

Pests Management Practices in summer and winter vegetables of Bangladesh

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Agriculture is central to economic growth and development in Bangladesh. The usage of pesticides has increased manifold since the 1960s worldwide. The use of pesticides has helped considerably to reduce crop losses due to insects and pests, and to get a better yield. Farmers' awareness of pesticides and their safe use is critical to the implementation of effective pest management programs. This study aimed to assess vegetable farmers' levels of knowledge, attitude, and practices regarding pest management in selected summer and winter vegetables of Bangladesh. The research population consisted of 882 vegetable farmers: 432 farmers related to the production of summer vegetables and 450 farmers related to the production of winter vegetables randomly selected from nine districts of Bangladesh where vegetables are mainly cultivated using pesticides. Data was collected through in-depth interviews and observations on-farm. The pest management practices in Bangladesh include Chemical control, Mechanical Control, Biological control, and IPM. No pest-resistant variety was found to cultivate, except for the Bt-brinjal. Dependence on chemical control varied with the vegetable and the type of farmers. The lowest chemical control measure was found in cauliflower (71%) by the focal farmers while 100% dependence was found in most of the vegetables, both summer and winter, especially by the control farmers. pesticide application was lower among the focal farmers and highest among the control farmers. The frequency of pesticide application per month varied among the vegetables and the farmers. Summer vegetables are sprayed more frequently than the winter vegetables. All the summer vegetables were sprayed with pesticides ≥ 8 times a month. Among the winter vegetables, the lowest application (1-3 times per month) was in Red amaranth while Tomato & Country bean were sprayed ≥ 8 times. Chlorpyrifos is common in most of the winter vegetables, while Cypermethrin is the most common pesticide in all summer vegetables. Among the pesticides applied in Bangladesh, some are banned worldwide and are responsible for environmental hazards and are of biosafety concern. The correlation between the farmers' levels of knowledge, contact with the extension support staff and pesticide use will be discussed. The study demands that the government, the NGO's and the interested stakeholders should cooperate to decide alternative environment-friendly pest management by strengthening R&D in modern biotechnology that could help promote sustainable agricultural development and improve the currently threatened biodiversity of Bangladesh.

Keywords: Pest, management practices, pesticides, summer vegetable, winter vegetable, IPM, biosafety and food safety.