ILLUK, THE DESTROYER

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A discussion of the effect of "Illuk" on Coconuts

A similar grass in Malaya is known as "lalang" and in the Philippines as "Cogon" grass.

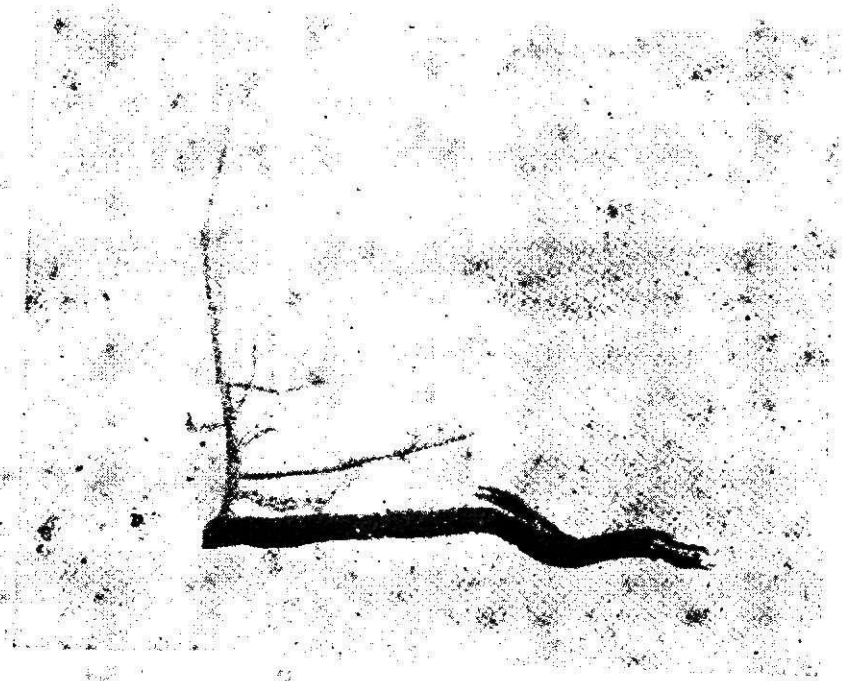
MOTHER Nature in her lavish way allows plants of many kinds to grow mixed together and to struggle with one another for life and light, according to the law of the survival of the fittest. Man, in developing the art of farming, has come into conflict with Nature. In his desire to grow more food, he puts large areas under a single crop and the competing wild plants, growing among such food crops, he regards as obnoxious weeds.

1. INITIAL PENETRdiscovel

Healthy coconut roots, shewing ori of grass and new head emerging ely described, at last the corre't an' *Sebrad*

One of the limiting factors in the growth of crops is the need for adequate room for their development. A given area cannot support an unlimited number of plants, and where, with sole-crop cultivation, the plants are correctly spaced, it is necessary to restrict the amount of plant growth by the suppression or eradication of unwanted weeds, in order to ensure maximum productivity and yields.

Yields will diminish with overcrowding owing to the intense competition for plant foods, moisture, light and air; but of all these uncontrolled, competing plants, outstandingly the worst is "Illuk." Illuk thrives on the best land and a luxuriant growth of illuk is often regarded as indicative of good soil fertility. Such a growth of illuk can have the most damaging effect on young coconuts, young rubber, pineapples, and other economic crops. Coconut palms, deteriorating



