## **Insecticide Schedule for Potatoes**

#### **Wireworms:**

Wireworms are generally more troublesome in soil which has been in sod, pasture, or CRP for several years. Crop rotations that involve frequent tillage or summer tillage may help to reduce wireworm populations. When planning chemical treatments for wireworm suppression, pesticide applications should be delayed in the spring as long as possible in order for soil temperatures to increase to a point where wireworms are active in the upper soil regions. Care must be taken in applying soil-applied insecticides so as to minimize possible negative environmental effects. Also always consult the label for allowed timing of applications for specific products. Most wireworm materials need to be applied prior to crop emergence. Attempting to provide primary wireworm control after crop emergence can be difficult and chancy.

#### **Flea Beetles:**

Potato flea beetles, which appear on potato vines as soon as the plants emerge, puncture small, round holes in leaves, causing yield reductions due to reduced plant growth. Eggs are laid soon after the beetles appear. The larvae feed on potato roots. The second brood of adult beetles appears in August, causing further damage to foliage, roots and tubers. The best control program is to kill the adult beetle before eggs are laid in the spring. Make the first application of insecticide when one-fourth of the plants have emerged and the economic threshold of 15 "shot" holes average per terminal leaf. A second application should follow in about 10 days if needed. Growers in Maine should be aware that the Red Headed flea beetle is now being found in many locations. This flea beetle is larger that the Potato flea beetle.

## Aphids:

The economic thresholds for treatment of aphids are: Seed - 10% of the plants infested with any species or 1 winged Green Peach aphid; Processing and Tablestock - 50% of the plants infested with any species or 1 winged Green Peach aphid. Plants should be randomly selected for inspection throughout the field. Four species of aphids are commonly found on potatoes in Maine -- Potato, Foxglove, Buckthorn, and Green Peach, with Melon aphid being found occasionally. Green Peach and Potato aphids are usually the most abundant. The Green Peach aphid is, generally, the most important because it is the primary vector of potato leafroll virus and an efficient vector of mosaic viruses. Buckthorn aphids are an excellent vector of mosaic and high populations can occur quite early. Certain aphicides are not effective against all potato infesting species and thus do not provide sufficient control. Be sure to check the remarks listed in this publication to make sure you are using a suitable product. Foliar insecticide sprays should begin when economic thresholds are reached and continued as needed. Always scout fields for the presence of aphids before beginning a foliar program. Field scouting should be part of a pest management plan even when systemics are used. Aphids build up on the underside of the leaves; therefore, good coverage and proper spray calibration are important. The "Pest Alert" IPM newsletter will give warning of Green Peach aphid flights and occurrence of Melon aphids.

#### **Colorado Potato Beetles:**

The economic thresholds for treatment of Colorado potato beetles are: Adult - 25/50 plants; large larvae - 75/50 plants; small larvae - 200/50 plants. Plants should be randomly selected for inspection. Spot or area treatments can be very effective and are recommended where possible. Colorado potato

beetle populations in Maine have varying levels of resistance which is now a problem for many growers throughout the State. This insect overwinters as an adult in the soil and under trash and debris in and around potato fields. Early in the season it moves to potato plants where it lays eggs on the underside of the leaves. In a few days, the larvae hatch and start feeding. When rotating pesticides in order to cope with resistance, be sure to consider the mode of action in which the material works.

#### SOIL-APPLIED INSECTICIDES

Most granular soil-applied insecticides have the potential for leaching. Care should be taken to minimize both surface and groundwater contamination.

#### **Chemical: Bifenthrin**

Remarks: Insecticide Resistance Group 3. Bifenthrin may be applied in-furrow or as a lay-by treatment for wireworms and white grub. Brigade may also be applied at lower rates as a foliar insect control material. Do not apply more than .5 pounds a. i. per season, including soil plus foliar applications. The reentry interval is 12 hours and the preharvest interval is 21 days.

