Clothianidin, Thiamethoxam, and Imidacloprid – Summary of pollinator mitigation

Grey shaded boxes indicate uses that are not registered.

Crops	Chemical	Application Method		
		Foliar	Soil	Seed Treatment
Pome fruit (such as apple or pear)	Clothianidin	Cancel use (CG 11: Pome fruit)		
	Thiamethoxam	Cancel use (apple, crabapple, pear, Oriental pear)		
	Imidacloprid[1]	Cancel use (CG11:Pome fruit)		
Stone fruit (such as cherry, peach, or plum)	Clothianidin	Cancel use (CG 12: Stone fruit)		
	Thiamethoxam	Cancel use (cherry)		
	Imidacloprid	Cancel use (CG12 Stone fruit)		
Tree nuts (such as walnut or hazelnut)	Clothianidin			
	Thiamethoxam			
	Imidacloprid	Cancel use Almond, chestnuts, Chinquapin nuts, Japanese horse-chestnuts -		
		Change in application timing (restricted to application after bloom): Beech nut, Brazil nut, butternut, cashew, Filbert (hazelnut), hickory nut, Macadamia nut, pistachio, pecan, walnut		
Berries [such as Caneberry, Bushberry, Low growing berry, Small fruit vine (other than grape)]	Clothianidin	Cancel use: Strawberry (pre-bloom application only registered berry use)		
	Thiamethoxam	CG 13-07A: Caneberry, CG 13-07B: Bushberry, 13-07G: Low growing berry): Change to application timing (Restricted to application after bloom. For woody berry plants, maintain post bloom use with renovation (cutting back old growth) after harvest*). *. This may only be applicable for low bush blueberry.	Cancel use (CG 13-07G:Low growing berry)	
	Imidacloprid	CG13A: Caneberry, CG13B: Bushberry, CG13G: Low growing berries 13F: Small fruit vine (other than grape): Change to application timing (Restricted to application after bloom. For woody berry plants, maintain post bloom use with renovation (cutting back old growth) after harvest*). *. This may only be applicable for low bush blueberry	CG13A :Caneberry, CG13B: Bushberry, CG: 13F: Berry and small fruit vine (other than grape), CG13G:Low growing berry: Cancel use	

Crops	Chemical	Application Method		
		Foliar	Soil	Seed Treatment
Grapes	Clothianidin	No change		
	Thiamethoxam			
	Imidacloprid	Change in application timing (cannot apply during bloom)	No change	
Ornamentals	Clothianidin			
	Thiamethoxam	Cancel use Outdoor and greenhouse ornamentals that will be planted outside and are attractive to pollinators (excluding ornamentals with no pollinator exposure listed below)	Cancel use Greenhouse ornamentals that will be planted outside and are attractive to pollinators (excluding ornamentals with no pollinator exposure listed below)	
		No change: Coniferous evergreens Ornamental grasses Greenhouse grown cut flowers Greenhouse grown potted plants for use indoors	No change: Coniferous evergreens Ornamental grasses Greenhouse grown cut flowers Greenhouse grown potted plants for use indoors	
	Imidacloprid		Outdoor and greenhouse ornamentals that will be planted outside and are attractive to pollinators (excluding ornamentals with no pollinator exposure listed below): Cancel use	
			No change: Coniferous evergreens Ornamental grasses Greenhouse grown cut flowers Greenhouse grown potted plants for use indoors	
Fruiting vegetables (such as pepper or tomato)	Clothianidin			No change (pepper, tomato)
	Thiamethoxam	Change to application timing (restricted to application after bloom) (CG 8: fruiting vegetables) (outdoor)	Cancel use (CG 8: fruiting vegetables)	
	Imidacloprid	Change to application timing (restricted application after bloom) (CG 8: Fruiting vegetables)	Cancel use (CG 8: Fruiting vegetables (field) and greenhouse pepper transplant drench when they are for transplant outdoors)	No change (Tomato and pepper)
			No change - mature Greenhouse Grown Pepper plants (not transplanted outdoors)	
Cucurbits (such as cucumber, melon or squash)	Clothianidin	Change to number of pre-bloom applications (limited to one pre-bloom application). (Crop Group 9: Cucurbits).		No change (cucumber, melon, squash)
	Thiamethoxam		Cancel use (CG 9: cucurbit vegetables)	No change (CG 9: cucurbit vegetables)

