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102-104

1965 Condensed  
Insecticide  
Recommendations

# Insect Control for LIVESTOCK AND LIVESTOCK BARNs

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Livestock producers must follow a sound program of pest control if they are to attain maximum income for their farming investment. Flies, lice, mites, ticks, and grubs irritate animals and some of them suck their blood. This greatly reduces meat, egg, and milk production. On occasion, individual animals actually have been killed by attacks of large numbers of pests like horse flies, lice, and mites. Several of these pests can transmit diseases such as anaplasmosis and pink-eye from animal to animal. Thus losses from these pests each year cost Illinois farmers millions of dollars. A livestock producer does not need to share his profits with these insects. They can be readily controlled and in many cases eradicated.

In the following charts only the safest, most effective insecticides are suggested for each specific insect on each type of livestock. Other insecticides that may have label approval for use on livestock are not included because they are less effective or more toxic or present potential residue problems. Blank spaces in the table of limitations (back cover) mean that we do not recommend the insecticide for that specific purpose in Illinois.

In using insecticides read the label carefully and follow all instructions. Do not exceed the rates suggested; observe the interval between application and slaughter and apply only to those animals for which use has been approved. Keep a record of the insecticide used, the trade name, the percentage of active ingredients, the dilution, rate of application, and dates of application. If you are ever questioned, you have the records.

Most of the insecticides are suggested for use as emulsion concentrates since these are the easiest formulations to handle. However, wettable powders can be substituted for emulsion concentrates providing the finished spray is agitated.

The chemical names used in these tables may be unfamiliar to you. These names are the common coined chemical names and as such are not capitalized. Trade names are capitalized. In the table of limitations (back cover) the common names are listed first. Should the trade name be more commonly used, it is listed in parentheses with the common name. Throughout the tables of recommendations on pages 2 and 3, however, only the common name is used where there is one. In case of question, refer to the table of limitations.

Recommendations sometimes change during the year. These recommendations are printed only once each year and are therefore subject to change without notification.

These recommendations were prepared by entomologists of the University of Illinois College of Agriculture and the Illinois Natural History Survey and replace mimeographs NHE 102-104.

Leaflets describing the life history, biology, and habits of some of the insects mentioned can be obtained from the offices of county farm advisers or by writing to 280 Natural Resources Building, Urbana. These are indicated by an NHE number in the tables.

Insecticide recommendations for vegetables (Circular 897), for field crops (Circular 899), and for the homeowner (Circular 900) can be obtained from the above offices or the College of Agriculture, Urbana.

CIRCULAR 898 UNIVERSITY OF ILLINOIS COLLEGE OF AGRICULTURE COOPERATIVE EXTENSION SERVICE  
In cooperation with ILLINOIS NATURAL HISTORY SURVEY Urbana, Illinois, January, 1965

Cooperative Extension Work in Agriculture and Home Economics: University of Illinois, College of Agriculture, and the United States Department of Agriculture cooperating. LOUIS B. HOWARD, Director. Acts approved by Congress May 8 and June 30, 1914.

## DAIRY CATTLE, BEEF CATTLE, SWINE, AND SHEEP

(Refer to table of limitations on back page before using insecticides)