Trade Name	Pest	Rate per acre of product	Comments
<b>Brigade 2EC</b>	Wireworm	19.2 oz	In-furrow application rate.
Sniper	White grub	9.2 oz.	Ground that has
			been out of production for more
			than 5 years is likely to have wireworms.
	Wireworm	3.2 to 9.6 oz	Lay-by application rate
	White grub		3.2 to 9.6 oz. Ground that has
			been out of production for more
			than 5 years is likely to have wireworms.
Capture LFR	Wireworm White grub	12.75 to 25.5 oz planting or lay-by treatment.	May be applied as an at

#### **Chemical: Bifenthrin combined with Imidacloprid**

Remarks: This product is a premix of an Insecticide Resistance Group 3 and a Group 4A material. The reentry interval is 12 hours and the preharvest interval is 21 days. For resistance management strategies do not use this product is a resistance group 4A product was used at planting.

Trade Name Brigadier	Pest aphids Leafhoppers	Rate per acre of product 3.8 to 6.14 oz	Comments
	Colorado Potato beetle European corn borer Flea beetles	4.8 to 6.14 oz	

#### **Chemical: Clothianidin**

Remarks: Insecticide Resistance Group 4A. Clothianidin may be applied in-furrow or as a side-dress treatment for aphids, Colorado potato beetles, flea beetles and potato leafhoppers. This product can also be applied as a foliar treatment, however, do not follow a soil application of this product with a foliar application. The reentry interval is 12 hours and the preharvest interval is 14 days.

<b>Trade Name</b>	Pest	Rate per acre of product	Comments
Belay	Aphids	9 to 12 oz.	For resistance management, do
	Colorado	( in furrow )	not use a foliar neonicotinoid in
	potato beetle	or	the same season if an in-furrow
	Flea beetle	(side dress)	or seed treatment formulation of
	Potato leafhopp	per	this or another Group 4A
			material has been used. Can be
			applied in furrow or at ground
			crack as a side dress.

## **Chemical: Fipronil**

Remarks: Insecticide Group 2B. Apply at planting as a narrow spray in a 5-7 inch wide band in the seed furrow. Do not use T-banding over the top of a closed furrow. The reentry interval is 0 hours.

<b>Trade Name</b>	Pest	Rate per acre of product	Comments
Regent 4SC	Wireworm	3.2 oz	Do not apply more than
			3.2 oz per acre per season.
			Do not apply within 20 yards
			of a water body. Dilute Regent
			45C in a minimum of 5 gallons
			of water per acre.

## **Chemical: Imidacloprid**

Remarks: Insecticide Resistance Group 4A. Apply at planting as a narrow band spray on the seed piece in the seed furrow. Do not apply any foliar neonicotinoid insecticide (Insecticide Resistance Group 4A) if Admire PRO or other imidacloprid material has been used at planting. The reentry interval is 12 hours

Trade Name Admire Pro	Pest Aphids Colorado potato beetle Flea beetle Leafhoppers	Rate per acre of product 5.7 to 8.7 oz.	Comments For resistance management, do not use a foliar neonicotinoid in the same season if an in-furrow or seed treatment formulation of imidacloprid or thiamethoxam has been used.
Alias 2F Couraze 2F	Aphids Colorado potato beetle Flea beetle	13 to 20 oz.	For resistance management, do not use a foliar neonicotinoid in the same season if an in-furrow imidacloprid or thiamethoxam

Widow has been used.

**Alias 4F** Aphids 6.5 to 10 oz

Colorado potato beetle Flea beetle

**Nuprid 2F** Aphids 8 to 16 oz

Colorado potato beetle Flea beetle

#### **Chemical: Thiamethoxam**

Remarks: Insecticide Resistance Group 4A. Apply at planting as a narrow band spray on the seed piece in the seed furrow. Do not apply any foliar neonicotinoid insecticide (Insecticide Resistance Group 4A) if Cruiser, Platinum or other neonicotinoid material has been used at planting. The reentry interval is 12 hours.

