



## Research Article

# ANNUAL INCOME AND ITS RELATIONSHIP WITH THE LEVEL OF KNOWLEDGE OF BANANA GROWERS ABOUT INTEGRATED PEST MANAGEMENT

MAHESWARAN M.<sup>1\*</sup>, PATEL M.R.<sup>2</sup>, PATEL A.<sup>3</sup> AND PATEL V.B.<sup>4</sup>

<sup>1</sup>B. A. College of Agriculture, Anand Agricultural University, Anand, 388110, Gujarat, India

<sup>2</sup>Extension Education Institute, Anand Agricultural University, Anand, 388110, Gujarat, India

<sup>3</sup>Director of Extension Education, Anand Agricultural University, Anand, 388110, Gujarat, India

<sup>4</sup>Regional Research Station, Anand Agricultural University, Anand, 388110, Gujarat, India

\*Corresponding Author: Email - meenumaheswaran62@gmail.com

Received: May 24, 2019; Revised: July 11, 2019; Accepted: July 12, 2019; Published: July 15, 2019

**Abstract:** Annual income refers to the total annual earning of respondent through all the sources. It becomes an important factor which determines the attitude and knowledge of an individual towards agricultural practices. Keeping this in view, an attempt has been made to study annual income and its relationship with the level of knowledge of banana growers about integrated pest management. The result of study revealed that slightly more than three-fifth (66.00 percent) of the banana growers had more than 3 lakhs of annual income. It is also revealed that the correlation ( $r = 0.285^{**}$ ) between annual income and their level of knowledge of banana growers about IPM was positive and highly significant.

**Keywords:** Annual income, Knowledge, Integrated pest management, Banana growers

**Citation:** Maheswaran M., et al., (2019) Annual Income and Its Relationship with The Level of Knowledge of Banana Growers About Integrated Pest Management. International Journal of Agriculture Sciences, ISSN: 0975-3710 & E-ISSN: 0975-9107, Volume 11, Issue 13, pp.- 8719-8720.

**Copyright:** Copyright©2019 Maheswaran M., et al., This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution and reproduction in any medium, provided the original author and source are credited.

## Introduction

Banana becomes one among the most popular fruits due to its low price and high nutritive value. Integrated pest management is a system approach to pest control which combines biological, cultural and other novel approaches with the judicious use of pesticides. IPM emphasizes the growth of a healthy crop with the least possible disruption to agro-ecosystems and encourages natural pest control mechanisms. Annual income refers to the total annual earning of respondent through all the sources. It becomes an important factor which determines the attitude and knowledge of an individual towards agricultural practices. Keeping the above facts in view, an attempt has been made to study annual income and its relationship with the level of knowledge of banana growers about IPM.

## Objectives

To study the annual income of banana growers

To ascertain relationship between the annual income of banana growers and their level of knowledge about integrated pest management practices

## Methodology

The present study was undertaken in Anand district of Gujarat state. The level of knowledge of banana growers about IPM was studied with the help of the developed test. Five villages having fairly good number of banana growers adopting integrated pest management practices were selected from each taluka purposively. 10 banana growers adopting integrated pest management practices were randomly selected from each village. Thus, total sample size was 100 banana growers adopting integrated pest management practices.

## Annual income

It refers to the total earning of the banana grower in a year through farm and non-farm sources. The total annual income (in Rs.) of the banana grower per year was asked and recorded as such mentioned.

The data collected from the respondents about their annual income were categorized into five categories based on arbitrary method and measured with score as under:

N	Annual income	Income in rupees
1	Very Low	Up to ₹ 1,00,000
2	Low	₹1,00,001 to 2,00,000
3	Medium	₹ 2,00,001 to 3,00,000
4	High	₹3,00,001 to 4,00,000
5	Very High	Above ₹ 4,00,000

Karl person coefficient of correlation( $r$ ) was calculated to find out the relationship between annual income and the level of knowledge of banana growers about integrated pest management.

## Results and Discussion

### Annual income

Annual income refers to the total annual earning of respondent through all the sources. It becomes an important factor which determines the attitude and knowledge of an individual towards agricultural practices. The data regarding the annual income of the respondents are presented in [Table-1] and graphically depicted in [Fig-1].

