

The Benefits, Science and Use of EcoVia™ Research-Based Botanical Insecticides

The EcoVia line of research-based botanicals from Rockwell is a comprehensive range of natural, minimum risk, EPA 25(b) exempt insecticides. The result of an extensive development and testing program, these formulations offer specific advantages over conventional synthetic insecticides for certain applications. These advantages extend far beyond simply the “green” or natural status of the products.

1. EcoVia botanicals are fast-acting.

Certain (but not all) botanical oil components have modes of action that are extremely fast, causing immediate paralysis in many insects. When properly combined and formulated, the resulting products are often faster-acting than synthetic pyrethroids.

2. EcoVia botanicals provide true repellency.

Many botanical components act in the vapor phase and are classified as “true repellents” (similar to natural pyrethrin). Insects that come in the vicinity of them will be repelled by the vapors. In contrast, synthetic pyrethroids are called “excito-repellents”. The insects have to touch them, and then the irritating effect can cause them to behave erratically and potentially be repelled.

3. EcoVia botanicals are excellent flushing agents.

The fast action and vapor phase repellency make EcoVia insecticides excellent flushing agents. This can be helpful for numerous applications, whether it’s flushing cockroaches from a wall void, quickly ridding a yard of mosquitoes, or removing cluster flies, lady beetles or boxelder bugs from the side of a structure.

4. EcoVia botanicals can act as fumigants.

The vapor phase activity of EcoVia insecticides causes them to have a fumigation effect in enclosed spaces. Whether its small flies in a drain, or occasional invaders in a wall void, the vapor action will quickly kill, flush and repel pests from the treated area.

5. EcoVia botanicals are excellent tools for resistance management.

Each EcoVia formula consists of multiple botanical oils. And each natural plant oil, in turn, contains several active components, often with different modes of action. This diversity of active ingredients and modes of action, when properly combined, gives EcoVia formulations an advantage against species with acquired resistance to common synthetic pesticide classes, such as bed bugs, roaches and flies.

6. EcoVia botanicals can be used near and over water.

With dramatically lower fish toxicity compared to pyrethroids and much broader labels, EcoVia botanicals can be sprayed up to the water’s edge, applied to boat docks for spider control, fogged over water for mosquitoes, or used with reduced risk on properties with ornamental water features.

7. EcoVia botanicals don’t have label restrictions related to impervious surfaces.

Since EcoVia botanicals don’t accumulate in ground water, they can be broadly sprayed on impervious surfaces when and where necessary, unlike pyrethroids. Whether it’s the dumpster and pad behind a restaurant, or the side of a structure for overwintering pests, EcoVia provides treatment options with minimal use site restrictions.

8. EcoVia botanicals offer minimal risk to pollinators.

Since EcoVia botanicals don't bio-accumulate in plants and in the environment, their risk to pollinators, outside of direct application to insects, is minimal. Also, the vapor-phase action will tend to repel pollinators from visiting treated plants while the treatment is active.

9. EcoVia botanicals don't require notifications in most states.

While many states require notification before treatment on certain properties such as schools, most states exempt minimum risk, 25(b) pesticides from these requirements, allowing inspection and treatment to be completed in a single visit. Be sure to check your state regulations.

10. EcoVia botanicals are the most advanced natural insecticide formulations available.

Whatever your reason for choosing a botanical insecticide; the mode of action advantages, the lack of label restrictions or the green status of the products, you can rest assured that EcoVia insecticides represent the most advanced and most tested 25(b) exempt formulations on the market today. EcoVia botanicals offer the ideal combination of nature's active ingredients and modern formulation technology to provide highly effective solutions in the real world.

EcoVia™ 3-in-1
emulsifiable concentrate

EcoVia 3-in-1

- Insecticide, miticide & fungicide
- For edible and ornamental plants, plus cannabis
- Can also be used in grain storage bins

EcoVia™ WD
wettable dust

EcoVia WD

- Broad spectrum, with extended residual protection
- Use as a dust or wettable powder
- Perfect for spiders, overwintering pests and stinging insects

EcoVia™ G
granular insecticide

EcoVia G

- Broad spectrum, including mosquitoes & ticks
- Quick control & residual repellency
- Low use rate: 1-2 lbs per 1000 sq ft

EcoVia™ MT
mosquito & tick control

EcoVia MT

- Formulated to kill/repel mosquitoes & ticks
- Low use rate: 0.33 oz/gal for mosquitoes & deer ticks
- For use in compressed air sprayers, mist blowers & foggers

EcoVia™ EC
emulsifiable concentrate

EcoVia EC

- Broad spectrum control
- Perfect for perimeter, lawn and landscape treatment
- Mixes easily and stays in solution

EcoVia™ WH
stinging insect killer

EcoVia WH

- Fast knockdown of wasps, yellow jackets & hornets
- Foaming jet spray reaches up to 18 ft
- Water-based formula – no oily residue

EcoVia™ IB
insect blok

EcoVia IB

- Unique, pleasantly scented block emits insecticidal vapors
- Repels insects from an area, kills insects in small enclosed spaces
- Perfect for fruit flies around beer taps and collection drains

EcoVia™ CA
contact insecticide

EcoVia CA

- Kills roaches, ants, bed bugs and more
- Fast knockdown & residual kill / repellency
- For crack / crevice, void & space treatments

The Science of Botanical Pesticides

Using plant oils to kill bugs may sound like hocus pocus, but nature is smarter than you might think. In fact, most drug and pesticide actives started with a natural compound that was observed to have a biological effect (think pyrethrin and pyrethroids, nicotine and neonicotinoids, and coumarin and anticoagulant rodenticides). Plants have evolved over time to produce compounds to protect themselves from insects, mites and diseases. Some plants produce particularly high amounts and/or particularly potent compounds. These “essential oils” have been studied and used since ancient times for their medicinal and other beneficial properties. The essential oils are obtained by grinding the plants and steam-distilling or cold-pressing them to extract the oil. The oil may then be further processed for purification.

There are many ways to kill an insect. Many synthetic pesticides are neurotoxins, and there are several different modes of action for different chemicals within the neurotoxin family. Others, like IGRs, affect cuticle formation or the endocrine system. Botanical compounds, in many cases, have similar modes of action to synthetic pesticides. Some botanical actives block tyramine or octopamine which is basically insect adrenaline. Others affect neurotransmitters in various ways such as:

- 1. GABA receptor antagonists**
- 2. Acetylcholinesterase inhibitors (responsible for the fast action of some botanicals)**
- 3. Effects on transient receptor potential**

As discussed, each botanical oil often contains numerous active compounds. For example, rosemary oil contains three active components in significant concentrations, and numerous other components in lower concentrations. Combining the right botanicals in the right proportions with the right inert ingredients is a complex process to perform effectively. At Rockwell, we have taken the time to research and understand the science underlying the observed effects of natural plant oils. Combining that knowledge with modern formulation chemistry has allowed us to offer the most effective and innovative range of 25(b) botanical pesticides available on the market today.