Preparation of *Tephrosia* extract as a natural insecticide

**Recognize the problem**

Chemical pesticides are expensive and not accessible to the majority of small holder farmers. Moreover, there are issues arising from their toxicity and environmental impacts. In addition, several pests have been reported to have developed resistance to such chemicals. There are also many restrictions on agro chemical use but few users observe the recommendations before, during and after the application. There is therefore great hope in the use of natural remedies, especially botanicals like *Tephrosia. T. vogelii* (Fish-poison bean, English; Muluku, Luganda) which is one of the indigenous species used for the production of organic pesticide solutions for the control of aphids and a few other soft bodied pests of vegetables like brassica. The leaves contain rotenone (classified by WHO as a class II compound, moderately hazardous) as the active ingredient. Knowledge is needed amongst farmers on how this plant can be used in the control of vegetable pests.

**Background**

The required quantity of fresh *Tephrosia* leaves are harvested, weighed, pound or squeezed and mixed with water for easy application. Pounding, soaking and/or boiling the leaves in water helps to extract the active ingredients while filtering ensures easy application through spraying. Spraying two times a week ensures effective control of the pests because the active ingredient Rotenone breaks down in about 3 days. The quick breakdown is considered environmentally friendly. The extracts after sieving can be used as manure because *Tephrosia* is a leguminous plant with high levels of nitrogen in the leaves which is released when incorporated into the soil.

**Management**

- Harvest at least 1 kg of *Tephrosia* leaves.
- Pound the leaves in a mortar.
- Mix the pounded leaves in water at a concentration of 1 kg per 5 litres.
- Leave the pounded leaves to soak in water for two hours or boil for 30 minutes.
- Filter the mixture using a cloth or sieve and retain the solution.
- Use the solution (filtrate) to spray onto the crops directly using a sprayer.
- It is sprayed directly onto leaves at least 2 times a week to effectively control the pests.
- The residue can be used as a mulch or fertilizer if it is in reasonable quantities.

The recommendations in this factsheet are relevant to: All Countries

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The factsheet is part of the Plantwise initiative, a global initiative led by CABI, aimed at reducing loss and increasing food security. Plantwise promotes the use of natural pest management practices to reduce the reliance on chemical pesticides.

Authors: Kefa Kalanzi, Veronica Kirabo, Winfred Nakyagaba, Sylvia B. Namazzi
Uganda Martyrs University
Tel: +256 772 689 512 email: kkalanzi@umu.ac.ug

Edited by Plantwise.

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