

CAN I MAKE MY OWN PESTICIDES?

Home gardeners are always seeking new and better ways to manage pests on their properties without using synthetic pesticides. One can find a great deal of information about 'natural' pesticides in books, or on the internet. Experienced gardeners are always ready to share their favourite gardening tips. This information often includes recipes for pesticides made from materials readily available to homeowners. While these mixtures can be very effective, it is a mistake to assume that 'home made' is equivalent to safe and environmentally friendly.

In Canada, pesticides are regulated by Health Canada, and must undergo stringent testing to ensure that they are safe and effective when used according to label directions before they can be registered and sold. Pesticides are poisons, however, the amount of active ingredient (the material which kills the insect) is known, the specific product uses and precautions are outlined on the label, and the potential effects on non-target organisms have been determined. When you make your own mixtures you lack essential information. You do not know the concentration of the poison that you have produced. The solution may be dilute and harmless, or it may have become so concentrated that it is potentially dangerous. Also, you do not know which insects will be killed, the effects on non-target organisms, or whether the mixture be safe to use on the plants that you are trying to protect (it could be phytotoxic).

Tobacco is one product which many people use as a basic ingredient for home made insecticides. Nicotine is an alkaloid derived from tobacco, and is a very effective insecticide. However it is more toxic than many synthetic pesticides. Nicotine products were registered for sale as pesticides in the past, but most uses were phased out due to safety concerns related to the product's toxicity. It is possible to be exposed to relatively high doses of nicotine from a home made product, as nicotine easily penetrates through the skin (dermal exposure). Nicotine overdose is potentially fatal, and there are many uncomfortable sub-lethal effects. Nicotine is non-selective, and will harm beneficial organisms as well as target pests.

Rhubarb leaves are also commonly used as the active ingredient in home made insecticides. This mixture will contain both oxalic acid and anthraquinone glycosides, both of which can result in poisoning. It would take a very large dose of 'Rhubarb Leaf Tea' to cause serious injury; however it can cause sickness at a much lower dose. Like nicotine, it is non-selective, and will harm non-target organisms.

Many home remedies call for garlic, onion and/or hot pepper. All of these substances are reported to have repellent properties, keeping some insects away from treated plants. These recipes also list soap and/or oil on the ingredient list. Both substances possess insecticidal properties, and both are currently registered as insecticides in Canada.

When you are managing pest problems at home use common sense. Have the pest identified, learn about how and where it lives and take action to break its life cycle.

If you need to use a pesticide to do this, there are many environmentally friendly products registered for this purpose. They may be botanical extracts (Pyrethrins, Rotenone) biological organisms (*Bacillus thuringiensis*) or naturally occurring products (Diatomaceous Earth, Horticultural Oils, Insecticidal Soaps). To work safely with a poison, you must know *exactly* what you are working with.

cc. City of Ottawa

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