Insect	Insecticide	Amount per 100 gal. water or as directed	How to apply	
Dairy Cattle	Lice (NHE-18)	Ciodrin E.C., 4 lb. per gal. 3.2 lb. per gal. 2 lb. per gal. rotenone 5% W.P.	1½ pt. 2 pt. 3 pt. 2 lb.	1-2 gal. per animal. Spray to saturation. Make 2 treatments 14 days apart.
		rotenone 0.5-1.0% in sulfur dust		6 oz. per animal. Repeat as needed.
	Horn flies (NHE-59)	Ciodrin 2.0% O.		1-2 oz. per animal; 2-6 times per week. <sup>1</sup>
	Stable flies (NHE-61)	dichlorvos 1.0% O. pyrethrin 0.1% + synergist O.		1-2 oz. per animal daily. <sup>1</sup>
	Horse flies (NHE-60)	pyrethrin 0.5% + synergist O. 1% pyrethrin + synergist E.C.	10 gal.	1-2 oz. per animal daily. <sup>1</sup> 1-2 qt. per animal every 3 days. <sup>1</sup>
Face flies (NHE-106)	Ciodrin 2.0% O.		1-2 oz. per animal, 2-6 times per week. <sup>1</sup>	
	dichlorvos E.C.	Dilute to 0.2% with corn sirup	1/10 oz. brushed on forehead daily in strip 1" wide and 6" long.	
	dichlorvos E.C.	Dilute to 0.5% in mixture of 75% corn sirup and 25% water	Spray 1/5 oz. on head daily.	
Grubs	rotenone 5% W.P.	7½ lb. + 1-2 lb. of detergent	2 gal. per animal monthly December through April.	
	rotenone 1½% dust		3 oz. per animal monthly December through April. Rub vigorously over affected areas.	
Beef Cattle	Lice and mange (NHE-18)	lindane 20% E.C. lindane 12.4% E.C. malathion 50-57% E.C.	1½ pt. 1 qt. 3 qt.	1-2 gal. per animal. Spray to saturation. Make 2 applications 14 days apart.
	Horn flies (NHE-59)	toxaphene 60% E.C.	5 pt.	1-2 qt. per animal every 3 weeks. Only partially controls stable flies. <sup>1</sup>
	Stable flies (NHE-61)	Ciodrin 2.0% O.		1-2 oz. per animal; 2-6 times per week from automatic sprayer. <sup>1</sup>
	Horse flies (NHE-60)	Use as directed for dairy cattle above.		
	Face flies (NHE-106)	Ciodrin 2.0% O.		As for stable flies.
		toxaphene 5% O.		Saturate cloth, canvas, or burlap head or back oiler at least weekly. Also controls horn flies and helps prevent buildup of lice in winter.
	Grubs	rotenone 5% W.P. rotenone 1½% dust	As for dairy cattle	Two systemic insecticides, Ruelene and coumaphos, provide excellent control of grubs and lice. Use only on <i>native beef cattle</i> ; apply during September or October.
Swine	Mange and lice	lindane 20% E.C. lindane 12.4% E.C. malathion 50-57% E.C.	1 qt. 3 pt. 3 qt.	1-2 qt. per animal. Make two applications 14 days apart.
Sheep	Ticks, lice, and scab (NHE-53)	DDT 25% E.C. (not for scab)	2 gal.	Spray to saturation. With dips use ½ strength.
		lindane 20% E.C. lindane 12.4% E.C.	1 qt. 3 pt.	
		toxaphene 60% E.C.	5 qt.	Spray to saturation. With dips use ½ strength except for scab.

Note: E.C. = emulsion concentrate, O. = oil solution, W.P. = wettable powder.

<sup>1</sup> Spray head, back, sides, belly, and legs carefully. Start treatments in June.

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### CHICKENS, BARNs, AND SHEDS

(Refer to table of limitations on back page before using insecticides)

Insect	Insecticide	Amount per 100 gal. water or as directed	How to apply	
Chickens	Lice (NHE-54)	coumaphos 25% W.P.	6 oz. per 5 gal. water	
		malathion 50-57% E.C.	10 oz. per 5 gal. water	
		carbaryl 5% dust		Apply to litter only, 1 lb. per 40 sq. ft.
		coumaphos 0.5% dust		Apply to litter and nests, 1 lb. per 20 sq. ft.
		malathion 4% dust		Apply to litter and nests, 1 lb. per 50 sq. ft.
	Common red mites and lice (NHE-54)	carbaryl 80% W.P. (not for lice)	4 oz. per 5 gal. water	Spray roosts, back walls, side walls, and around nests.
		coumaphos 25% W.P.	6 oz. per 5 gal. water	Spray roosts, back walls, side walls, and nests.
		malathion 50-57% E.C.	10 oz. per 5 gal. water	
	Northern fowl mites and lice (NHE-54)	carbaryl 5% dust		Apply to litter, 1 lb. per 40 sq. ft., and 1 lb. per 100 male birds.
		coumaphos 0.5% dust		Apply to litter and nests, 1 lb. per 20 sq. ft.; 1 lb. per 100 male birds.
malathion 4% dust			Apply to litter and nests, 1 lb. per 50 sq. ft.; 1 lb. per 100 male birds.	
carbaryl 80% W.P.		4 oz. per 5 gal. water	Spray birds and roosting areas (1 gal. per 100 birds). Use in caged laying operations or when litter is sparse or wet.	
coumaphos 25% W.P.		3 oz. per 5 gal. water	Spray birds, nests and roosting areas (1 gal. per 100 birds). Use in caged laying operations or when litter is sparse or wet.	
malathion 50-57% E.C.		5 oz. per 5 gal. water		
Residual Sprays for Barns and Sheds	Houseflies (NHE-16)	fenthion 46% E.C. (beef barns only)	3 gal.	Start treatments in June and maintain good sanitation. Apply 2 gal. per 1000 sq. ft. or to runoff to ceilings, walls, and support posts, and outside around doors and windows. Every 4-6 weeks during fly season.
		fenthion 25% W.P. (beef barns only)	48 lb.	
	diazinon 48% E.C.	2 gal.	Treat every 2-4 weeks during fly season. Otherwise apply as for fenthion.	
	diazinon 50% W.P.	16 lb.		
	dimethoate 25% E.C.	4 gal.	Treat every 4-6 weeks during fly season. Otherwise apply as for fenthion.	
	ronnel 12% E.C.	8 gal.	Treat every 1-3 weeks during fly season. Otherwise apply as for fenthion.	
ronnel 24% E.C.	4 gal.			
ronnel 25% W.P.	32 lb.			
Baits as Supplements for Barn and Shed Sprays	diazinon E.C.	Dilute to 0.1% mixture in 2 parts corn sirup and 1 part water	Apply to favorite fly-roosting areas from tank sprayer as needed to supplement residual spray treatment.	
	trichlorfon E.C.			
	dichlorvos E.C.	Dilute to 0.1%-0.5% in 2 parts corn sirup and 1 part water	Apply as for diazinon and trichlorfon.	
	naled E.C.			
	ronnel E.C.	Dilute to 2% in 2 parts corn sirup and 1 part water	Apply as for diazinon and trichlorfon.	
	Dimetilan 4% bands		Hang 1 band per 75 sq. ft. of area from the ceiling or support posts. A supplement to residual sprays.	

