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Comparative analysis of traditional farming and integrated pest management in Rampur, Chitwan

Shreena Pradhan

Agriculture and Forestry University, Nepal

IPM means considering all available pest control techniques and other measures that discourage the development of pest populations, while minimizing risks to human health and the environment. It is a holistic approach to sustainable agriculture and focuses on managing insects, weeds and diseases through a combination of cultural, biological and chemical measures that are cost effective, environmentally sound and socially acceptable. IPM is a big part of the solution to the problem of world hunger and is increasingly being adopted in both developing and developed countries. In cowpea, the extent of crop yield reduction depends on the duration of pest attack as well as their density/intensity. Hence, monitoring of the crop health for timely detection is the most crucial factor governing the economics of crop production, success of IPM strategies, adoption and effectiveness of plant protection tools. While the major problem faced in cowpea in Nepal was a combination of bacterial and viral wilt, the pest that caused a major nuisance was the aphids. Upon conducting a 5 month long IPM-FFS, it was observed that the loss in the IPM field was 60% lower than that in the non-IPM field. While cost is higher for IPM field, the overall return, income and profit for it is also higher and that too with less damage incurred. Use of eco-friendly pesticides helped in promotion of beneficial insects, viz., spiders, lady bird beetle, wasps, robber fly, syrphid fly, tiger beetle, etc. Build-up of lady bird beetles and tiger beetles (*Coccinella*) could be observed for 45 days of crop growth. They fed on aphids and jassids hence controlling their population and maintaining ecological balance. Population of beneficial insects was more in IPM as compared to non-IPM, proving that IPM practice of growing cowpea is far more beneficial than the non-IPM practice considering the economic and ecologic returns (improved ecological niche).

shreenapradhan@yahoo.com

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