

## ***UMN SpudBug Highlights June 27, 2016.***

### ***Colorado Potato Beetle Insecticides***

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It's shaping up to be a Colorado Potato Beetle (CPB) year in the Red River Valley. Seems even if an at-plant insecticide was applied, CPB are plentiful in some fields. There are a few possible reasons this is happening...

- The past winter was a good one, not only for us, but for the overwintering CPB. The milder temps probably resulted in lower winter mortality.

- Over the past few years, I've been monitoring insecticide resistance in MN and ND CPB populations. We've started to see decreased sensitivity to neonicotinoid insecticides (by far the most common at-plant being used) in the central RRV.



- We've had some very wet conditions in some locations after planting. The at-plant insecticides are all water soluble, that's what allows them to become systemic in the plants. The wetter the soils, the greater the potential for leaching, decreasing the amount of insecticide available to be taken up by the plant lowering efficacy.

- Finally, we're about 40-50 days post planting in many of these fields. The at-plant insecticides provide enough concentration to control CPB for 45-60 days post application. Given the current conditions, even fields that received an at-plant insecticide are probably susceptible to CPB by now.

Regardless of why, the issue is now management. Given how quickly this insect develops resistance, we want to make certain we're rotating the modes of action of our insecticides, cheap controls today could mean much more expensive tactics will be needed later... So, if you had a neonicotinoid insecticide applied at-plant, you'll want to change up the mode of action for foliar applications.

Active Ingredient	Insecticide Group	Products	Efficacy
<b>ABAMECTIN</b> <i>RUP</i>	6	ABBA 0.15EC, Agri-Mek 0.15EC, Agri-Mek SC, Epi-Mek 0.15EC, Nufarm Abamectin, 0.15EC, Reaper 0.15EC, Temprano, Timectin 0.15EC	++++
<b>ACETAMIPRID</b>	4	Assail 30SG, Assail 70WP	+++
<b>AVERMECTIN + BIFENTHRIN</b> <i>RUP</i>	6 & 3	Athena	++++
<b>BETA-CYFLUTHRIN</b> <i>RUP</i>	3	Baythroid XL	++ **
<b>BETA-CYFLUTHRIN + IMIDACLOPRID</b> <i>RUP</i>	3 & 4	Leverage 360	+++ **
<b>BIFENTHRIN</b> <i>RUP</i>	3	Bifenture EC, Brigade 2EC, Fanfare 2EC, Sniper, Tundra EC, Capture LFR	+
<b>BIFENTHRIN + IMIDACLOPRID</b> <i>RUP</i>	3 & 4	Brigadier, Skyraider, Swagger	++
<b>BIFENTHRIN + ZETA-CYPERMETHRIN</b> <i>RUP</i>	3	Hero	++
<b>CARBARYL</b>	1A	Sevin 4F, Sevin 80S, Sevin XLR Plus	-
<b>CHLORANTRANILIPROLE</b>	28	Coragen	++++
<b>CHLORANTRANILIPROLE + LAMBDA-CYHALOTHRIN</b> <i>RUP</i>	28 & 3	Besiege, Voliam Xpress	+++
<b>CHLORANTRANILIPROLE + THIAMETHOXAM</b>	28 & 4	Voliam Flexi	++++
<b>CLOTHIANIDIN</b>	4	Belay, Belay 50WDG	++++ **
<b>CYANTRANILIPROLEe</b>	28	Exirel	++++
<b>CYFLUTHRIN</b> <i>RUP</i>	3	Renounce 20WP, Tombstone, Tombstone Helios	++
<b>DELTAMETHRIN</b> <i>RUP</i>	3	Battalion 0.2EC, Delta Gold	++ **
<b>DINOTEFURAN</b>	4	Scorpion 35SL, Venom 20SG, Venom	++++ **
<b>ESFENVALERATE</b> <i>RUP</i>	3	Adjourn, Asana XL	+ **
<b>IMIDACLOPRID</b>	4	ADAMA Alias 2F, ADAMA Alias 4F, Admire Pro, Advise 2FL, AmTide Imidacloprid 2F, Macho 2FL, Malice 2F, Montana 2F, Nuprid 2SC, Nuprid 4.6F Pro, Pasada 1.6F, Prey 1.6, Sherpa, Widow, Wrangler	+++ **
<b>INDOXACARB</b>	22B	Avaunt	++
<b>LAMBDA-CYHALOTHRIN</b> <i>RUP</i>	3	Grizzly Z, Lambda-Cy EC, LambdaStar, Lambda-T, Lamcap, Nufarm Lambda, Cyhalothrin 1EC, Province, Silencer, Silencer VC, Taiga Z, Warrior II	++ **
<b>LAMBDA-CYHALOTHRIN + THIAMETHOXAM</b>	3 & 4	Endigo ZC	+++ **

	<i>RUP</i>			
<b>MALATHION</b>		1B	Cheminova Malathion 57%, Malathion 5, Malathion 57EC	-
<b>NOVALURON</b>		15	Rimon 0.83EC	++++ (instar 2-4 only)
<b>OXAMYL</b>	<i>RUP</i>	1A	Vydate C-LV, Vydate L	+++
<b>PERMETHRIN</b>	<i>RUP</i>	3	Ambush 25W, Ambush, Arctic 3.2EC, PermaStar, Permethrin 3.2EC, Perm-UP 3.2EC, Perm-UP 25DF, Pounce 3.2EC	+
<b>PHORATE</b>	<i>RUP</i>	1B	Phorate 20G, Thimet 20G SmartBox, Thimet 20G, Lock n Load	++ (early season control)
<b>PHOSMET</b>		1B	Imidan 70W	++
<b>SPINETORAM</b>		5	Radiant SC	++++
<b>SPINOSAD</b>		5	Blackhawk, Entrust, Spintor 2SC, Success	++++
<b>THIAMETHOXAM</b>		4	Actara, Cruiser 5FS, Cruiser Maxx Potato, Platinum, Platinum 75SG	++++**
<b>TOLFENPYRAD</b>		21A	Torac	++++
<b>ZETA-CYPERMETHRIN</b>	<i>RUP</i>	3	Mustang Maxx, Mustang Maxx EC, Respect, Respect EC	+++ **

- = No Activity / No Label, + = Poor, ++ = Fair, +++ = Good, ++++ = Excellent, (S) = label denotes suppression only

\*\* = possibly resistant populations (or populations developing resistance) in MN / ND

Combined data from the journal Arthropod Management Tests, [ipmcenters.org](http://ipmcenters.org), and UofMN Trials

If you do suspect you are dealing with a resistant population of CPB, please contact us and we will arrange to test the population. Contact us at:

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