



Cotton Pesticide Choice Worksheet

May 2016

Grower tool to make informed pesticide choice based on preserving natural enemies and preventing pesticide impacts to water, air and local communities. Eliminates use of most broad-spectrum chemicals, those with potential to impact water quality or aquatic species, or with human health impacts. Tables show reduced risk choices listed alphabetically. All information provided by UC IPM - <http://www.ipm.ucdavis.edu>.

Note: P1 = the pest being considered.

General assumptions by grower:

- Seeks to conserve natural enemies
- Defoliate as effectively and early as possible
- Avoid late irrigation and fertilization
- Plant and harvest as early as possible
- Use reduced risk pest control options

APHIDS (multiple species)

Management options for aphids:

- Conservation of natural enemies
- Avoid late irrigation and fertilization
- Watch for pest buildup between defoliation & harvest
- Plant and harvest as early as practical
- Defoliate as effectively and early as possible
- Chemical control

Common Name (example trade name)	P1	MoA ¹	Selectivity ²	Predatory mites ³	General predators ⁴	Parasites ⁴	Honey bees ⁵	Duration of impact to natural enemies ⁶
acetamiprid (Assail)	●	4A	moderate	—	—	M/H	III	moderate
azadirachtin (Neemix, Neemix 4.5, AZA-Direct, Ormazin 3%EC, Azatin XL)	●	un	broad	M	L/M	L/M	III	short
flonicamid (Carbine, Beleaf)	●	9C	narrow	L	L	L	IV	short
flupyradifurone (Sivanto 200SL)	●	4D	narrow	—	—	—	—	—
imidacloprid (Gaucho, Provado, Provado 1.6F, Admire Pro, Vitis Liquid Ant Bait, Marathon 1G, Marathon II, Marathon 60 WP)	●	4A	narrow (sucking insects)	—	—	H	II	short to moderate
insecticidal soap (M-Pede)	●	Contact	—	—	—	—	—	—
narrow range oil (Superior, Supreme, Omni)	●	—	—	—	—	—	—	—
thiamethoxam (Centric, Actara, Platinum 75SG)	●	4A	narrow	—	—	M	I	moderate

LYGUS

Management options for lygus:

- Conservation of natural enemies
- Manage neighboring crops
- Develop cooperative regional pest mgmt plan
- Chemical control

Common Name (example trade name)	P1	MoA ¹	Selectivity ²	Predatory mites ³	General predators ⁴	Parasites ⁴	Honey bees ⁵	Duration of impact to natural enemies ⁶
beta-cyfluthrin (Baythroid, Baythroid, Baythroid XL)	●	3A	broad	H	H	H	I	moderate
clothianidin (Belay)	●	4A	--	--	M/H	M/H	I	--

(continued on back side of page)

Lygus pesticide choice continued)

flonicamid (Carbine, Beleaf)	9C	narrow	L	L	L	IV	short
imidacloprid/beta-cyfluthrin (Leverage 360, Discus)	4A/3A	—	—	—	—	—	—
indoxacarb (Steward)	22A	narrow	—	L	L	I	moderate
lambda-cyhalothrin (Warrior, Scimitar)	3A	broad	H	H	H	I	moderate
novaluron (Diamond)	15	narrow	L	L	—	I	short

WHITEFLY

Management options for whitefly:

- Conservation of natural enemies
- Defoliate as effectively & early as possible
- Watch for pest buildup between defoliation & harvest
- Develop cooperative regional pest mgmt plan
- Chemical control

Common Name (example trade name)	P1 MoA ¹	Selectivity ²	Predatory mites ³	General predators ⁴	Parasites ⁴	Honey bees ⁵	Duration of impact to natural enemies ⁶
acetamiprid (Assail)	4A	moderate	—	—	M/H	III	moderate
azadirachtin (Neemix, Neemix 4.5, AZA-Direct, Omazin 3%EC, Azatin XL)	un	broad	M	L/M	L/M	III	short
buprofezin (Courier)	16	narrow	L	H	L	IV	long
clothianidin (Poncho)	4A	—	—	—	—	—	—
dinotefuran (Venom)	4A	—	—	—	—	—	—
flupyradifurone (Sivanto 200SL)	4D	narrow	—	—	—	—	—
insecticidal soap (M-Pede)	Contact	—	—	—	—	—	—
narrow range oil (Superior, Supreme, Omni)	—	—	—	—	—	—	—
pyriproxyfen (Esteem, Esteem Ant Bait 0.5%, Distance)	7C	narrow	L	H	L	IV	long
spiromesifen (Oberon)	23	—	—	—	—	—	—

¹ Rotate chemicals with a different mode-of-action Group number, and do not use products with the same mode-of-action Group number more than twice per season to help prevent development of resistance. For example, the organophosphates have a Group number of 1B; chemicals with a 1B Group number should be alternated with chemicals that have a Group number other than 1B. Mode of action Group numbers are assigned by IRAC (Insecticide Resistance Action Committee). For additional information, see their Web site at <http://www.irac-online.org/>.

² Selectivity: *broad* means it affects most groups of insects and mites; *narrow* means it affects only a few specific groups.

³ Generally, toxicities are to western predatory mite, *Galendromus occidentalis*. Where differences have been measured in toxicity of the pesticide-resistant strain versus the native strain, these are listed as pesticide-resistant strain or native strain.

⁴ Toxicities are averages of reported effects and should be used only as a general guide. Actual toxicity of a specific chemical depends on the species of predator or parasite, environmental conditions, and application rate.

⁵ Ratings are as follows: I = Do not apply to blooming plants; II = Apply only during late evening; III = Apply only during late evening, night, or early morning; and IV = Apply at any time with reasonable safety to bees. For more information, see [How to Reduce Bee Poisoning From Pesticides \(PDF\)](#), Pacific Northwest Extension Publication PNW591.

⁶ Duration: *short* means hours to days; *moderate* means days to 2 weeks; and *long* means many weeks or months.