Table-1 Distribution of the banana growers according to their annual income, n=100

N	Annual income	Number	Percent
1	Very low (Up to ₹1,00,000)	07	07.00
2	Low (₹1,00,001 to 2,00,000)	10	10.00
3	Medium (₹ 2,00,001 to 3,00,000)	17	17.00
4	High (₹3,00,001 to 4,00,000)	21	21.00
5	Very high (Above ₹ 4,00,000)	45	45.00
Total		100	100.00

It can be seen from the [Table-1] revealed that slightly less than half (45.00 percent) of the banana growers had above 4 lakhs of annual income while

21.00 percent, 17.00 percent, 10.00 percent and 07.00 percent of them were observed with annual income between 3.01 to 4 lakhs, between 2.01 to 3 lakhs, between 1.01 to 2 lakhs and Up to 1 lakh of annual income, respectively. From the above results, it can be inferred that slightly more than three-fifth (66.00 percent) of the banana growers had more than 3 lakhs of annual income. Majority of the farmers were attached with animal husbandry in addition to farming which is also a good income earning source which might have contributed to the higher annual income status of the banana growers. This finding is supported by the findings of Patel (2016) [1] and Sondarva (2017) [2].

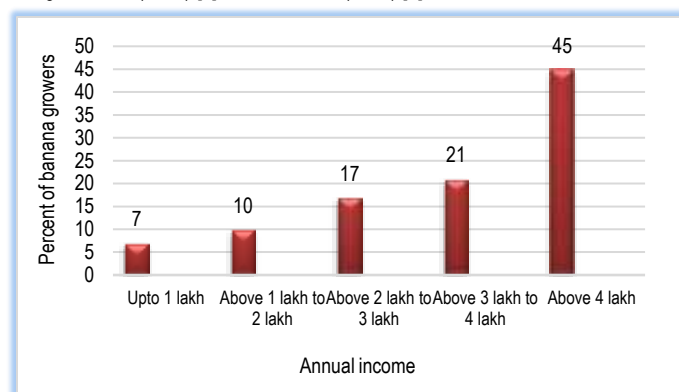


Fig-1 Distribution of banana growers according to their annual income

### Annual income and Knowledge

The correlation coefficient value ( $r = 0.285^{**}$ ) reveals that correlation between annual income and their level of knowledge of banana growers about IPM was positive and highly significant. Hence, the null hypothesis that 'there is no relationship between annual income of banana growers and their level of knowledge about IPM' was rejected. From above results, it can be inferred that higher annual income played significant role in increasing level of knowledge of banana growers about IPM. It is obvious that economic condition of the farmers gives them better opportunities for education and exposure. It helps to improve their level of knowledge about IPM through study of scientific literature, attending agricultural exhibitions and fairs, visiting KVKs and Anand Agricultural University. This finding is found similar to findings reported by Mulewa (2007) [3], Manjunath (2010) [4], Patel *et al.* (2015) [5], Patel (2016) and Khatri (2017) [6,7].

### Conclusion

From above study it is revealed that slightly more than three-fifth (66.00 percent) of the banana growers had more than 3 lakhs of annual income. It is also revealed that correlation ( $r = 0.285^{**}$ ) between annual income and their level of knowledge of banana growers about IPM was positive and highly significant.

**Application of research:** Study of banana growers about integrated pest management

**Research Category:** Agriculture economics

**Acknowledgement / Funding:** Authors are thankful to Anand Agricultural University, Anand, 388110, Gujarat, India

**\*Research Guide or Chairperson of research:** Dr M R Patel

University: Anand Agricultural University, Anand, 388110, Gujarat, India  
Research project name or number: MSc Thesis

**Author Contributions:** All authors equally contributed

**Author statement:** All authors read, reviewed, agreed and approved the final manuscript. Note-All authors agreed that- Written informed consent was obtained from all participants prior to publish / enrolment

**Study area / Sample Collection:** Anand district of Gujarat state

**Cultivar / Variety / Breed name:** Banana

**Conflict of Interest:** None declared

**Ethical approval:** This article does not contain any studies with human participants or animals performed by any of the authors.

Ethical Committee Approval Number: Nil

### References

- [1] Patel B.M. (2016) Master's thesis, Anand Agricultural University, Anand.
- [2] Sondarva Y.M. (2017) Master's thesis, Anand Agricultural University, Anand.
- [3] Mulawe G. (2007) Master's thesis, Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur.
- [4] Manjunath T. (2010) Master's thesis, University of Agricultural Sciences, Dharwad.
- [5] Patel P.C., Patel J.B. & Bhabhor G.K. (2015) Journal of Communication Studies, 33, 80-85.
- [6] Khatri K. (2017) Master's thesis, Anand Agricultural University, Anand.
- [7] Karl Pearson (1978) Hand Book of Agricultural Statistics, 284-285.