CHAPTER V
SUMMARY AND CONCLUSION

*Beauveria bassiana* (Balsamo) Vuillemin (Hypocreales: Clavicipitaceae) is a registered bio pesticide with a broad host range of approximately 700 insect species used for management of several crop insect pests. *B. bassiana* belongs to the division Ascomycota, class Sodariomycetes, order Hypocreales and family Clavicipitaceae is commonly known as white muscardine fungus. To see the status of natural enemies in Saurashtra region, Department of Entomology, Junagadh Agricultural University, Junagadh started a separate unit Biological Control Research Unit under RKVY and Horticulture mission in 2010. In this laboratory research work is done on mass production of different bio agents e.g. *Beauveria bassiana*, *Trichograma*, HaNPV and SaNPV etc.

There has been no study carried out to know the awareness and adoption of SAWAJ Beauveria by the famers of Junagadh district. Considering this, it was decided to undertake an investigation to know the awareness and adoption level of the farmers in relation to SAWAJ Beauveria and how those are affected by their socio-economic characteristics. Realizing this, the topic of the research entitled “Awareness and adoption of SAWAJ Beauveria by farmers of Junagadh district” was identified and it was carried out adopting scientific methodology with the following objectives:

1) To study the socio-economic characteristics of respondents
2) To measure awareness and adoption of SAWAJ Beauveria by the respondents
3) To ascertain association of awareness and adoption of SAWAJ Beauveria with selected characteristics of respondents
4) To identify the farmer’s satisfaction level regarding SAWAJ Beauveria
5) To work out the cost of production of SAWAJ Beauveria

A simple random sampling procedure was adopted for selection of the farmers. The farmers from the different villages of Junagadh district were selected randomly. In all, 100 farmers were selected as the respondents for the study. Initially, the interview schedule was prepared covering the objectives of the study and keeping in view the background of the respondents. The primary data was collected through personal interview.
Two independent variables viz., awareness and adoption of SAWAJ Beauveria were used in the study. For measurement of these variables likert scale was used. The independent variables used were age, education, family size, size of land holding, farming experience, occupation, annual income and innovativeness. To study the satisfaction level of farmers, the qualitative variables namely price, quality and timely availability were also used in addition to independent variables.

The collected data then classified, tabulated analyzed and interpreted in order to draw meaningful conclusions. The statistical tools such as frequency distribution, percentage, correlation coefficient, stepwise regression analysis and chi-square test were used.

5.1 Major findings of the study
A summary of the findings of this study is given here under.

5.1.1 Profile of the banana growers

5.1.1.1 Age
Majority (70.00 per cent) of the farmers belonged to the middle to old aged group.

5.1.1.2 Education
Slightly more than half (51.00 per cent) of the farmers were educated from secondary to higher secondary level.

5.1.1.3 Farming experience
Majority (67.00 per cent) of the farmers had between twenty one to above thirty years of experience in farming.

5.1.1.4 Size of family
Majority (97.00 per cent) of the farmers had small to medium size of family.

5.1.1.5 Size of land holding
Majority (85.00 per cent) of the farmers had small to medium size of land holding.

5.1.1.6 Occupation
Majority (66.00 per cent) of the farmers were dependent on agriculture only.

5.1.1.7 Annual income
Majority (85.00 per cent) of the farmers had annual income up to Rs. 2,00,000 as the most of the farmers are dependent on agriculture alone.
5.1.1.8 Innovativeness

Majority (68.00 per cent) of the farmers had low innovativeness.

5.1.2 Measure of awareness and adoption of the SAWAJ Beauveria

Majority (73.00 per cent) of the farmers had high to very high level of awareness about SAWAJ Beauveria, while, 19.00 per cent of the farmers were in very low to medium level of awareness. Only, 08.00 per cent of the farmers were unaware about SAWAJ Beauveria. So, it is found that there was 92 per cent of awareness about SAWAJ Beauveria.

Majority (68.00 per cent) of the farmers have adopted the application of SAWAJ Beauveria and 100 per cent of the farmers who have adopted the SAWAJ Beauveria had adoption level from medium to very high. There was 24 per cent gap in the adoption of the SAWAJ Beauveria.

5.1.3 Association of awareness and adoption of SAWAJ Beauveria with selected characteristics of farmers

5.1.3.1 Association of awareness about SAWAJ Beauveria with selected characteristics of farmers

Awareness about SAWAJ Beauveria was observed to have negative and significant relationship with age and farming experience whereas it is positive and significantly related with education, occupation and innovativeness. Size of family, land holding and annual income found to have non-significant relationship with awareness about SAWAJ Beauveria.

The stepwise regression analysis revealed that, out of eight independent variables, age and education are having remarkable contribution in the awareness about SAWAJ Beauveria with $R^2$ of 30.80 per cent.

5.1.3.1 Association between adoption of SAWAJ Beauveria and selected characteristics of farmers

Age, farming experience and size of family had negative and significant relationship with adoption of SAWAJ Beauveria while education, occupation and innovativeness were found to have positive and significant relationship with adoption of SAWAJ Beauveria. Land holding and annual income had non-significant relationship with adoption of SAWAJ Beauveria.
From the stepwise regression analysis, it is seen that age and education are having contributing significantly in the adoption of SAWAJ Beauveria with $R^2$ of 26.50 per cent.

5.1.4 Farmer’s satisfaction level regarding SAWAJ Beauveria

Satisfaction level regarding SAWAJ Beauveria is influenced by education, price, quality and timely availability. The variables viz., age, education, family size, size of land holding, farming experience, occupation, annual income and innovativeness had no relationship with satisfaction level of farmers regarding SAWAJ Beauveria.

5.1.5 Cost of Production of SAWAJ Beauveria

The total cost of production of SAWAJ Beauveria is Rs.3,03,100. Total variable cost (Rs. 2,67,000) and total fixed cost (Rs. 36,100) is 88.09 per cent and 11.91 per cent of total cost respectively.

5.2 Conclusion

The study has identified certain socio-economic characteristics are having significant influence on the awareness and adoption of SAWAJ Beauveria. These characteristics may be suitably modified by the concerned people to increase the rate of adoption of SAWAJ Beauveria.

The study pointed out that the farmers had differential awareness about SAWAJ Beauveria. Very few of them had no awareness and majority were in high to very high category of awareness, the study indicates the scope for creating awareness about SAWAJ Beauveria.

The study brought forward that adoption of the SAWAJ Beauveria by the farmers was low as compared to their awareness about it. The reasons thereof need to be understood and suitable measures need to be undertaken.

It was seen that out of 8 independent variables, two variables together could explain only 30.80 per cent variation in awareness about SAWAJ Beauveria, while 26.50 per cent variation in adoption of SAWAJ Beauveria. This indicates the need to identify other independent variables that could explain the remaining variation in respect of these two independent variables.

All of the farmers who have adopted the SAWAJ Beauveria are satisfied with the product price, quality and availability.

The total cost of production of SAWAJ Beauveria is Rs.3,03,100.