ABSTRACT

Groundnut (*Arachis hypogaea* L.) is a major oilseed crop grown in 100 countries all over the world. India has largest area under groundnut (6.7 million hectares) in the world comprising 30.00 per cent of global area and 22.00 per cent (7.9 million tones) of world’s production.

In India around 85.00 per cent area of groundnut is grown under rainfed conditions in marginal lands. Gujarat has an area of 1.85 million hectares with a production of 3.18 million tones. South Saurashtra Agro-Climatic Zone of Gujarat State has 0.71 million hectares under groundnut and produces 0.98 million tones.

There is a lot of scope for increasing the groundnut production per hectare. However, the yield of groundnut crop is very low, because majority of the groundnut growers do not know and adopt improved groundnut PHT. The knowledge of the farmers plays a vital role in adoption of PHT. Groundnut cultivation in this area is constrained by inadequate, uncertain and erratic rainfall, infestation of storage pests and diseases, including losses during post harvest operation. Farmer’s level of knowledge, level of adoption and a range of personal, socio-economic, extension communication and psychological factors influence the groundnut cultivation in the study area.

Considering this, a study entitled “Knowledge and Adoption of Post Harvest Techniques of Groundnut Crop in South Saurashtra Agro Climatic Zone of Gujarat State” was undertaken with the following specific objectives.

(1) To study some selected personal and socio-economic characteristics of groundnut growers.
(2) To develop and standardize a knowledge test of post harvest techniques of groundnut crop.
(3) To assess the level of knowledge regarding post harvest techniques of groundnut growers.
(4) To assess the level of adoption of post harvest techniques of groundnut growers.
(5) To explore the relationship of selected independent variables and dependent variables.
(6) To find out the sources of information utilized by the groundnut growers regarding Post Harvest Techniques.
To find out the constraints in adoption of post harvest techniques faced by the groundnut growers and seek their suggestions to overcome the same.

The total 200 respondents, 100 BFs and 100 SFs from 20 villages of 12 talukas were selected. The purposive, proportionate and random sampling methods were used to select talukas, villages and respondents, respectively.

In order to measure the level of knowledge and level of adoption of respondents, the standardized scales developed for the purpose were used. The selected independent variables were measured either with the help of developed scale or by developing schedule and indices. The data were collected by personal interview either at home or at farm. The data so collected were coded, classified, tabulated and analyzed in order to make the findings meaningful and are summarized as under.

1. Majority of the BFs, SFs and pooled samples belonged to middle age, medium level of education, medium level of yield index, medium level of annual income, medium social participation, belong to medium SES category, medium level of extension participation, medium level of farm mechanization index, medium market orientation, medium economic motivation categories and medium level of aspiration, respectively.

2. Majority (68.00 per cent) of the BFs had medium level of knowledge about improved groundnut PHT followed by low (19.00 per cent) and high (13.00 per cent) receptively with mean knowledge score of 26.80. Whereas 65.00 per cent of the SFs were belonged to medium level of knowledge category followed by low (26.00 per cent) and high, level of knowledge (9.00 per cent) respectively with mean score 22.70 about improved groundnut PHT. Both the groups differed significantly form each other.

3. The BFs had good knowledge of storage followed by cleaning and grading, threshing, plant drying and transportation and marketing respectively. The SFs were also having same rank order in all the main components of the PHT of groundnut. There was significant difference in knowledge between BFs and SFs of PHT of groundnut in all the components.

4. Majority of the BFs (72.00 per cent) and SFs (70.00 per cent) had medium adoption of improved groundnut PHT with mean adoption index of 47.80 and 37.00, respectively. Both the group differed significantly form each other.

5. The cent percent of the BFs were adopted thresher to separate the pods from vines followed by groundnut bunches of plant leaves on the field for sun
drying about 5 to 7 days, use of thresher sieve for grading of pods, dry pods after threshing till moisture content reduced to 8.00 per cent, use of rat proof and sufficient air circulated storage room and use of tractor drawn blade harrow for harvesting in descending rank order.

