



Homeowner Pest Control Materials

The following list of commonly available insecticides and miticides is not intended to be an endorsement of the products or an exhaustive list of all products available to Utah growers. It is intended to be a resource to educate gardeners and backyard orchardists about some of the chemical formulations available to homeowners, as opposed to formulations available only to commercial producers. The list will be updated periodically.

Note that water in Utah is often both alkaline and hard (dissolved minerals, not ice), which can reduce pesticide efficacy. Consider making applications with distilled water rather than tap water.

Certain materials are to be used only on ornamental trees and shrubs, while others are intended for backyard ponds or turf treatments. Remember to *always follow product label instructions* and beware of phytotoxicity caused by certain chemical combinations, especially when applied during midday heat. Finally, beware that many insecticides are neurotoxins and can be very harmful to people and pets.

The materials are grouped according to chemical class, and each material is numbered for easy reference in other USU Extension webpages.

➤ **Horticultural Oil**: *kills by suffocation, among various other ovicidal and larvicidal mechanisms*

1. Superior oil -- **Volck Spray Oil, SunSpray Ultra-Fine**

➤ **Microbial Insecticides**: *various modes of action*

2. *Bacillus thuringiensis* var. *kurstaki* -- **Bt, Safer's Caterpillar Killer**
3. Spinosad -- **Entrust (registered Organic)**
4. *Bacillus thuringiensis* var. *israelensis* -- **Mosquito Dunks**

➤ **Salts of Fatty Acids, Soaps:** *cell membrane disruptors, among other insecticidal mechanisms*

5. Insecticidal soap -- **Safer's Insecticidal Soap, GardenSafe Insecticidal Soap**

➤ **Nicotinoid Insecticides:** *acetylcholine mimics*

6. Imidacloprid -- **Bayer Advanced Garden Tree and Shrub Insect Control, Bayer AG All-in-One Rose and Flower Care, Bayer Advanced Lawn Season-long Grub Control**

➤ **Organophosphate Insecticides (OPs):** *acetylcholinesterase inhibitors*

7. Malathion -- **Real Kill Malathion Spray, Bonide Tree Fruit Spray, Ortho Malathion Plus**

8. Acephate -- **Ortho Systemic Insect Killer**

➤ **Carbamate Insecticides:** *acetylcholinesterase inhibitors*

9. Carbaryl -- **Sevin, Bonide Tree Fruit Spray**

➤ **Pyrethroid Insecticides:** *voltage-gated synaptic ion disruptors*

10. Permethrin -- **Ortho Basic Solutions**

11. Pyrethrins -- **Spectracide (includes synergist, piperonyl butoxide), Pyganic (registered Organic), Ortho Rose and Flower Spray (includes canola oil)**

12. Esfenvalerate -- **Ortho Bug-B-Gon, Ortho Max**

13. Bifenthrin -- **Rose and Flower Spray**

14. Lambda-Cyhalothrin -- **Triazide Turf Spray**

➤ **Other Materials**

14. Azadirachtin -- **GardenSafe Neem Concentrate, AZA-Direct (registered Organic)**

15. Kaolin clay -- **Surround (registered Organic)**

16. Diatomaceous Earth

17. Attract and Kill Technology -- **Last Call CM (sex pheromone of codling moth, plus permethrin and UV protectant)**

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