • Apply 1 milliliter per 22 pounds of body weight down back.
	Eprinex	See label.	See label.	0	
	Dectomax (0.5%)	See label.	See label.	45	
	Cydectin	See label.	See label.	0	
Face Flies	Python dust	See label.	See label.	0	For use in dust bags. Use about 10 pounds of dust per bag. Hang the bottom of the bag 30-36 inches above the ground.
	Permethrin dust	See label.	See label.	See label.	
	1% Co-Ral dust	See label.	See label.	0	

Pest	Insecticides	To Make 50 gallons	To Make 3 gallons	Minimum Days Treatment to Slaughter	Remarks
Horn Flies	Co-Ral (6.1%)	2 quarts	4 ounces	0	Sprays
	Co-Ral (11.6%)	1 quart	2 ounces	0	
	Rabon (50% WP)	2.66 pounds	2.5 ounces	0	
	Ravap (23% + 5.7%)	2.6 quarts	5 ounces	0	
	Permethrin EC's	See label.	See label.	0	
	Dectomax	See label.	See label.	45	
	Ivomec (0.5%) (and other Ivermectins)	See label.	See label.	48	Pour-ons (ready-to-use) Apply 1 milliliter per 22 pounds of body weight.
	Cylence	See label.	See label.	0	Pour-ons (ready-to-use) Apply down back line, 4 milliliters per 400 pounds of body.
	Saber	See label.	See label.	See label.	Pour-ons (ready-to-use) Apply down back line, 10 milliliters per head for cattle less than 600 pounds, 15 milliliters per head for cattle larger than 600 pounds.
	Permethrin Pour-ons	See label.	See label.	0	Many formulations. Refer to labels.
	X-Terminator (20% diazinon)	See label.	See label.	0	Ear Tags - Organophosphate Tags <ul style="list-style-type: none"> • Treat all adult animals as per label instructions. Treatment of nursing calves is not required if cows are treated. Remove tags at end of the fly season or if fly populations exceed the economic threshold. • All ear tags will provide approximately 10 weeks of control for susceptible flies. • For resistant horn flies, tags with an asterisk (*) are more likely to give satisfactory control.
	Optimizer (20% diazinon)	See label.	See label.	0	
	*Patriot (40% diazinon)	See label.	See label.	0	
	Co-Ral Plus (20% coumaphos + 20% diazinon)	See label.	See label.	0	
	*Warrior (30% diazinon + 10% chlorpyrifos)	See label.	See label.	0	
Dominator (20% pirimphos-methyl)	See label.	See label.	0		

Pest	Insecticides	To Make 50 gallons	To Make 3 gallons	Minimum Days Treatment to Slaughter	Remarks
Horn Flies	Python (zeta-cypermethrin 10% + PBO 20%)	See label.	See label.	0	Ear Tags - Pyrethroid Tags
	Python Magnum (zeta-cypermethrin 10% + PBO 20%)	See label.	See label.	0	
	Cylence Ultra (beta-cyfluthrin 8% + 20% PBO)	See label.	See label.	0	
	Saber Extra (lambda-cyhalothrin 10% + PBO 13%)	See label.	See label.	0	
	Avenger (endosulfan 30%)	See label.	See label.	0	
	Co-Ral (11.6%)	29 ounce/3 gallons diesel fuel	See label.	0	Ear Tags - Chlorinated hydrocarbon (Cyclodiene) Tags
	Co-Ral (6.1%) (1% oil solution)	1 quart/3 gallons diesel fuel	See label.	0	
	Ravap (1% + 0.25% oil solution)	1 pint/3 gallons diesel fuel	See label.	0	
	Permethrin (0.1% oil solution)	See label.	See label.	See label.	
	Lintox HD (2% oil solution)	See label.	See label.	3	
	Co-Ral 1% dust	See label.	See label.	0	Backrubbers Refer to label.
	Permethrin Dust	See label.	See label.	0	
	Python 0.075% dust	See label.	See label.	0	
	Rabon 3% dust	See label.	See label.	0	
Horse Flies, Stable Flies, Mosquitoes Effective control of horse flies, stable flies and mosquitoes with insecticides is difficult to achieve. Multiple applications may be required.	Pyrethrins + Synergist (1% + 10% EC)	2.5 gallons	1.25 pints.	0	Apply 1-2 quarts per animal as a wet spray every 2-3 days.
	Pyrethrins + Synergist (0.1% + 1.0% oil solution)	See label.	See label.	0	1-2 fluid ounces per animal as a mist spray daily.
	Permethrin EC's	See label.	See label.	0	Many formulations. Refer to labels.

