

Effectiveness of Pre-harvest Fruit Bagging in Guava Ensuring Economic Viability and Food Safety



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Abstract

The research was conducted to determine and describe the selected characteristics of the farmers, to determine the economic viability of fruit bagging in guava, to find out the extent of reduction in use of chemicals and to explore farmers attitude towards fruit bagging. Data were collected from 92 guava cultivating farmers of Singra and Baraigram upazila of Natore and Shajahanpur and Sherpur upazila of Bogura district. Data were collected directly from the farmers using questionnaire. Demonstration plots were set up to test the actual BCR (benefit cost ratio) as well as to test food safety using fruit bagging. Economic viability was measured in two ways namely calculation of cost and return from demonstration plot and farmers perception towards economic viability of fruit bagging. Food safety was also measured in two terms such as pesticides residual test and farmers perception about reduction in use of chemicals. Eight (8) demonstration plots of fruit bagging were conducted in the study areas where comparison between fruit bagged and traditional guava cultivation were recorded. Difference in cost, returns and net profit from the same sized plot compared to fruit bagged and traditional guava orchard were calculated. Total 48000 taka was earned in compare with 31500 taka from same sized plot followed by 12100 taka extra profit was returned due to fruit bagging in guava. The benefit cost ratio due to fruit bagging has been increased from 1.46:1 to 1.85:1. Highest proportion (52.17%) of the farmers had favorable, 20.65% had low favorable and 27.17% had highly favorable perception towards economic viability of fruit bagging. Compared to fruit bagged sample, the quantification rate was different for most of the pesticides, including difenoconazole, azoxystrobin and thiacloprid, for which a significant increased quantification rate was observed in non-bagged sample. Highest proportion (56.52%) of the farmers had favorable, 13.04% had low favorable and 30.43% had highly favorable perception towards reduction in use of chemicals due to fruit bagging. The majority (66.25%) of the respondents had moderately favorable attitude towards fruit bagging whereas 21.25% had highly favorable and 12.50% had slightly favorable attitude towards the same. The research concluded that fruit bagging is an effective technology to produce safe and pesticide free fruits which will ultimately more eco-friendly and profitable.