Cornell "Cheat Sheet" for Insecticide Options for Cabbage Maggot in Brassicas in New York, 2024

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Product	Active Ingredient	IRAC[1] Group	Rate	Application Method[2]	Crops Labeled	Relative Control of Cabbage Maggot[3]	Other Insect Pests Controlled[4]	PROS	CONS
Diazinon* AG500, 50W, AG600, WBC	Diazinon	**1B**	2-3 qt/A, 4-8 fl oz/50 gal TW (AG500)	**PPI, TW**	Broccoli, Brussels sprouts, cabbage, cauliflower. Broccoflower & rutabagas (PPI only)	**TW: Excellent**; **PPI: Poor**	Cutworms, wireworms	Long residual control	High risk for worker exposure – extensive PPE required.[5] TW application can cause significant stunting.[6]
Mustang Maxx*	Zeta-cypermethrin	**3A**	3.2-4 fl oz/A (max: 24 fl oz/A/crop)	**DS**	Radish, rutabaga, turnips. Head & Stem, Leafy (2ee)	**4 weekly apps: Failed**	Worms, thrips, flea beetles, aphids	Affordable (~$16/A for 4 x 4 fl oz).	Multiple applications required for effective control. Coverage is critical.
Hero*	Zeta-cypermethrin + bifenthrin	**3A + 3A**	8.3-10.3 fl oz/A (max: 46.35 fl oz/A/crop)	**DS**	Head & Stem, Leafy & Root (2ee)	**4 weekly apps: Poor**; slightly better than Mustang Maxx	Worms, thrips, flea beetles, aphids	--	Same as for Mustang Maxx. Caused minor leaf necrosis in 2023 trial.
Capture LRF*, Sniper LFR, Ruckus LFR	Bifenthrin	**3A**	3.4-6.8 fl oz/A	**IF, PRE, PPI**	Head & Stem brassicas only	**Failed** in Cornell trials in Long Island; not trialed in Western NY	Worms, thrips, flea beetles	--	--
Radiant SC	Spinetoram	**5**	5-10 fl oz/A	**DS 100 gpa**	Head & Stem brassicas only	**Poor-Moderate** (labeled as suppression only)	Worms, thrips	--	Expensive (~$70/A)
Coragen	Chlorantraniliprole	**28**	3.5-7.5 fl oz/A	**TW, IF, DS**	Head & Stem brassicas only	**TW: Failed** in Cornell trials (Labeled as suppression only)	Worms	Affordable (~$11/A for 5 fl oz). Minimum PPE required.	--
Verimark	Cyantraniliprole	**28**	10-13.5 fl oz/A	**TD, TW, IF, DS**	Head & stem, Leafy & Root	**TD: Good-Excellent; TW: Good to Very Good; DS: Moderate**	Worms, flea beetles	Excellent control of worms and flea beetles. Minimal PPE required.	TD application can be tricky. Expensive (~$105/A for 13 fl oz), but control of other pests could offset price. Rate/plant varies widely with different planting densities.

*** Federal and NYS Restricted Use**. All Federally Restricted Use pesticides are also restricted in New York State and require a pesticide applicator license to purchase and to apply. Pesticide handlers who do not have a spray license must be under the direct supervision of a licensed applicator.

1 **IRAC**: Insecticide Resistance Action Committee. Active ingredients within an IRAC group have the same mode of action and cross-resistance may occur among them. Rotation among IRAC groups for resistance management is recommended.
2 **Application Method: PPI**: surface broadcast spray that is incorporated 3-4 inches pre-plant. **TW**: transplant water treatment. **DS**: directed spray at base of plant in 4-6 inch band, post-planting. **IF**: in-furrow at-planting application. **PRE**: applied with pre-emergent herbicides, broadcast surface application, not incorporated. **TD**: plug transplant tray drench.
3 Relative control ratings are based mostly on Cornell trials conducted by Zaman 2018-2021, and Hoepting & Nault, 2021, 2022.
4 Worm pests such as diamondback moth, imported cabbage worm, etc.
5 **PPE** required for Diazinon includes a respirator with organic vapor cartridges, chemical resistant footwear, chemical resistant gloves made of barrier laminate or viton, and goggles/face shield.
6 Diazinon AG500 3 qt/A TW resulted in 46% stunting 25 days after planting in the on-farm trial in Oakfield (Hoepting & Nault, 2021). The label also cautions that TW application may cause stunting. Although the plants eventually grew out of the stunting, it seems backwards to apply a treatment that may cause stunting in order to protect the crop from an insect that can cause stunting.