Pest	Insecticides	To Make 50 gallons	To Make 3 gallons	Minimum Days Treatment to Slaughter	Remarks
Ticks	Rabon (50%WP)	4 pounds	4 ounces	0	Sprays Other Amitraz formulations available.
	Ravap (23% + 5.7%EC)	1 quart	2 ounces	0	
	Amitraz (Taktic 12.5%)	1 pint	1 ounce	0	
	Co-Ral (42%) DIP	1-2 pints	See label	0	
	Co-Ral (6.1%)	1 gallons	8 ounces	0	
	Co-Ral (11.6%)	0.5 gallons	4 ounces	0	
Lice	Co-Ral (6.1% EC)	2 quarts	4 ounces	0	Sprays Other Amitraz formulations available.
	Co-Ral (11.6% EC)	1 quart	2 ounces	0	
	Ravap (23% + 5.7%)	2.6 quarts	5 ounces	0	
	Rabon 50%	2.66 pounds	2.5 ounces	0	
	Amitraz (12.5%) Taktic	1 pint.	1 ounce	0	
	Ivomec 0.5% (and other Ivermectin products)	See label.	See label.	48	Pour-ons (ready-to-use) Apply 1 milliliter per 22 pounds of body weight.
	Dectomax	See label.	See label.	45	
	Cylence	See label.	See label.	0	Pour-ons (ready-to-use) Apply down back line 8 milliliters per 400 pounds per body weight; 24 milliliters for animals over 800 pounds
	Saber	See label.	See label.	0	Pour-ons (ready-to-use) Apply down back line, 10 milliliters per head for cattle less than 600 pounds; 15 milliliters per head for cattle larger than 600 pounds.
	Eprinex or Cydectin	See label.	See label.		Pour-ons (ready-to-use) Apply 1 milliliter per 22 pounds of 0/0 body weight along back.
Permethrin Pour-ons	See label.	See label.	0	Pour-ons (ready-to-use) Many formulations. Refer to labels.	
Mange Mites	Dectomax	See label.	See label.	45	<ul style="list-style-type: none"> • Apply 1 milliliter per 22 pounds of body weight down back. • Other Amitraz formulations available.
	Co-Ral (42%) <u>DIP</u>	2.5 pints/50 gallons as a dip	See label.	0	
	Eprinex 5 mgs./mls.	See label.	See label.	0	
	Ivomec (0.5%) and other ivermectins	See label.	See label.	48	
	Amitraz 12.5% (Tactic)	1 pint	1 ounce	0	
	Cydectin	See label.	See label.	45	

Table 5. Ticks

Brand Name	Formulation	Minimum Days Treatment to Slaughter	Remarks
Avenger	30% endosulfan	0	Ear Tags (Ear ticks only) <ul style="list-style-type: none"> • Apply 1 tag in each ear. • Once every 10 days. Do not treat calves under 6 months of age. Do not treat Brahman.
Optimizer	20% diazinon	0	
X-Terminator	20% diazinon	0	
Patriot	40% diazinon	0	
Co-Ral Plus	20% diazinon + 20% coumaphos	0	
Dominator	20% pirimiphos-methyl	0	
Cylence Ultra	8% Beta-cyfluthrin + 20% PBO	0	
Saber Extra	10% Lambda-cyhalothrin + 13% PBO	0	
Python	10% Zeta-cypermethrin + 20% PBO	0	

