

# 2003 NORTH CAROLINA AGRICULTURAL CHEMICALS MANUAL

College of Agriculture and Life Sciences • NC State University

## INDUSTRIAL AND HOUSEHOLD PESTS

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### For Use by Licensed Pest Control Operators

Space limitations preclude listing all pesticide formulations and trade names. Other products or formulations may be used. Some products may contain a mixture of active ingredients. Read the product label for specific information about the active ingredients, application rates, and detailed instructions on use—particularly on permitted sites for application.

Mention of pesticides in this section does not imply that chemicals are or should be the first or only means of pest control. Nonchemical methods, including exclusion and sanitation, are important to long-term pest management.

#### Column Pesticide:

**A**—Boric acid (Niban, Perma-Dust, Perma-Guard)

**B**—Diatomaceous earth

**C**—Silica gel (Drione, Tri-Die)

**D**—Methomyl (Apache, Flytek)

**E**—Propoxur (Baygon)

**F**—Acephate (Orthene)

**G**—Propramphos (Safrotin, Catalyst)

**TABLE 5-15A. INDUSTRIAL AND HOUSEHOLD PESTS—For use by licensed pest control operators only**

Pesticide	A	B	C	D	E		F	G
Chemical Class <sup>1</sup>	In	In	In	Car	Car	Car	Op	Op
Formulation <sup>2</sup>	B, D	D <sup>3</sup>	D <sup>3</sup>	B	B	S	S	S
<b>Pests</b>								
ANTS	✓	✓	✓		✓	✓	✓	
BED BUGS			✓					
BEEES			✓					
BOOKLICE	✓	✓	✓			✓		
BOXELDER BUGS	✓		✓			✓		✓
CARPET BEETLES		✓					✓	✓
CENTIPEDES	✓	✓	✓			✓		
CLOTHES MOTHS		✓						
CLOVER MITES	✓	✓	✓			✓		
COCKROACHES	✓	✓	✓		✓	✓	✓	✓
CRICKETS	✓	✓	✓		✓	✓	✓	✓
EARWIGS	✓	✓	✓			✓	✓	✓
FLEAS		✓	✓				✓	✓
FLIES	✓	✓	✓	✓				
HORNETS/WASPS			✓			✓	✓	
MILLIPEDES	✓	✓	✓			✓		
MOSQUITOES								
PANTRY PESTS	✓	✓	✓			✓	✓	✓
SILVERFISH	✓	✓	✓	✓			✓	✓
SPIDERS		✓				✓		✓
SPRINGTAILS		✓						
TICKS			✓			✓		

<sup>1</sup> **KEY TO CHEMICAL CLASSES:** Car = Carbamate; In = Inorganic; Oth = Other class; IGR = Insect Growth Regulator; Op = Organophosphate; Pyr = Pyrethroid. Alternating uses of insecticides in different chemical classes can help reduce the likelihood of the pests developing resistance to one group or class of compounds.

<sup>2</sup> **KEY TO FORMULATION SYMBOLS:** A = aerosol; G = granular; B = bait (granular, gel, or station); S = spray (concentrate or wettable powder, some RTU formulations); D = dust

<sup>3</sup> Some formulations of diatomaceous earth and silica gel contain pyrethrins as a flushing agent

<sup>4</sup> Indoor use only

**Column Pesticide:**

H—Allethrin (PT565 Plus XLO)

I—Cyfluthrin (Tempo)

J—Cypermethrin (Demon)

K—Deltamethrin (DeltaDust, Suspend)

L—Fenvalerate (Pyrid)

M—Lambda-cyhalothrin (Commodore, Demand)

N—Permethrin (Flee, Dragnet, Prelude)

O—Pyrethrins and pyrethrum (Kicker, Pyrenone)

P—Resmethrin (R-300)

Q—Sumithrin (PT 120 XLO)

R—Tralomethrin (Saga)

S—Bifenthrin (Talstar)

T—Tetramethrin (CB Stinger)

**TABLE 5-15B. INDUSTRIAL AND HOUSEHOLD PESTS — For Use by Licensed Pest Control Operators (continued)**

Pesticide	H	I	J	K	L	M	N	O			P		Q	R	S	T
Chemical Class <sup>1</sup>	Pyr	Pyr	Pyr	Pyr	Pyr	Pyr	Pyr	Pyr	Pyr	Pyr	Pyr	Pyr	Pyr	Pyr	Pyr	Pyr
Formulation <sup>2</sup>	S	S	S	D S	S	S	S	A <sup>3</sup>	S <sup>3</sup>	D <sup>3</sup>	A	S	S	S	S, G	S
Pests																
ANTS	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
BED BUGS	✓	✓		✓	✓		✓	✓		✓	✓	✓	✓			
BEEES		✓	✓	✓	✓		✓	✓		✓	✓		✓		✓	✓
BOOKLICE	✓			✓	✓			✓		✓				✓		
BOXELDER BUGS		✓	✓				✓	✓						✓	✓	
CARPET BEETLES	✓	✓		✓	✓	✓	✓	✓	✓			✓	✓	✓		
CENTIPEDES	✓	✓	✓	✓	✓	✓	✓					✓	✓	✓	✓	
CLOTHES MOTHS	✓	✓		✓	✓							✓	✓	✓	✓	
CLOVER MITES	✓	✓	✓						✓	✓				✓		
COCKROACHES	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
CRICKETS	✓	✓	✓	✓	✓		✓	✓	✓	✓			✓	✓	✓	✓
EARWIGS		✓	✓				✓	✓	✓	✓			✓	✓	✓	✓
FLEAS	✓	✓	✓	✓	✓		✓	✓ <sup>5</sup>	✓	✓			✓	✓	✓	✓
FLIES	✓	✓	✓		✓		✓	✓	✓	✓			✓	✓	✓	✓
HORNETS/WASPS	✓	✓	✓		✓		✓		✓	✓			✓	✓	✓	✓
MILLIPEDES	✓	✓	✓		✓		✓	✓					✓	✓	✓	✓
MOSQUITOES	✓	✓	✓		✓		✓		✓	✓			✓		✓	✓
PANTRY PESTS	✓	✓		✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓
SILVERFISH	✓	✓	✓		✓	✓	✓	✓	✓	✓			✓	✓		
SPIDERS	✓	✓	✓		✓	✓	✓	✓	✓	✓			✓	✓	✓	✓
SPRINGTAILS		✓	✓			✓		✓							✓	✓
TICKS	✓	✓	✓	✓	✓	✓	✓	✓	✓				✓	✓	✓	✓

