

# ILLUK CONTROL IN COCONUT LANDS

## Introduction

*Imperata cylindrica* (L.) Raeuschel is a perennial grass with strong and extensive rhizomes. *Imperata* belongs to Poaceae (formerly Graminae) family. It is considered one of the ten worst weeds in the world and is commonly known as Illuk in Sri Lanka. Lalang in Malaysia and Indonesia, Alang Alang in Java, Cogonogross in USA. Illuk is highly a **variable** plant which grows vigorously in a variety of environments. Its underground roots enhance the rapidity of growth capacity. The rhizome is highly regenerative. Illuk produces 400 - 500 seeds in its silvery coloured inflorescence. Seedling growth of this plant is very slow, and propagation is mostly by rhizomes.

In Sri Lanka Illuk invades various plantations including coconut. Coconut growers in Sri Lanka (especially in dry and intermediate zones) face serious problems as Illuk spreads very rapidly. The presence or absence of Illuk is commonly used as a yardstick to determine efficiency of land use.

## Control methods

### (i) Mechanical

One of the effective control methods is by mamoty digging and removing the underground rhizomes. Afterwards these rhizomes must be collected and burnt. This is a laborious and an expensive process but is effective. Small holders can employ this method to control illuk.

### (ii) Ploughing

Ploughing up to 30 - 45 cm depth followed by repeated discharrowing is an effective method to control this weed. By ploughing the underground roots are brought to the surface and exposed to the sun.

### (iii) Slashing

Successive slashing of illuk is another method of keeping it under control. However,

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frequent defoliation (removal of foliage) can reduce the weight of rhizomes and roots and deplete carbohydrate reserves in the underground parts. After slashing, cut leaves can be used as a mulch. Repeated slashing should be done during suitable time intervals.

## Establishment of suitable cover crop

Establishment of leguminous cover crops is an effective method of preventing illuk growth in young plantations. Pre-treated cover crops seeds at the rate of 3 - 10 kg/ ha can be **broadcast** in the field. The following cover crops are recommended for coconut plantations in Sri Lanka. *Pueraria*, *Calopogonium*, *Centrosema*.

## Chemical control

The use of herbicides to control rhizomatous weeds is often very effective but expensive. Glyphosate (commercially named "Roundup", "Glycel SL", or "Counter") has been found to be effective when the formulated product (2% solution) is sprayed at the rate of 3.3 kg a.i/ ha. The recommended dosage is 75ml of Glyphosate in 4.5 litre (gallon) of water and 60 gallons of spray solution per acre and to spray on the foliage at active growth stage using a knapsack sprayer. The aerial parts may be cut down either with a slashing knife or grass cutter or paraquate before flowering and the application of systemic herbicide like glyphosate be done on the new flushes of leaves that emerge 2 - 3 weeks after slashing to allow penetration of chemical into underground rhizomes. The systemic herbicide has to be applied in 2 - 3 weekly intervals for 2 or 3 times for complete eradication of illuk.

The following chemical control technique has been successful in Malaysia. First with the application **dalapon** at the rate of 2.5 - 3.3 kg/ a.i/

ac. Two weeks later, application of paraquat at 0.01 kg/ ac controlled illuk satisfactorily for 4 months. The application of **Dalapon** followed by paraquat may involve closer supervision than the use of a single chemical or a single treatment.

**Dalapon** is a slow - acting and a freely translocating herbicide and tends to accumulate in the root or rhizome system of plants. The rapid

and timely treatment of foliage with paraquat may create conditions under which *dalapon* already accumulated in emerging shoot buds is able to suppress the weed growth.

Four weeks after herbicides application, cover crops could be established in understory plantations to obtain better control of illuk.



Rhizomes and roots of *Imperata cylindrica*