Insecticide Use Precautions

- **Amitraz:** For dairy cattle, no milk withholding period or discard time. Do not treat cattle under stress. Spray to wet and runoff.
- **Co-Ral 6.15%:** Do not apply at rates above 1 quart per 50 gallons of water to lactating or nonlactating dairy cattle within 14 days of freshening. Do not make applications within 10 days apart. Do not make more than 6 applications per year. Spray to wet and run-off.
- **Co-Ral 11.6%:** Restricted use insecticide. Do not apply in conjunction with pyrethroid or other organic phosphate insecticides. Repeat applications as necessary. Do not apply at rates above 1 ounce per 3 gallons of water to lactating or nonlactating dairy cattle within 14 days of freshening. Spray to wet and run-off.
- **Co-Ral 42%:** Restricted use insecticide. Not labeled for lactating dairy cattle. As a dip treatment, do not make applications more than twice a year, and do not make applications less than 10 days apart.
- **Cydectin:** Also controls certain internal parasites. Do not apply to areas of the skin with lesions, scabs, or caked mud/manure. For dairy cattle, no milk withholding or discard time.
- **Cylence:** Do not apply pour-on more than once every 3 weeks.
- **Dectomax:** Also controls certain internal parasites. Do not apply to areas of the skin with lesions, scabs, or caked mud/manure.
- **Eprinex:** Also controls certain internal parasites. No milk withholding period and no milk discard. Do not apply to areas of hide with lesions, scabs, or caked mud/manure.
- **Ivomec:** Also controls certain internal parasites. Do not apply to areas of the skin with lesions, scabs, or caked mud/manure. Do not apply to wet hide/hair or within 6 hours of rain.
- **Lintox-HD:** Do not treat cattle younger than 3 months old.
- **Python Dust:** For direct application. Do not apply more than every 3 days.
- **Permethrin:** Do not treat more than once every 2 weeks. For EC solutions, spray to wet and runoff. Pyrethrin: none.
- **Rabon:** Not labeled for dairy cattle. On beef cattle, apply 0.5 to 1.0 gallon spray solution per animal.
- **Ravap:** Do not treat more than once every 10 days. Do not treat calves less than 6 months old. Do not treat Brahman or Brahman-crossed cattle with Ravap. Spray cattle with 0.5 to 1.0 gallons of diluted spray per animal. For dairy cattle, no milk discard is required. Spray dairy cattle with 0.5 gallons diluted spray per animal.
- **Saber:** Do not treat more than once every 2 weeks or more than 4 times within a 6-month period.

Table 6. Dairy Cattle (lactating)

Pest	Insecticides	To Make 50 gallons	To Make 3 gallons	Minimum Days Treatment to Slaughter	Remarks
Cattle Grubs	Eprinex or Cydectin	See label.	See label.	0	Pour-on Apply 1 milliliter per 22 pounds of body weight along back.
Face Flies	1% or 3% Rabon	See label.	See label.	0	Dusts Use about 10 pounds of dust per bag. Hang so bottom of bag is 30-36 inches above ground.
	Permethrin dust	See label.	See label.	0	
Horn Flies	Permethrin	See label.	See label.	0	Sprays Many formulations. Refer to labels.
	Ravap (23% + 5.7%)	1 quart	2 ounces	0	
	Co-Ral (6.15%) (1% oil solution)	1 quart/3 gallons diesel fuel	See label.	0	Backrubbers
	Ravap (1% + 0.25% oil solution)	1 pint/3 gallons diesel fuel	See label.	0	
	Permethrin (0.1% oil solution)	See label.	See label.	0	Backrubbers Many formulations. Refer to labels.
	1% Co-Ral dust	See label.	See label.	0	Dusts (ready-to-use) Use about 10 pounds of dust per bag. Hang so bottom of bag is 30-36 inches above ground.
	Permethrin dust	See label.	See label.	See label.	
	0.075% Python dust	See label.	See label.	See label.	
	Python and Python	See label.	See label.	0	Ear Tags Remove ear tags at end of fly season. If fly control with ear tags is lost, remove ear tags and use alternate recommended treatment.
	Magnum (10% zeta-cypermethrin + 20% PBO)	See label.	See label.	See label.	
	Cylence Ultra (8% beta-cyfluthrin + 20% PBO)	See label.	See label.	See label.	
	Cylence	See label.	See label.	0	Pour-ons (ready-to-use) Apply down back line: 4 milliliters per 400 pounds of body weight, 12 milliliters for animals over 800 pounds.
	Eprinex or Cydectin	See label.	See label.	0	Pour-ons (ready-to-use) Apply 1 milliliter per 22 pounds of body weight along back.
Permethrin Pour-ons	See label.	See label.	See label.	Many formulations. Refer to labels.	