Note: E.C. = emulsion concentrate, O. = oil solution, W.P. = wettable powder.

# LIMITATIONS FOR RECOMMENDED INSECTICIDES APPLIED TO LIVESTOCK OR IN LIVESTOCK BARNs

(Blank spaces in the table denote that the material is not recommended for that specific use in Illinois)

	Dairy		Beef		Swine		Sheep		Chickens	
	Animals	Barns	Animals	Barns	Animals	Barns	Animals	Barns	Birds	Barns
carbaryl (Sevin).....	...	...	...	...	...	...	...	...	E, I	E, I
Ciodrin.....	B	...	B	...	...	...	...	...	...	...
coumaphos (Coral).....	...	...	D	...	...	...	...	...	I, J	I, J
DDT.....	...	...	...	...	...	...	G	...	...	...
diazinon.....	...	H, C	...	H, C	...	H, C	...	H, C	...	H, C
dichlorvos (DDVP) (Vapona)...	B	C	...	C	...	C	...	C	...	C
dimethoate (Cygon).....	...	H	...	H	...	H	...	H	...	H
Dimetilan.....	...	C	...	C	...	C	...	C	...	C
fenthion (Baytex).....	...	...	...	H	...	...	...	...	...	...
lindane.....	...	...	G, K	...	G, K	...	L	...	...	...
malathion.....	...	...	B	...	B	...	...	...	I	I
naled (Dibrom).....	...	C	...	C	...	C	...	C	...	C
pyrethrin.....	B	...	B	...	...	...	...	...	...	...
rotenone.....	B	...	B	...	...	...	...	...	...	...
ronnel (Korlan).....	...	H, C	...	H, C	...	H, C	...	H, C	...	I
Ruelene.....	...	...	A	...	...	...	...	...	...	...
toxaphene.....	...	...	F, K	...	...	...	F	...	...	...
trichlorfon (Dipterex).....	...	C	...	C	...	C	...	C	...	C

- A. Do not apply within 28 days of slaughter. Do not apply more than once. Do not treat after November 1. Do not treat sick animals. Give animals free access to water and feed before and after treatment.
- B. No restrictions when used as recommended.
- C. As a bait. Do not apply within reach of animals or in milkrooms.
- D. Do not treat animals less than 4 months old, sick or convalescent animals, or stressed animals. Do not treat for 10 days before or after shipping. Do not apply in conjunction with internal medications or with pyrethrins, allethrin, synergist, or other phosphates. Do not apply in poorly ventilated areas.
- E. Do not apply within 7 days of slaughter and do not treat nesting material.
- F. Do not apply within 28 days of slaughter.
- G. Do not apply within 30 days of slaughter.
- H. When used as a spray, remove animals before treatment and cover feed and watering troughs. Do not use in milkrooms.
- I. Gather eggs before treatment and do not contaminate feed and water.
- J. Do not apply within 10 days of vaccination or other stress influences. Do not apply more often than once a week.
- K. Do not treat cattle less than 4 months old or pigs before weaning.
- L. As a spray do not apply within 30 days of slaughter, nor within 60 days as a dip.

## FOR YOUR PROTECTION

Always handle insecticides with respect. Here are a few easy rules that if followed will prevent most insecticide accidents:

1. Wear rubber gloves when handling insecticide concentrates.
2. Do not smoke while handling or using insecticides.
3. Keep your face turned to one side when opening insecticide containers.
4. Leave unused insecticides in their original containers with the labels on them.
5. Store insecticides out of reach of children, irresponsible persons, or animals; store preferably in a locked cabinet.
6. Wash out and bury or burn empty insecticide containers.

7. Do not put the water-supply hose directly into the spray tank.

8. Do not blow out clogged nozzles or spray lines with your mouth.

9. Wash with soap and water exposed parts of body and clothes contaminated with insecticide.

10. Do not leave puddles of spray on impervious surfaces.

11. Do not apply to fish-bearing or other water supplies.

12. Do not apply insecticides, except in an emergency, to areas with abundant wildlife.

13. Do not apply insecticides near dug wells or cisterns.

14. Do not spray when weather conditions favor drift.

15. Observe all precautions listed on the label.









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