Compatibility of selected OMRI-listed fungicides and insecticides with biological control

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KOPPERT		EN - NL - FR - ES - DE - IT - PL - RU - BR - MX - US						
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y pyretinins	•	Ambluraius quirskii	population	2				
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Study objective

• Determine the mortality of common biological control agents after contact with fresh residue of selected fungicides and insecticides:

Azadirachtin (EcoGarden) Bacillus subtillus (Serenade ASO) Bacillus thuringiensis (DiPel DF) Chromabacterium subtsugae (Grandevo WDG) Copper hydroxide (Kocide 3000) Cuprous oxide (Nordox 75 WG) Hydrogen peroxide + peracetic acid (Oxidate 2.0) Pyrethrins (PyGanic Specialty) Spinosad (Entrust) Amblyseius andersoni (mite) Amblyseius swirskii (mite) Neoseiulus californicus (mite) Phytoseiulus persimilis (mite)

X Chrysoperla rufilabris (lacewing) Orius insidiosus (minute pirate bug) Delphastus catalinae (beetle) Stethorus punctillum (beetle)



The insecticides • Active ingredient: 54% Bacillus thuringiensis subsp. kurstaki **DiPel**[®] DF • IRAC code: 11 Target pests: Caterpillars **BIOLOGICAL INSECTICIDE** • Known compatibility of Bt (in general; **DRY FLOWABLE** spray): • Predatory insects: harmless 🖢 For Organic Pr el DF Bi DF Biological Insecticide rolagainst Lepidoptera p • Predatory mites: harmless • Parasitoids: harmless 46%



The insecticides Active ingredient: 5% pyrethrins GROUP 3A INSECTICIDE • IRAC code: 3A Target pests: Broad spectrum · Known compatibility of pyrethrins (in general; spray): • Predatory insects: ? OMR Eor use in Organic production For use in Organic production For use on growing crops Provides rapid knockdown & kill of listed plant pests Kills key livestock pests • Predatory mites: harmful V For Organic Production · Parasitoids: harmful ACTIVE INGREDIENT: 5.00% 95.00% 100.00% Pyrethrins. OTHER INGREDIENTS: This product contains 0.41 lbs. of Pyrethrins per gallon.





The fungicides		
	00-C	 Active ingredient: 46.1% copper hydroxide FRAC code: M01
Dry Fewable		 Target diseases: Broad spectrum of fungal, bacterial, and algal diseases
Active Ingredients: By Weight Copper Hydroxide* (CAS No. 20427-59-2) -46.1% Intering redients: 53.9% TOTAL 100.0% Vietability: 100.0%	EPA Reg. No. 91411-11-70051 EPA Est. No. 91411-11-70051 EPA Est. No. 91411-117-001 Maufactured for: Certin USA LLC 9145 Guidend Rand. Saite 175 Columbia, MD 21046 CERTIS	 Known compatibility of copper hydroxide: Predatory insects: ? Predatory mites: ?





Product	Application rate (high rate for vegetables)		
Water	-		
DiPel DF	2 lb per acre		
EcoGarden	58 fl oz per acre		
PyGanic Specialty	64 fl oz per acre		
Grandevo WDG	3 lb per acre		
Entrust SC	6 fl oz per acre		
Nordox 75 WG	25 lb per acre		
Serenade ASO	4 qt per acre		
Oxidate 2.0	2.5% v/v		
Kocide 3000	1.75 lb per acre		