Pest	Insecticides	To Make 50 gallons	To Make 3 gallons	Minimum Days Treatment to Slaughter	Remarks
Horse Flies, Stable Flies, Mosquitoes Effective control of horse flies, stable flies and mosquitoes with insecticides is difficult to achieve. Multiple applications may be required.	Pyrethrins + Synergist (1% + 10% EC)	2.5 gallons	0.25 pint	0	Spray Apply 1-2 quarts per animal; apply every 2-3 days.
	Pyrethrins + Synergist (0.1 + 1.0% oil solution)	See label.	See label.	0	Spray Apply 1-2 ounces per animal daily as a mist.
	Permethrin EC's	See label.	See label.	0	Sprays Many formulations. Refer to labels.
Lice	Permethrin	See label.	See label.	0	Sprays Other Amitraz formulations available
	Ravap (23% + 5.7%)	1 quart	2 ounces	0	
	Co-Ral (6.15%)	1 quart	2 ounces	0	
	Co-Ral (11.6%)	1 pint	1 ounce	0	
	Amitraz (Taktic) 12.5%	1 pint	1 ounce	0	
	Permethrin Pour-on	See label.	See label.	0	Many formulations. Refer to labels.
	Cylence	See label.	See label.	0	Pour-ons (ready-to-use) Apply down back line: 8 milliliters per 400 pounds of body weight, 24 milliliters for animals over 800 pounds.
Eprinex or Cydectin	See label.	See label.	0	Pour-ons (ready-to-use) Apply 1 milliliter per 22 pounds of body weight along back.	
Mange Mites	Amitraz (Taktic) 12.5%	1 pint	1 ounce	0	Spray Other Amitraz formulations available.
	Permethrin EC	See label.	See label.	See label.	Many formulations. Refer to labels.
Ticks	Ravap (23% + 5.7%)	1 quart	2 ounces	0	Spray Other Amitraz formulations available.
	Amitraz (Taktic) 12.5%	1 pint	1 ounce	0	
	Python (zeta-cypermethrin 10% + PBO 20%)	See label.	See label.	0	Ear Tags (ear ticks only) Attach 2 ear tags to all animals in the herd.
	Cylence Ultra (8% beta-cyfluthrin + 20% PBO)	See label.	See label.	See label.	

Insecticide Use Precautions

- **Amitraz:** For dairy cattle, no milk withholding period or discard time. Do not treat cattle in stress. Spray to wet and runoff.
- **Co-Ral 6.15%:** Do not apply at rates above 1 quart per 50 gallons of water to lactating or nonlactating dairy cattle within 14 days of freshening. Do not make applications within 10 days apart. Do not make more than 6 applications per year. Spray to wet and run-off.
- **Co-Ral 11.6%:** Restricted use insecticide. Do not apply in conjunction with pyrethroid or other organic phosphate insecticides. Repeat applications as necessary. Do not apply at rates above 1 ounce per 3 gallons of water to lactating or nonlactating dairy cattle within 14 days of freshening. Spray to wet and run-off.