Trade Name	Pest	Rate per acre of product	Comments
Platinum	Aphids	5 to 8 oz	For resistance management, do
	Colorado		not use a foliar neonicotinoid in
	potato beetle		the same season if an in-furrow
	Flea beetle		or seed treatment formulation of
	Leafhoppers		thiamethoxam or imidacloprid
			has been used.

#### FOLIAR APPLIED INSECTICIDES

#### **Chemical: Abamectin**

Remarks: Insecticide Resistance Group 6. This product provides better control of larvae than adults. The reentry interval is 12 hours and the preharvest interval is 14 days.

Trade Name Agri-Mek	Pest Colorado potato beetle	Rate per acre of product 8 to 16 oz	Comments Provides better control of larvae than adults. Do not make more
Abba			than two applications per season. Limit 32 oz/a per crop per season. Make first
Reaper			application when approximately 50% of egg masses have hatched. If second application needed, apply 10 to 14 days later.

#### **Chemical: Acetamiprid**

Remarks: Insecticide Resistance Group 4A. This is a foliar neonicotinoid material, so for resistance management it is not recommended if a neonicotinoid material was used at planting or as a see

treatment. Do not make more than 4 applications per season. The restricted reentry interval is 12 hours and there is a 7-day preharvest interval.

Trade Name Assail 70WP	Pest Aphids Colorado	Rate per acre of product 1 to 1.7 oz	Comments This product is reported to provide ovicidal activity for
	potato beetle Flea beetle	0.6 to 1.7 oz	European corn borer.
	European corn borer (ovicida:		
Assail 30SG	Aphids Colorado potato beetle Flea beetle	1.5 to 4 oz	This product is reported to provide ovicidal activity for European corn borer.
	European corn borer	1.5 to2.5 oz	

#### **Chemical: Azadirachtin**

Remarks: Insecticide Resistance Group 26. This product provides better control of larvae than adults. The reentry interval is 12 hours and the preharvest interval is 0 days.

<b>Trade Name</b>	Pest	Rate per acre of product	Comments
Neemix 4.5	Colorado	2 to 16 oz	Best control achieved with
	potato beetle		higher rates. Slower
Ecozin 3EC		8 oz	acting than Bt materials.
			Provides control of larvae.

#### Chemical: *Bacillus thuringiensis* (Bt)

Remarks: Insecticide Resistance Group 11. Timing of application is critical for Bt products. Best control is achieved against 1<sup>st</sup> and 2<sup>nd</sup> instar larvae; ineffective against adults. The reentry interval is 0 hours and the preharvest interval is 12 hours.

Trade Name	Pest	Rate per acre of product	Comments
Novodor		1 to 4 qt	
	Colorado		
	potato beetle		

## Chemical: Bifenthrin combined with Imidacloprid

Remarks: This product is a premix of an Insecticide Resistance Group 3 and Group 4A material. The reentry interval is 12 hours and the preharvest interval is 21 days. For resistance management strategies do not use this product if a resistance group 4A product was used at planting.

Trade Name	Pest	Rate per acre of product	<b>Comments</b>
Brigadier	Aphids	3.8 to 6.4	

Leafhoppers

Colorado 4.8 to 6.14

potato beetle European corn borer

#### **Chemical: Clothianidin**

Remarks: Insecticide Resistance Group 4A. Clothianidin may be applied in-furrow or as a side-dress treatment for aphids, Colorado potato beetles, flea beetles and potato leafhoppers. This product can also be applied as a foliar treatment, however, do not follow a soil application of this product with a foliar application. The reentry interval is 12 hours and the preharvest interval is 14 days.

<b>Trade Name</b>	Pest	Rate per acre of product	Comments
Belay	Aphids	2 to 3 oz.	For resistance management, do
	Colorado	(Foliar)	not use a foliar neonicotinoid in
	potato beetle		the same season if an in-furrow
	Flea beetle		or seed treatment formulation of
	Potato leafhopp	er	this or another Group 4A
			material has been used.

