

Integrated Pest Management in Coffee: Needs, Limitations and Opportunities

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ABSTRACT

Coffee is an important cash and export crop for third world countries. The crop suffers heavy yield losses due to damage caused by a wide range of pests (insects, diseases, weeds, and nematodes). Current recommended pest control measures include a combination of cultural, resistant/tolerant cultivars and the use of broad-spectrum chemical pesticides. Chemical pesticides are more popular at the farm level than any of the other recommended pest control options. Coffee pest control measures are often aimed at individual pests with little consideration of the implications for the total coffee pest complex and its agro-ecosystems. This unilateral approach has resulted in increased pest pressure on coffee and its companion crops, outbreak of new pests of coffee, development of pest strains resistant to commonly used chemical pesticides, increased environmental problems and health risk to man and his livestock as well as an overall increase in the cost of coffee production, thus forcing many farmers to neglect their coffee plantations. Measures to alleviate the above problems are needed to improve coffee production and increase income from coffee on sustainable levels. Integrated pest management (IPM) offers such a measure. Techniques involving cultural methods and natural biocontrol, which disrupt the pest cycle, will enhance the effectiveness and durability of resistance by reducing pest pressure and variability. There may still be a need to use chemical pesticides in some situations but selective compounds at minimal effective doses on appropriate target(s), and at carefully selected stages during the pest cycle, should have minimum disruptive effects on the environment. However, lack of national IPM policies, poor extension systems, inefficient research-extension-farmer linkages and the general acceptance by farmers will delay the development and implementation of appropriate, acceptable and sustainable IPM strategies. The needs, limitations and opportunities of IPM approach in coffee production system are discussed.