- **Co-Ral 42%:** Restricted use insecticide. Not labeled for lactating dairy cattle. As a dip treatment, do not make applications more than twice a year, and do not make applications less than 10 days apart.
- **Cydectin:** Also controls certain internal parasites. Do not apply to areas of the skin with lesions, scabs, or caked mud/manure. For dairy cattle, no milk withholding or discard time.
- **Cylence:** Do not apply pour-on more than once every 3 weeks.
- **Dectomax:** Also controls certain internal parasites. Do not apply to areas of the skin with lesions, scabs, or caked mud/manure.
- **Eprinex:** Also controls certain internal parasites. No milk withholding period and no milk discard. Do not apply to areas of hide with lesions, scabs or caked mud/manure.
- **Ivomec:** Also controls certain internal parasites. Do not apply to areas of the skin with lesions, scabs, or caked mud/manure. Do not apply to wet hide/hair or within 6 hours of rain.
- **Lintox-HD:** Do not treat cattle younger than 3 months old.
- **Python Dust:** For direct application. Do not apply more than every 3 days.
- **Permethrin:** Do not treat more than once every 2 weeks. For EC solutions spray to wet and run-off.
- **Pyrethrins:** none.
- **Rabon:** Not labeled for dairy cattle. On beef cattle, apply 0.5 to 1.0 gallons of spray solution per animal.
- **Ravap:** Do not treat more than once every 10 days. Do not treat calves less than 6 months old. Do not treat Brahman or Brahman-crossed cattle with Ravap. Spray cattle with 0.5 to 1.0 gallon of diluted spray per animal. For dairy cattle, no milk discard is required. Spray dairy cattle with 0.5 gallons diluted spray per animal.
- **Saber:** Do not treat more than once every 2 weeks or more than 4 times within a 6-month period.

Table 7. Hogs

Pest	Insecticides	To Make 50 gallons	To Make 3 gallons	Minimum Days Treatment to Slaughter	Remarks
Lice	Co-Ral (6.15% WP)	2 quarts.	4 ounces	0	Follow lable.
	Co-Ral 1% Dust	See label.	See label.	See label	1 ounce per animal, evenly
	Permethrin (spray)	See label.	See label.	5	Numerous formulations. Refer to labels.
	Taktic (12.5% Amitraz)	2 quarts	1.5 ounces	See label.	Other Amitraz formulations are available.
Mange Mites	Permethrin	See label.	See label.	5	Numerous formulations. Refer to labels.
	Taktic (12.5% Amitraz)	2 quarts	1.5 ounces	See label.	Other Amitraz formulations are available.
Lice	Ivermectin 1%	See label.	See label.	See label.	Inject 1 milliliter per 75 pounds body weight.
Mange Mites	Injectable Ivomec	See label.	See label.	See label.	Subcutaneous injection; not for intravenous or intramuscular use.

Insecticide Use Precautions

- **Co-Ral:** Do not make applications less than 10 days apart, and do not treat more than 6 times a year. Spray to wet and run-off.
- **Permethrin:** Do not apply more than every 2 weeks. Spray to wet and run-off.
- **Ivermectin 1% Injectable:** Also controls certain other internal parasites.
- **Amitraz:** Treat animals no more than four times per year. Spray to wet and run-off. Two applications at 7- to10-day intervals for mites and 10- to14-day intervals for lice. Do not apply within 3 days of slaughter.

Table 8. Poultry

Pest	Insecticides	To Make 50 gallons	To Make 3 gallons	Minimum Days Treatment to Slaughter	Remarks
Lice	Rabon (50% WP)	4 pounds	4 ounces	0	Follow label.
Mites	Ravap 23% + 5.3%	1 gallon	7.5 ounces	0	Follow label.
	Permethrin	See label.	See label.	0	Numerous formulations. Refer to labels.
Fowl Ticks	Rabon (50% WP)	8 pounds	0.5 pound	0	Follow label.