## **Chemical: Cyfluthrin**

Remarks: Insecticide Resistance Group 3. Avoid use on pyrethroid resistant pest populations. The reentry interval is 12 hours and the preharvest interval is 0 days.

<b>Trade Name</b>	Pest	Rate per acre of product	Comments
<b>Baythroid XL</b>	Colorado		Limit 6 application per season
	potato beetle	1.6 to 2.8 oz.	or 16.8 oz/a per year. Lower
<b>Tombstone</b>	Cutworms		rate may be used for cutworms
	European corn		and potato leafhopper
	borer		0.8- 1.6 oz. please see label.
	Flea beetle		
	Potato leafhopp	er	
	Tarnished plant	bugs	

#### **Chemical: Dinotefuran**

Remarks: Isecticide Resistance Group 4A. Dinotefuran may be applied in-furrow or as a side-dress treatment for Colorado potato beetles, flea beetles and potato leafhoppers. This product can also be applied as a foliar treatment, however, do not follow a soil application of this product with a foliar application. The reentry interval is 12 hours and the preharvest interval is 7 days.

Trade Name	Pest	Rate per acre of product	Comments
Venom	Colorado	1 to 1.5 oz	For resistance management, do
	potato beetle	(foliar)	not use a foliar neonicotinoid in
	Flea beetle		the same season if an in-furrow
	Potato leafhopp	oer er	or seed treatment formulation of
			this or another group 4A material

has been used. Limit 4.5 oz per season.

#### **Chemical: Endosulfan**

Remarks: Insecticide Resistance Group 2A. Best results are achieved with this product when applied when weather is hot and air is calm. Not as effective in cool weather. This product provides effective control of most aphids with exception of the Green peach aphid. EC formulations may not be compatible with Tin-based fungicides. Some growers have reported difficulty in controlling Colorado potato beetles with this product. The reentry interval is 48 hours and the preharvest interval is 1 day.

Trade Name Thionex 3EC	Pest Aphids Colorado potato Beetle	Rate per acre of product 2/3 to 1 1/3 qt 2/3 to 1 1/3 qt	Comments Please note Thionex 3EC is a 3- pound gallon and Thiodan EC is a 2-pound gallon.
	European corn borer	1 to 1 1/3 qt	
	Flea beetles	1 to 1 1/3 qt	
	Leafhopper	1 to 1 1/3 qt	
	Tarnished plant bugs	1 to 1 1/3 qt	
Thiodan EC	Aphids Colorado potato Beetle Flea beetles Leafhopper Tarnished plant bugs	1 to 2 qt	
	European	1 1/2 qt	

#### **Chemical: Esfenvalerate**

Remarks: Insecticide Resistance Group 3. Do not exceed 0.35 pounds a.i. per acre per season. This product may not be compatible with Tin-based fungicides. Not recommended for Green peach aphid control. Performance against CPB may be enhanced with piperonylbutoxide (PBO). The reentry interval is 12 hours and the preharvest interval is 7 days.

Trade Name	Pest	Rate per acre of product	<b>Comments</b>
Asana XL	Aphids	5.8 to 9.6 oz	
	Colorado potato beetle		
	European corn borer		
	Flea beetles		
	Leafhoppers		
	Tarnished plant bugs		

#### **Chemical: Flonicamid**

Remarks: Insecticide resistance group 9C. This is a foliar product for the control of aphids and plant bugs; feeding will stop shortly after application; however, the insects may take several days to die. Do not apply more than 8.4 oz. of product per season. The restricted reentry interval is 12 hours and the preharvest interval is 7 days.

Trade Name	Pest	Rate per acre of product	Comments
Beleaf	Aphids	2.0 to 2.8 oz	Do not apply more than 8.4 oz/
	Tarnished		acre per season or more than
	plant bugs		3 applications at the 2.8 oz rate.

