Developing Countries Farm Radio Network

Package 11, Item 6

Type: Script

Date

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**Aphid control at little cost: Part 1: A homemade insecticide for aphids**

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Information on this subject area was requested by DCFRN Participants in Argentina, Belize, Bolivia, Chile, Colombia, Dominica, Dominican Republic, Honduras, India, Malaysia, Mexico, Nigeria, Philippines, Taiwan, Thailand, Sierra Leone, and Swaziland.

Presenter: George Atkins

Interviewee: Dr. Allen T. Knight

**Special note**

Before using the information in this item, please read Note 1 at the end of this item.

**Suggested introduction**

We at this radio station are part of a world‑wide information network that gathers farming information from developing countries all over the world. It's the Developing Countries Farm Radio Network, sponsored by the Canadian International Development Agency, Massey Ferguson, and the University of Guelph.

Through this Network, we bring you information on ways to increase food supplies for your family, or to sell—ways that other farmers have used successfully.

Today we have information on a very low‑cost method of controlling aphids in your crops. Here's George Atkins.

**ATKINS:** Do you know what aphids look like or feel like? They're tiny, soft, sticky insects as small as or even smaller than a very small seed.

They do a lot of damage to garden vegetable plants and young fruit trees.

You'll find aphids on the young shoots or stalks and on the underside of the tender young leaves of these plants.

These insects don't chew, bite, or sting—they suck the juice or sap from the tender parts of your plants. This makes the plants weak and unproductive.

Now Dr. Allen Knight has worked in Angola and Zaire for 34 years and he has a very inexpensive way of getting rid of aphids. He doesn't need a sprayer and he doesn't have to buy any insecticide—he prepares it himself. Here's what it is.

**KNIGHT:** A mixture or an emulsion of diesel fuel and laundry soap without any chemical insecticide whatsoever.

Just take some laundry soap, cut it up into thin slices, and put it into 3 litres (quarts) of water; put it on the fire, bring it to the boiling point, and stir it up to get the soap completely dissolved—don't let it overflow. Remove it from the fire—that's very important, George. For safety's sake, you must move it away from the fire about a metre (a yard) or two.

Then you put in diesel fuel. Stir it vigorously to make this white, bubbly mixture or emulsion. If you find there's a layer of oil on top, that means that you haven't stirred it enough. Then allow it to cool, add cold water to what you have prepared, and you can apply that to your plants. Of course it must be cool before it is applied.

**ATKINS:** So Dr. Allen Knight uses soap and diesel fuel. Both of these things are quite inexpensive. Here's what he told me about them.

**KNIGHT:** The best soap of all that I have used is laundry soap, the cheapest kind of laundry soap that you can find.

It's important to note, George, that soap that's made from palm oil is not good for this purpose—it's not at all effective. So don't give up if you find that the first kind of soap that you try doesn't give you results; try another kind.

**ATKINS:** Could you use homemade soap?

**KNIGHT:** Yes indeed. One kind of soap is made from wood ashes. That is one of the very best kinds of soap.

**ATKINS:** Okay, now if diesel fuel that you use for making this insecticide for aphids is not available, what other substance could you use instead of the diesel fuel?

**KNIGHT:** You may use kerosene at the same quantities as you use of diesel fuel. I recommend diesel fuel because it's very much cheaper than kerosene but kerosene is, I think, almost as effective as diesel fuel in the emulsion.

**ATKINS:** Whichever you use, diesel fuel or kerosene, keep it well away from any fire because, as you know very well, it can easily burn and could cause a bad fire.

In a moment, we'll hear how much soap and diesel fuel Dr. Knight uses—but first, here, once again, is how he makes the insecticide.

\* cut the soap into thin slices

\* put it in 3 litres (3 quarts) of water

\* boil it over the fire and stir it so the soap dissolves in the water

\* take it well away from the fire and pour in the diesel fuel

\* stir it vigorously so the diesel fuel totally disappears in the soapy water

\* add cold water and stir again

\* make sure it's cool before you use it on the aphids on your plants

Now the quantities. I asked Dr. Knight how much soap to put into the water.

**KNIGHT:** 50 grams of soap—now that's about the size of an egg. A bit more or less won't influence your results all that much.

**ATKINS:** Okay, now what do you do with the soap?

**KNIGHT:** Slice up the soap and add it to 3 litres (3 quarts) of water.

**ATKINS:** Then Dr. Knight says to put the soap and water over the fire until it boils. Stir it well and be sure the soap is dissolved in the water. Move it well away from the fire, and then:

**KNIGHT:** Add to that about 1/4 to 1/2 a litre (1/4 to 1/2 a quart) of diesel fuel. Then stir it in with vigorous action until the diesel fuel has become emulsified, that is, it looks whitish—it's no longer like water. You must stir it. If you find a layer of diesel fuel on the top, that means you haven't stirred it enough.

**ATKINS:** But this must be done when the water is still hot.

**KNIGHT:** Of course. So there you have your emulsion—but you must not apply that as it is to your plants. That would burn your plants if you did, it's too strong and it's too hot. You must allow it to cool and add 7 litres (7 quarts) of water to make up a total of 10 litres (10 quarts) of emulsion. Then you're ready to apply it.

**ATKINS:** And now those quantities once again:

Slice up a piece of soap about the size of an egg. That's how much soap you dissolve in 3 litres (3 quarts) of boiling water. To the soapy water, you add about 1/4 to 1/2 a litre, (1/4 to 1/2 a quart) of diesel fuel—or kerosene would do. After mixing that in vigorously and very thoroughly until it looks whitish, you add 7 litres (7 quarts) of cold water and mix again.

I must say here that it's most important that the diesel fuel or kerosene be totally mixed or emulsified in the soapy water. If you don't do this, the insecticide can damage your plants.

But now, see what you have—a good 10 litres (10 quarts) of insecticide for preventing the aphids from attacking your plants.

On our next program, Dr. Knight will give us some tips on how to do this. Here then are his final words for today.

**KNIGHT:** I have great confidence in this emulsion, an insecticide that kills by contact.

**ATKINS:** Thank you very much, Dr. Allen Knight.

Serving Agriculture, the Basic Industry, this is George Atkins.

**Notes**

1. Information in the next item in this Package, Item 7, Aphid Control at Little Cost (Part 2 ‑ Applying Your Homemade Aphid Insecticide), should be used following this one. It deals with other important aspects of the use of soap/diesel fuel insecticide described in this item.

2. Also in association with this item, you might wish to use information from:

Preventing Insect Pest Damage to Crops ‑ DCFRN Package 10, Item 9