2. SECONDARY DESTRUCTION

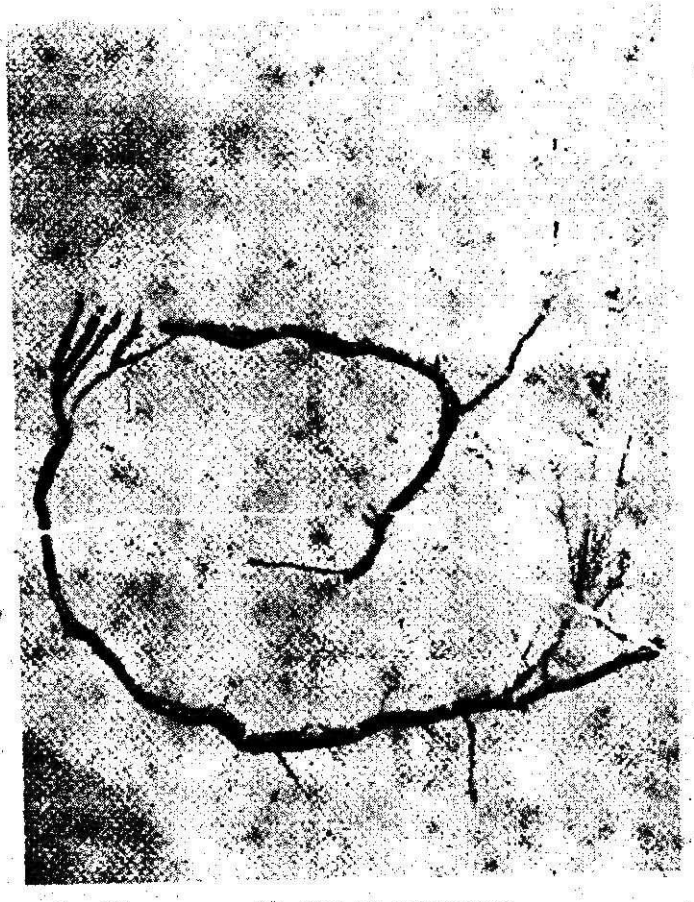
A major root being burst open through the swelling of an illuk stem.

Specimen : R. Spencer Schroder

sociation with illuk, will develop yellow leaves, the palms will grow up thin and weedy
ny, nuts will be produced.

ic experiments to compare the results of clean-weeding, of various cover-crops and
g coconut palms and on young rubber seedlings were carried out in Malaya just
ing the system of randomised plots, and these experiments conclusively demon-
ffect of the uncontrolled growth of illuk in checking the growth and develop-
hen they ar ng and immature. If a coconut palm or a rubber tree is
hen the g he Illuk is suppressed; it becomes less tall and vigorous
by the sort of battle, if the Illuk becomes well established,
the other hand, the coconut is able to establish
Illuk which gradually dies out.

We may well ask ourselves why should Illuk be worse than any other grass with a similar habit or root system and why should its effect on the palms be far worse than that of hungry catch-crops, such as manioc and sweet-potato, either of which make heavy demands on the available reserves of plant food in the soil, when grown in association with coconuts. The theory was vigorously advanced at one time that the grass was poisonous to other forms of plant life. This was no doubt based on the fact that it can, in favourable circumstances, suppress and ultimately



3. FINAL DESTRUCTION

A 3-foot length of rotten coconut root, completely smashed and destroyed by illuk.

Specimen : R. Spencer Schrader

destroy all other associated plant life, leaving the area one vast silvery-w[illegible]ea of seeding illuk. However, no toxic element in the plant has ever been discovered or iden[illegible]ed.

At the conclusion of the experiments previously described, roots of the young rubber trees and the young palms were examined and then at last the correct answer was found, *viz.*, root-destruction.

Illuk spreads rapidly and profusely, forming a complicated system of matted masses of hairy rootlets, connected by long runners of underground stem. The growing end of one of these stems has a sharp, unyielding bayonet point. A single plant may have several such growing points, which can seek out weaknesses in the major roots of the coconut palm. The sharp point will penetrate into the root and pass along the stem for one or two feet, emerging again later, when perhaps it may rise to the surface to produce a fresh head of grass. The underground stem swells and the coconut roots burst wide open.

The purple-red epidermis or skin of the main roots of the coconut palm is normally quite hard and impermeable to water so forming an excellent protection to the vital parts of the root within. This provision is necessary because, according to Sampson, these roots are incapable of self-healing, as they have no growing tissue near the surface to heal any injury.

When the illuk runner bursts open the root, water is let in, the tissue gradually rots and dies, and all the innumerable branchlets and hairy rootlets below this point are cut off and die too. Thus many feet of root system are destroyed by a single penetration. When the root penetration and destruction is general, the plant becomes progressively weaker and the palm gradually tapers off and dies.

(In the next issue there will be an article on the control and suppression of Illuk.)