#### **Chemical: Indoxacarb**

Remarks: Insecticide Resistance Group 22. Do not apply more than 24 ounces per season. Performance against CPB may be enhanced with piperonylbutoxide (PBO). The reentry interval is 12 hours and the preharvest interval is 7 days.

<b>Trade Name</b>	Pest	Rate per acre of product	Comments
Avaunt	Colorado	3.5 to 6.0 oz	Be aware that this product
	potato beetle		may be somewhat slow
	European		in its activity against beetle
	corn borer		larvae.

#### **Chemical: Lambda-cyhalothrin**

Remarks: Insecticide Resistance Group 3. Do not apply more than 15.36 oz per acre per season. The rentry interval is 24 hours and the preharvest interval is 7 days.

Trade Name	Pest	Rate per acre of product	Comments
Warrior	Cutworm	1.92 to 3.20 fl oz	When applying by
	Potato leafhopp	er	ground equipment a
	European corn	2.56 to 3.84 fl oz	minimum of 10 gallons
	borer		of mixture is recommended.
<b>Warrior II</b>	Cutworm	0.96 to 1.6 fl oz	
	Potato		
	leafhopper		
	European corn	1.28 to 1.92 fl oz	
	borer		
	Flea beetle		

#### **Chemical: Oxamyl**

Remarks: Insecticide Resistance Group 1B. Some growers have reported difficulty in controlling Colorado potato beetles with this product. Green peach aphid control is undetermined The reentry interval is 48 hours and the preharvest interval is 7 days.

Trade Name	Pest	Rate per acre of product	<b>Comments</b>
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Vydate L	Aphids Colorado potato beetle	2 to 4 pt 1 to 4 pt	Lower rates have not been reported to provide adequate control of CPB.
	Flea beetles	2 to 4 pt	
	Leafhoppers	2 to 4 pt	
	Tarnished	2 to 4 pt	
	plant bugs	_	

#### **Chemical: Pymetrozine**

Remarks: Insecticide Resistance Group 9B. Aphids stop feeding soon after application and will die in 3 to 4 days. Will provide control of Green peach, potato, buckthorn, and melon aphid. The reentry interval is 12 hours and the preharvest interval is 14 days.

Trade Name	Pest	Rate per acre of product	<b>Comments</b>
Fulfill	Aphids	2.75 oz to 5.5 oz	

## Chemical: RynaXypyr

Remarks: Insecticide resistance group 28. The minimum interval between applications is 5 days. The reentry interval is 4 hours and the preharvest interval is 14 days.

Trade Name Altacor	Pest Colorado potato beetle European corn borer	Rate per acre of product 2 to 3 oz	Comments Do not apply more than 9 oz. of Altacor per crop.
Coragen	Colorado potato beetle European corn borer	3.5 to 5.0 oz	Do not apply more than 15.4 oz. of Coragen per crop.

#### **Chemical: Spinetoram**

Remarks: Resistance Group 5. This product is a mixture of Spinetoram 5 and 6. The restricted reentry internal is 4 hours and the preharvest interval is 7 days.

Trade Name	Pest	Rate per acre of product	Comments
Radiant SC	Colorado	4.5 to 8 fl. Oz	Do not apply more than a
	potato beetle		total of 32 fl. Oz per acre per
	European		year. Do not make more than
	corn borer		4 applications per calendar year.

#### **Chemical: Spinosad**

Remarks: Insecticide Resistance Group 5. The reentry interval for these products is 4 hours, and the preharvest interval is 7 days.

Trade Name	Pest	Rate per acre of product	<b>Comments</b>
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Entrust 80% Colorado

Colorado 1 to 2 oz potato beetle

Do not apply more than 6.5 oz. per acre per season of Entrust.

larvae European corn borer

## **Chemical:Spirotetramat**

Remarks: Insecticide Resistance Group 23. The reentry interval for this product is 24 hours and the preharvest interval is 7 days. This material is a foliar applied material with systemic properties.