* Apply 1 gallon per 100-150 square feet to walls, ceilings, cracks, and crevices.

Insecticide Use Precautions

- **Permethrin:** Apply 1 gallon of spray solution per 100 birds. Do not apply more than every 2 weeks.
- **Rabon:** For lice and mites, apply 1 gallon of spray solution per 100 birds. Do not reapply within 14 days.
- **Ravap:** Apply 1 gallon of spray solution per 100 birds. Do not reapply within 14 days.

Table 9. Sheep and Goats

Pest	Insecticides	To Make 50 gallons	To Make 3 gallons	Minimum Days Treatment to Slaughter	Remarks
Keds, Lice, Ticks	Python dust (0.075%)	2 ounces per animal, evenly	See label.	0	Follow label.
	Permethrin	Many formulations. Refer to labels.	See label.	0	Follow label.

Insecticide Use Precautions

- **Python:** Do not apply more than every 3 days.
- **Permethrin:** Do not apply more than every 2 weeks. Apply one-pint diluted spray per animal.

Fire Ant Management Around Livestock Premises, Including Poultry Houses

Insecticide	Formulation	How to Apply
Amdro	Bait	2-5 tablespoons per mound or broadcast at 1-1.5 pounds per acre.
Clinch	Bait	5-7 tablespoons per mound or broadcast at 1 pound per acre.
Justice	Bait	4-6 tablespoons per mound or broadcast at 2.5-5 pounds per acre.
Extinguish Plus	Bait	2-5 tablespoons per mound or broadcast at 1.5 pounds per acre.
GuardStar	EC	Drench each mound with 1 gallon of 1% solution.
Countdown	EC/WP	Spray surfaces or drench mounds with 0.1% solution.
Grenade	EC/WP	Spray with 0.015-0.03 solution.

Fly Control

Table 10. In and Around Dairy Barns (Not Milk Rooms)

Insecticides	Chemical Class	How to Mix	Remarks
Permethrin	Pyrethroid	Mix 0.1% spray solution as per label instructions.	<ul style="list-style-type: none"> Apply 1 gallon per 750 square feet. Numerous formulations: Atroban, Ectiban, Anchor, Permethrin, Gardstar, Insectrin and others.
Ectrin	Pyrethroid	Mix 2 ounces of concentrate per 1.5 gallons or 1 quart. per 25 gallons	Apply 1 gallon per 750 square feet. Remove animals before spraying.
Countdown	Pyrethroid	Prepare 0.1 spray solution as per label instructions.	Inside use spot treatment only. Treat surfaces outside.
Ravap	Organophosphate	Mix 5 ounces of concentrate per gallons of water or 1 gallon per 25 gallons	Apply 1 gallon per 500-1,000 square feet. Remove animals before spraying and keep out for at least four hours.
Rabon	Organophosphate	Mix 4-8 pounds (see label) concentrate per 25 gallons of water.	Apply 1 gallon per 500-1,000 square feet (see label). Remove animals before spraying.
Grenade WP	Pyrethroid	Prepare solution as per label instructions.	Remove animals before spraying.

Table 11. Manure Treatment

Insecticides	Chemical Class	How to Mix	Remarks
Rabon 50	Organophosphate	Mix 4 pounds in 25 gallons of water. (1% solution)	Apply 1 gallon per 100 square feet. Can be repeated at 7- to 10-day intervals.
Ravap	Organophosphate	Mix 5 ounces in 1 gallon of water or 1 gallon in 25 gallons of water.	Apply 1 gallon per 100 square feet. Can be repeated at 7- to 10-day intervals.
Vapona	Organophosphate	Mix 2 ounces in 1.5 gallons of water or 1 gallon in 100 gallons of water.	Apply 1-2 quarts per 100 square feet. Can be repeated at 7-day intervals.