Whereas in case of SFs, cent per cent of groundnut growers adopted thresher to separate pods from vines, followed by groundnut bunches of plant leave on the field for sun drying about 5 to 7 days, dry pods after threshing till moisture content reduced to 8.00 per cent, use of thresher sieve for grading of pods, continue sun drying till pods moisture content reduced to 8.00 to 9.00 % and used of bullock drawn blade harrow for harvesting in descending rank order.

The adoption index of BFs was found significantly higher than SFs.

(6) The componentwise adoption of storage practices occupied first position in case of BFs. This was followed by winnowing and grading, threshing, plant drying and harvesting in descending rank order. In case of SFs threshing occupied first position followed by winnowing and grading, plant drying, harvesting and storage in descending rank order. There was significant difference in adoption of harvesting and storage practices between BFs and SFs of PHT of Groundnut.

(7) There was a positive and significant association between the knowledge level of BFs about improved groundnut PHT and their age, education, farm size, annual income, social participation, SES, farm mechanization, economic motivation and adoption index.

(8) In case of SFs, positive and significant association with the level of knowledge about improved groundnut PHT was observed with age, yield index, annual income social participation and economic motivation.

(9) There was positive and significant association in pooled sample, was observed between the level of knowledge about improved groundnut PHT and their age, education, farm size, annual income, social participation, SES, farm mechanization, economic motivation, aspiration and adoption index.

(10) A positive and significant association was observed between the level of adoption of BFs about improved groundnut PHT and their characteristics viz., education, yield index, annual income, SES, extension participation, farm mechanization, market orientation and economic motivation.

(11) In case of SFs, positive and significant association with the level of adoption about improved groundnut PHT was observed with education, yield index,
SES, extension participation, farm mechanization, market orientation, economic motivation and aspiration.

(12) There was positive and significant association in pooled sample, was observed between the level of adoption about improved groundnut PHT and their education, farm size, yield index, annual income, social participation, SES, extension participation, farm mechanization, market orientation, economic motivation and aspiration.

(13) For BFs, nine independent variables namely SES, age, economic motivation, farm mechanization, education, farm size, adoption index, social participation and annual income contributed towards 48.67 per cent of ($R^2=0.4867$) of the variation in the level of knowledge about improved groundnut PHT.

(14) In case of SFs, five independent variables namely age, social participation, annual income, economic motivation and yield index contributed toward 42.74 per cent ($R^2=0.4274$) of the variation in the level of knowledge about improved groundnut PHT.

(15) Ten independent variables namely age, education, farm size, economic motivation, farm mechanization, annual income, social participation, SES, adoption index and aspiration in case of pooled sample contributed toward 47.33 per cent ($R^2=0.4733$) of the variation in the level of knowledge about improved groundnut PHT.

(16) For BFs, nine independent variables namely farm mechanization, yield index, SES, annual income, level of knowledge, market orientation, extension participation, education and economic motivation contributed toward 49.89 per cent ($R^2=0.4989$) of the variation in the level of adoption about improved groundnut PHT.

(17) In case of SFs, eight independent variables namely education, yield index, economic motivation, farm mechanization, SES, market orientation, aspiration and extension participation contributed toward 35.13 per cent ($R^2=0.3513$) of the variation in the level of adoption about improved groundnut PHT.

(18) Twelve independent variables namely annual income, yield index, education, SES, economic motivation, farm mechanization, market orientation, farm size, aspiration, knowledge level, extension participation and social participation in case of pooled sample contributed toward 53.57
per cent \( (R^2=0.5357) \) of the variation in the level of adoption about improved groundnut PHT.

(19) The sources of information utilized by most of the respondents were television, relatives, krushi mahotsav, newspapers and friends for improved groundnut PHT.

(20) The most important constraints faced by groundnut growers for adoption of groundnut PHT were; inadequate knowledge of use of storage pest control measure, lack of information about fluctuation of market price, lack of knowledge about quality range and lack of adequate knowledge of fumigation.

(21) The most important suggestions offered by the respondents to overcome the constraints were, short term training programme should be conducted on storage insect-pest control measure; remunerative support price should be increased; educating farmers for improved groundnut PHT, agricultural extension agency should popularize PHT through farm literature and conducting training programme of scientific grading and storage method.