Trade Name Pest Rate per acre of product Comments

**Movento** Aphids 4 to 5 oz.

#### **Chemical: Thiamethoxam**

Remarks: Insecticide Resistance Group 4A. Do not use more than 3 ozs. of Actara per season. Do not apply any neonicotinoid insecticide (Insecticide Resistance Group 4A) if any neonicotinoid insecticide was used at planting. The reentry interval is 12 hours, and the preharvest interval is 14 days.

Pest	Rate per acre of product	Comments
Colorado potato beetle	1.5 oz to 3 oz	Limit of 6 oz/a per season.
Potato		
leafhoppers		
Flea beetles		
Aphids	3.0 oz	
	Colorado potato beetle Potato leafhoppers Flea beetles	Colorado 1.5 oz to 3 oz potato beetle Potato leafhoppers Flea beetles

## Chemical: Thiamethoxam plus chlorantraniliprole

Remarks: Resistance Insecticide Group 4A and 28. This material contains a neonicotinoid group 4A material and for resistance management reasons should not be used if a neonicotinoid material was used at planting or lay-by. Do not exceed a total of 8 oz. of Voliam Flexi or 0.094 pounds a.i. of thiamethoxam containing foliar products or 0.2 pounds a.i. of chlorantraniliprole per acre per season. The restricted reentry interval is 12 hours and the preharvest interval is 14 days.

Trade Name	Pest	Rate per acre of product	<b>Comments</b>
Voliam Flexi	Aphids	4 oz	
	Colorado		
	potato beetle		
	European corn		
	borer		
	Flea beetles		
	Potato leafhopp	ers	

## Chemical: Thiamethoxam plus Lambda – cyhalothrin

Remarks: Resistance insecticide Group 4A and Group 3. This product is a combination of a neonicotinoid and a pyrethroid. The restricted reentry interval is 24 hours, and the preharvest interval is 14 days.

<b>Trade Name</b>	Pest	Rate per acre of product	Comments
Endigo	Colorado	2.5 to 4.5 fl. oz	For resistance management,
	potato beetle		do not use if a neonicotinoid
	Cutworms		was used at planting.
	Flea beetles		
	Leafhoppers		
	European corn	3.0 to 4.0 fl. oz	
	borers		
	Aphids	4.0 to 4.5 fl. oz	

## **Chemical: Zeta-cypermethrin**

Remarks: Resistance Insecticide Group 3. Do not make applications less than 4 days apart. The restricted reentry interval is 12 hours and the preharvest interval is 1 day.

Trade Name	Pest	Rate per acre of product	<b>Comments</b>
<b>Mustang Max</b>	Cutworm	1.28 to 4.0 oz	
	European		
	corn borer		
	Flea beetle		
	Potato leafhopp	er	

## Chemical: Zeta-cypermethrin plus bifenthrin

Remarks: Resistance Insecticide Group 3. This product is a combination of two different pyrethoid materials. Do not make more than 2 foliar applications of this product per season. The restricted reentry interval is 12 hours and the preharvest interval is 21 days.

<b>Trade Name</b>	Pest	Rate per acre of product	<b>Comments</b>
Hero Cutwor	ms	2.6 to 6.1 oz	
	Flea beetles	4.0 to 10.3 oz	
	Aphids		
	Colorado		
	potato beetles		
	European corn		
	borer		
	Potato		
	leafhopper		

# **Insecticide Control Material Comparison Chart**

Insecticide	IRAC Crown	REI	PHI
Abba	<b>Group</b> 6	12 hours	14 days
Actara	4A	12 hours	14 days
Admire PRO	4A	12 hours	
Agri-Mek	6	12 hours	14 days
Alias 2F	4A	12 hours	
Alias 4F	4A	12 hours	
Altacor	28	4 hours	14 days
Assail 30 SG	4A	12 hours	7 days
Assail 70WP	4A	12 hours	7 days
Avaunt	22	12 hours	7 days
Asana XL	3	12 hours	7 days
Baythroid XL	3	12 hours	0 days
Belay 16 WSG	4A	12 hours	14 days
Beleaf 50 SG	9C	12 hours	7 days
Brigade 2EC	3	12 hours	21 days
Brigadier	4A and 3	12 hours	21 days
Capture LFR	3	12 hours	21 days
Coragen	28	4 hours	14 days
Couraze 2F	4A	12 hours	
Ecozin 3EC	26	12 hours	0 days
Endigo ZC	4A and 3	24 hours	14 days

