

Tephrosia vogelii from the pea family – Fabaceae

Tephrosia is found growing wild in the central and northern parts of Zambia and is now being introduced to smallholder farmers in other parts of the country for its numerous beneficial values.

Cultivation

Ideally the seeds should be soaked for 24 hours before sowing as this will increase germination rate to $\geq 90\%$. For maximum leaf yield sow 35,000 seeds per hectare. Tephrosia is a perennial leguminous shrub.

Tephrosia fixes nitrogen from the air thus improving soil fertility. By pruning the shrub, the plant material may be used for mulching the soil. Severe pruning may however, kill the plant. The leaves and roots of Tephrosia contain compounds rotenone, deguelin and tephrosin which are toxic to mammals, humans, fish and some insects.

Control of Pests and Diseases

Note: Ideally wear protective clothing and gloves. Try to avoid skin contact with the pesticide. Should you come into contact wash affected parts immediately and after handling the compound.

For Stored Grain

For control of weevils and grain borer. Pick fresh leaves from the shrub and allow to dry. Pound the leaves to a powder. Mix approx 100gm of powder to 100kg of stored maize. Before eating maize thoroughly wash maize grain.

Animal Welfare

For control of ticks, lice and flies. Pound fresh leaves and small branches. Dilute 1:5 in water and allow to soak 8-12 hours. Alternatively boil to extract toxins for no more than 30 minutes. Wash animals with the solution.

House Hygiene

For repelling mosquitoes, cockroaches and bedbugs in the house beat the walls particularly in corners and furniture legs with fresh branches.



Pest Infestation in Standing Crops

For control of insects on vegetation add (when available) 5ml (one teaspoon) of liquid soap to the solution – to aid adhesion of the pesticide solution to leaf surface. This is a contact spray treatment. The solution must therefore be applied to the underside of the leaf. An effective solution is 20gm of fresh material to 100ml of water. Place mixture out of direct sunlight and allow to stand for 2 hours. Filter out the leaves and use the solution through a sprayer. If not immediately used the solution will lose approximately 60-70% effectiveness. Do not let the solution stand in direct sunlight as the solution will rapidly degrade.

The pesticide Tephrosia solution is also effective as a contact treatment spray on vegetables against aphids, caterpillars and termites.

For Control of the Root Rat

To prevent root rats from entering the farm or field plant tephrosia along the boundary at one metre intervals. After 6 months the bounded area should be free of root rat.

For Fixing Nitrogen – increasing soil fertility

Plant Tephrosia at three by three metres spacing in the field.

Note 1: Tephrosia plays host to root knot nematodes and can potentially cause high rates of infection to susceptible crops such as tomatoes and beans. Therefore sow crops such as maize (not affected by nematodes) after a Tephrosia fallow.

Note 2: Tephrosia is known to paralyze fish (they float to the surface) and has therefore been used to harvest fish.