

Organic Pesticides vs Integrated Pest Management



By Roy DuVerger

One must be very careful with the application and use of any pesticide, even the natural ones like neem whose most active component, Azadirachtin, is one of the prominent biopesticides commercialized and remains the most successful botanical pesticide in agricultural use worldwide.

In the manufacturing process natural neem oil is extracted from neem tree fruits and seeds and treated with alcohol. This causes the Azadirachtin and related substances to separate from the neem oil. The remaining oil — without the Azadirachtin — is referred to as Clarified Hydrophobic Extract of Neem Oil (Clarified Neem). This is the product we're discussing in this article.

Clarified Neem can be used for certain insect and fungal disease issues. It kills insects by suffocation, covering their bodies with oil that blocks their breathing openings. It is most effective against immature insects. Mature adult insects aren't typically killed and may continue to feed and reproduce. Thus, close monitoring of pest lifecycles is necessary for effectively timing a neem oil application.

Even when Clarified Neem is applied to immature-stage insects, do not expect to see immediate results. It can take time to work, and reapplication may be necessary to completely control insect populations. Aphids, beetle larvae, lacebugs, leaf hoppers, leafminers, mealy bugs, thrips and whiteflies are commonly listed as pests controlled by Clarified Neem pesticide products. Make sure to accurately identify insects, and only apply Clarified Neem if that pest is listed on the product label. Neem can harm beneficial insects as well as pests.

Clarified Neem can also be used to manage some fungal disease issues, such as powdery mildew. It works by preventing the germination and penetration of fungal spores into leaf tissue. Clarified Neem won't "cure" a

plant that is already infected with a fungal disease, but it can help limit the spread of the disease to healthy tissue.

The marketing for Clarified Neem products is very clever in that they never lie to you, but they don't tell you the entire truth either.

Let's take butterflies and moths. They fly around drinking the nectar from the flowers and eventually the females lay their eggs and fly away hopeful for the next generation. However, it has been reported by Save the Monarchs and other butterfly protection organizations from around the world that if there is any Clarified Neem or any other biopesticide on the leaves of the plant, one bite will kill the larvae. So, in effect, you are killing butterflies and moths, some of our important pollinators, aren't you?

Using Clarified Neem, or any other pesticide, should always be a last resort. Even botanical pesticides like Clarified Neem can have harmful effects on the body. Many pest issues can be resolved by correcting growing conditions or hand-picking insects or diseased leaves from plants.

Remembering that when killing insects using pesticides you are also eliminating another predator's food source. For example, 80% of a hummingbird's diet consists of insects with aphids being one of the most popular. By using a pesticide to kill the aphids you are in fact taking food out of the hummingbird's mouth, adding stress to their life as they struggle to find food for themselves and their offspring.

The optimal way to control pests is by planting flowers that are used by hummingbirds — like firecracker and trumpet vine — and installing a hummingbird feeder. This way they will be attracted to your yard and keep it free of a variety of insects eliminating your need to use pesticides.

Other environmental ills with pesticides of all types are that over 400 insects and mite pests, in addition to more than 70 fungal pathogens, have

become resistant to one or more pesticides. The more we use a pesticide, the less effective it becomes.

Insect infestations are rarely a problem in nature unless a pest spreads into an area where there are not yet any predators as is happening with the effects of climate change. We recreate this effect every time we nonselectively kill insects in our yard or garden when the pest bugs reproduce faster than their predators.

This why the Integrated Pest Management (IPM) approach is a far more beneficial approach to both humans and the environment. Insects, animals and bacteria are all beneficial and help us pollinate flowers and eat other insects we would rather not have in our garden.

The goal is to mitigate pests with the help of their natural predators. An example is by attracting more hummingbirds into your garden by incorporating some of their favorite flowers into your garden. Remember, even though they seem to drink a lot of necture, 80% of a hummingbirds diet is insects like aphids, flies, leafhoppers, weevils, bottle flies, mosquitos and gnats.

The more you learn about who eats and uses what in your garden, the more you will understand there's a lot more to the world of beneficial critters. Invite your new friends into your garden just by planting some of the things they use for pollen, nectar or shelter.

Using the IPM approach means you may end up sharing some of what you're growing now and then but it's a lot more health and environmentally friendly than pesticide!

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