

Insecticide Use in West Africa Means More Cocoa Beans for Chocolate and Less Destruction of Rain Forests

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Approximately 70 percent of the world's cocoa comes from West Africa. In Ghana, cocoa mirids (also known as capsids) have been a serious insect pest since 1908. Cocoa production in Ghana rose continuously until 1935 and then declined about one-third by 1954 largely due to mirids (Figure 1) [1].

Cocoa grows in a series of 'flushes' of growth; the new shoots are attacked by mirids, which inject a toxic saliva that causes the shoots to die back. Continued attack by mirids prevents new growth from becoming established [2]. Feeding by mirids is characterized by dark lesions, on both pods and shoots, which result from the collapse of the plant tissue caused by the toxic saliva [3]. Little attempt had been made to control mirids until synthetic chemicals were introduced in the 1950s.

The Cocoa Extension Spraying Scheme began in 1956 in Ghana. The Ministry of Agriculture organized spray teams to treat 1 million hectares with insecticides free of charge. The result was spectacular; the cocoa became rehabilitated, foliage developed and remained on the trees. The overall yield of cocoa in Ghana increased and in some years was double that formerly expected [2]. Spraying insecticides was a major factor in increasing production in West Africa in the early 1960s (Figure 1) [4].

Under military rule from 1972-2000, insecticides and spraying machines were not easily available and the government spray program was curtailed [5]. As a result, cocoa production declined due to uncontrolled mirids (Figure 1). In order to compensate for the lost production, farmers in West Africa deforested about 2.1 million hectares and expanded cocoa acreage [6].

To reduce the incidence of pests and to improve cocoa yields, the Ghanaian government introduced the Cocoa Disease and Pest Control program in 2001, which involves mass spraying of all cocoa farms using synthetic insecticides against mirids [7]. As a result, cocoa production has again increased dramatically (Figure 1). The point has recently been made that if cocoa farmers in West Africa had been able to use the production technology available in the 1960s (fertilizers and agrochemicals), the increased deforestation could have been avoided [6].



Cocoa bean pod



Mirid



Spraying cocoa trees

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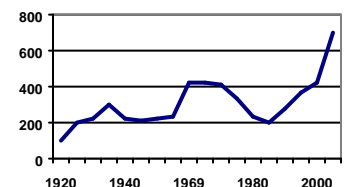


Figure 1: Cocoa Production, Ghana (Thousand Tons)