Crops	Chemical	Application Method		
		Foliar	Soil	Seed Treatment
	Imidacloprid		Cancel use (CG 9: Cucurbit vegetables) No change – mature Greenhouse Grown Cucumber plants (not transplanted outdoors)	No change (Cucumber, melon and squash)
Legume vegetables (such as bean, pea, soybean)	Clothianidin			
	Thiamethoxam	Change to application timing (restricted to application after bloom) (soybeans; dry shelled beans (Phaseolus spp., Lupinus spp., Vigna spp., dry fava beans, dry lablab beans, chickpea)		No change Addition of Best Management Practice (does not include fluency agent statements) to seed tag label required. Crop group 6: Legumes) (excluding soybean because BMPs and fluency agency requirements are already present on label)
	Imidacloprid	Change in application timing: All legumes except broad beans/fava beans (*Vicia faba*) – cannot apply during bloom Broad beans/fava beans/*Vicia faba* only – restricted to application after bloom.	Cancel use (CG 6 Legume vegetables	No change (CG 6A: Edible-Podded Legume Vegetables and C6C: Dried Shelled Pea and Bean and soybean) Addition of Best Management Practice (does not include fluency agent statements) to seed tag label required. (No change to soybean because BMPs and fluency agent requirements are already present on label)
Root and Tuber vegetables (such as carrot, potato, sugar beet and sweet potato)	Clothianidin	Potato: No change (cannot apply during bloom)	Potato and sweet potato: No change	Potato and carrot: No change
	Thiamethoxam	Potato and sweet potato: Change to application timing (cannot apply during bloom) No change (CG 1B: root vegetables except sugar beet and 1C: tuberous and corm vegetables)	Potato: No change	Potato and sugarbeet: No change
	Imidacloprid	Potato Change to application timing (cannot apply during bloom) CG1B: Root vegetables (except sugarbeet and ginseng*) and CG 1D: Tuberous and corm vegetables (except potatoes and sweet potato*) No change *foliar application on ginseng and sweet potato not registered	No change CG1B: Root vegetables (except sugarbeet) and CG 1D: Tuberous and corm vegetables and potato	No change (Carrot and potato)
Leaves of Root and Tuber vegetables	Clothianidin			
	Thiamethoxam			
	Imidacloprid	No change (CG 2: Leaves of root and tuber vegetables)	No change (CG 2: Leaves of root and tuber vegetables)	

Crops	Chemical	Application Method		
		Foliar	Soil	Seed Treatment
Bulb vegetables (such as onion or green onion)	Clothianidin			No change (onion, leek)
	Thiamethoxam			
	Imidacloprid			No change (Leek and onion)
Leafy vegetables (such as lettuce, spinach and celery)	Clothianidin			No change (lettuce)
	Thiamethoxam	No change (CG 4: leafy vegetables)	No change (CG 4: leafy vegetables)	
	Imidacloprid	No change (CG 4A: Leafy greens)	No change (CG4A:Leafy greens), and 4B leafy petioles and greenhouse transplant drench on lettuce to be planted outdoors)	No change (Lettuce)
Brassica leafy vegetables (such as broccoli, cabbage, and cauliflower)	Clothianidin			No change (broccoli, cabbage)
	Thiamethoxam		No change (CG 5: brassica vegetables)	
	Imidacloprid	No change (CG5: Brassica (cole) leafy vegetables and CG 5A: Head and stem brassica crop sub-group)	No change (CG5: Brassica (cole) leafy vegetables and greenhouse transplant drench on CG 5A: Head and stem brassica crop sub-group to be planted outdoors).	No change (Broccoli and cabbage)
Cereals (such as barley, corn, or wheat)	Clothianidin			No change Addition of Best Management Practice (does not include fluency agent statements) to seed tag label required. (wheat) (No change to corn because BMPs and fluency agency requirements are already present on label)
	Thiamethoxam			No change Addition of Best Management Practice (does not include fluency agent statements) to seed tag label required. (barley, buckwheat, millet, oat rye, sorghum, triticale, wheat) (No change to corn because BMPs and fluency agency requirements are already present on label)
	Imidacloprid			No change (Barley, oat and wheat) Addition of Best Management Practice (does not include fluency agent statements) to seed tag label required.
Oilseeds (such as mustard,	Clothianidin			No change (canola, rapeseed, mustard, carinata)

Crops	Chemical	Application Method		
		Foliar	Soil	Seed Treatment
canola, rapeseed, or sunflower)	Thiamethoxam			No change (canola, rapeseed, mustard, sunflower)
	Imidacloprid			No change (Canola, mustard and rapeseed)
Turf golf course turfgrass; sod farms; turfgrass in residential, municipal, industrial, recreational areas)	Clothianidin	Change to where it can be applied (restricted to application to golf courses and sod farms) Cancel uses on industrial, municipal and residential turf		
	Thiamethoxam			
	Imidacloprid	No change	No change	
Peanut Tobacco	Clothianidin			
	Thiamethoxam			
	Imidacloprid	Change in application timing: Cannot be applied during bloom when blooms are present	No change	
Hops	Clothianidin			
	Thiamethoxam			
	Imidacloprid	No change		
Herbs	Clothianidin			
	Thiamethoxam			
	Imidacloprid	For herbs harvested before bloom No change	For herbs harvested before bloom No change	
		For herbs harvested after bloom (excluding lavender and rosemary) Change to application timing: maintain post bloom use only	For herbs harvested after bloom and for lavender and rosemary Cancel use	
		Lavender and rosemary Cancel use		
Christmas trees	Clothianidin			
	Thiamethoxam			
	Imidacloprid	No change		

Prepared by: Pest Management Regulatory Agency (March 2018)