# LAST UPDATED ON Thursday, May 05, 2011

Entrust 80%	5	4 hours	7 days
Fulfill	9B	12 hours	14 days
Hero	3	12 hours	21 days
Movento	23	24 hours	7 days
Mustang Max	3	12 hours	1 day
Neemix 4.5	26	12 hours	0 days
Novodor	11	0 hours	12 days
Nuprid 2F	4A	12 hours	
Platinum	4A	12 hours	14 days
Radiant SC	5	4 hours	7 days
Reaper	6	12 hours	14 days
Regent 4SC	2B	0 hours	90 days
Sniper	3	12 hours	21 days
Thiodan	2A	48 hours	1 day
Thionex	2A	2 days	1 day
Tombstone	3	12 hours	0 days
Venom	4A	12 hours	7 days
Voliam Flexi	4A and 28	12 hours	14 days
Vydate L	1A	48 hours	7 days
Warrior	4A	12 hours	7 days
Widow 2F	4A	12 hours	

## **Insecticides for Use on Potatoes in Maine**

This is a chart of reported relative efficacy of insect management products. Efficacy ratings are based upon information from grower experience, research and demonstration plots and manufacturer information.

Resistance Group	Product	Aphids	СРВ	Cutworms	ECB	Flea Beetle	Leafhopper	Wireworm
1B								
	Oxamyl	G*	RI	NL	NL	G	G	NL
2A	Endosulfan	G*	RI	G	G	G	G	NL
2B	Fipronil	NL	NL	NL	NL	NL	NL	G
3	Esfenvalerate	**	RI	NL	G	G	G	NL
	Cyfluthrin	**	RI	G	G	G	G	NL
	Bifenthrin ***	G	NL	NL	NL	U	NL	G
	Zeta- Cypermethrin	**	RI	NL	G	G	G	NL
4A	Acetamiprid	G	G	NL	F	G	G	NL
77.1	Clothianidin	G	G	NL	NL	G	G	NL NL
	Dinotefuran		G	NL	NL	0	0	NL
_	Imidacloprid	G	G	NL	NL	G	F	NL
	Thiamethoxam	G	G	NL	NL	G	G	NL
5	Spinosad	NL	G	NL	G	NL	NL	NL
	Spinetoram	NL	G	NL	G	NL	NL	NL
6	Abamectin	NL	G	NL	NL	NL	NL	NL
9A	Cryolite	NL	G	NL	NL	NL	NL	NL
9B	Pymetrozine	Е	NL	NL	NL	NL	NL	NL
9C	Flonicamid	Е	NL	NL	NL	NL	NL	NL
11	Bacillus thuringiensis var. Kurstari	NL	G	NL	G	NL	NL	NL
	Bacillus thuringiensis var. tenebrionensis	NL	NL	F	F	NL	NL	NL
22	Indoxacarb	NL	G	NL	G	NL	NL	NL
23	Spirotetramat	Е	NL	NL	NL	NL	NL	NL
26	Azadirachtin	U	G	U	G	NL	U	NL
28	Rynaxypyr	NL	G	NL	G	NL	NL	NL

E = Excellent; G = Good; F = Fair; P = Poor; RI = Resistance issues reported; U = Unknown/Uncertain; NL = Not Labeled.

<sup>\*</sup>May not control Green peach aphid.

<sup>\*\*</sup>Synthetic pyrethroids may initially drop aphid population but may cause a subsequent increase because of the impact and predator species.

<sup>\*\*\*</sup>Two formulations available—one for wireworm control and one for foliar application.