**<sup>1</sup> KEY TO CHEMICAL CLASSES:**

Car = Carbamate

In = Inorganic

Oth = Other class

IGR = Insect Growth Regulator

Op = Organophosphate

Pyr = Pyrethroid

Alternating uses of insecticides in different chemical classes can help reduce the likelihood of the pest developing resistance to one class or class of compounds.

**<sup>2</sup> KEY TO FORMULATION SYMBOLS:**

A = aerosol

G = granular

B = bait (granular or station)

S = sprayable (concentrate or powder, some RTU formulations)

D = dust

<sup>3</sup> Some formulations of pyrethrins contain piperonyl butoxide as a synergist.

Column Pesticide:  
 U—Hydroprene (Gencor)  
 V—Methoprene (Altosid, Kabat, Pharorid, Precor, Vigren)  
 W—Pyriproxyfen (Archer, Ultracide)  
 X—Abamectin (Ascend, Avert, Advance)  
 Y—Hydramethylnon (Amdro, Siege, MaxForce)

Z—Sulfluramid (Fluorogard, Procontrol)  
 AA—Fipronil (Maxforce F, TopChoice, Termidor)  
 AB—Hexa-hydroxyl (Eco PC)  
 AC—Mint oil (Victor)  
 AD—Imidacloprid  
 AE—Chlorphenapyr (Phantom)

TABLE 5-15C. INDUSTRIAL AND HOUSEHOLD PESTS—For use by licensed pest control operators only (continued)

Pesticide	U	V		W	X	Y	Z	AA	AB	AC	AD	AE
Chemical class <sup>1</sup>	IGR <sup>4</sup>	IGR <sup>3</sup>	IGR <sup>3</sup>	IGR <sup>3</sup>	Oth	Oth	Oth	Oth	Oth	Oth	Oth	Oth
Formulation <sup>2</sup>	A,S	B	A,S	A	B	B	B	B,G,S	A,S	A	B	S
<b>Pests</b>												
ANTS		✓		✓	✓	✓	✓	✓	✓	✓		✓
BED BUGS												
BEES									✓	✓		
BOOKLICE									✓			
BOXELDER BUGS									✓			
CARPET BEETLES									✓			
CENTIPEDES									✓			
CLOTHES MOTHS									✓			
CLOVER MITES									✓	✓		
COCKROACHES	✓			✓	✓	✓		✓	✓	✓	✓	✓
CRICKETS				✓					✓	✓		
EARWIGS										✓		
FLEAS			✓	✓								
FLIES				✓						✓		
HORNETS/WASPS									✓	✓		
MILLIPEDES									✓	✓		
MOSQUITOES		✓ <sup>4</sup>		✓					✓			
PANTRY PESTS			✓	✓					✓			
SILVERFISH									✓	✓		
SPIDERS									✓			
SPRINGTAILS										✓		
TICKS				✓								

<sup>1</sup> KEY TO CHEMICAL CLASSES:

Car = Carbamate                      In = Inorganic                      Oth = Other class  
 IGR = Insect Growth Regulator      Op = Organophosphate              Pyr = Pyrethroid

Alternating uses of insecticides in different chemical classes can help reduce the likelihood of the pest developing resistance to one class or class of compounds.

<sup>2</sup> KEY TO FORMULATION SYMBOLS:

A = aerosol                              D = dust                              G = Granular  
 B = bait (granular, gel or station)      S = sprayable (concentrate or powder, some RTU formulations)

<sup>3</sup> IGR products are not effective against adult stage of pests; use an adulticide to provide quicker control of pest population

<sup>4</sup> Specialized formulation—briquets

*These recommendations apply only to North Carolina. They may not be appropriate for conditions in other states and may not comply with laws and regulations outside of North Carolina. These recommendations are current as of October 2002. Individuals who use agricultural chemicals are responsible for ensuring that the intended use complies with current regulations and conforms to the product label. Be sure to obtain current information about usage regulations and examine a current product label before applying any chemical. For assistance, contact your county Cooperative Extension agent.*

*The use of brand names and any mention or listing of commercial products or services in this document does not imply endorsement by the North Carolina Cooperative Extension Service nor discrimination against similar products or services not mentioned.*

<http://ipm.ncsu.edu/agchem/chptr5/523.pdf>