***RESEARCH ARTICLE***

# Knowledge and its relationship with personal, socio-economic and psychological characteristics of sunflower growers of Bijapur district

## S.G. ASKI, S.H. GOTYAL, M.B. PATIL AND R.H. HANUMANAIKAR

See end of the article for authors' affiliations

Correspondence to :
**S.G. ASKI**
Department of Extension Education, College of Agriculture, BIJAPUR (KARNATAKA) INDIA

## ABSTRACT

**Among important different oilseed crops grown in India, sunflower occupies an important position next only to the groundnut. In Karnataka, Bijapur district stands first in area and production. The extension agencies like state Department of Agriculture, state Agriculture Universities, input agencies and NGO's were constantly making efforts to increase productivity by conducting training demonstrations, field days and other extension activities. Knowledge of the sunflower production technology is important for increasing the production levels. Hence, this study was conducted to know the knowledge level and its relationship with socio-economic and psychological characteristics of sunflower growers. The study revealed that majority of the farmers belonged to medium knowledge category having the detailed knowledge about important sunflower cultivation practices and there was positive and significant relationship with personal socio-economic and psychological characteristics of sunflower growers.**

## INTRODUCTION

Sunflower is the second most important oilseed crop of the world. Its introduction for commercial cultivation in India was in the year 1972-73. It is now one of the most important oilseed crops in the country after groundnut and rapeseed mustard. Important sunflower growing states are Karnataka, Maharashtra, Andhra Pradesh, Punjab, Haryana and Uttar Pradesh. The appreciable increase in the area and production of sunflower crop is due to the wide adoptability to wide ranging agro-climatic conditions and soil types, short duration availability of promising varieties and hybrids having high yield potential and remunerative market prizes. In spite of high genetic potentiality of the crop and availability of latest technology, the productivity of the crop remained around 500 kg ha$^{-1}$against the world average productivity of 1257 kg ha$^{-1}$. Since the knowledge of sunflower production technology is important for increasing the productivity levels, the study was conducted with the objectives : to study the knowledge level of respondents about recommended sunflower cultivation practices and to study the relationship with personal, socio-economic and physiological characteristics to the knowledge of respondents.

## METHODOLOGY

The study was conducted during the year 2009 in Bijapur district of Karnataka as Bijapur district ranks I$^{st}$ in area and production among sunflower growing districts of Karnataka state. Muddebihal and Basavan Bagewadi Talukas were purposively selected as these Taluka rank I and II in area and production of sunflower. Six villages from each Taluka were randomly selected and ten farmers growing sunflower from each village selected for the study. Twelve villages from each Taluka were randomly selected. Ten farmers grown sunflower from each village were selected for the study by random sampling method thus total sample constituting 240 sample size.

The dependent variable knowledge was operationalised as the ability to reproduce the recommended production technology of sunflower cultivation. For measuring the variables, a knowledge schedule was developed for the study which consisted of 30 items, the possible score of the respondent could be 0 to 30 based on the scores on knowledge item, the respondents were grouped into three categories *viz.,* low, medium and high by using mean and standard deviation. The independent variables age, education, land holding, annual income, mass media participation, extension contact, cosmopoliteness, risk orientation, economic

motivation, management orientation and organisational participation were selected for the study and the relationship with the knowledge was tested by using Pearsons correlation co-efficient (r), frequency and percentages were also used for the study.

## RESULTS AND DISCUSSION

The findings obtained from the present study are presented below:

### Knowledge level of respondents about recommended sunflower cultivation practices:

It is observed from the Table 1 that majority of respondents (55.41%) had medium level of knowledge about recommended sunflower cultivation practices, whereas 25.41 per cent and 19.16 per cent had high and low level of knowledge, respectively. The reason for majority of farmers having medium knowledge may be due to sunflower as the important commercial crop under dryland cultivation and farmers tend to get more information from different sources.

| Table 1 : Distribution of respondents based on their knowledge score on recommended sunflower cultivation practices | | |
|---|---|---|
| Sr. No. | Respondents category | Respondents frequency | Percentage |
| 1. | Low | 46 | 19.16 |
| 2. | Medium | 133 | 55.41 |
| 3. | High | 61 | 25.41 |

### Knowledge item analysis of recommended sunflower production practices by the farmers:

It is seen from the Table 2 that, all the respondents had knowledge about soils suitable for rainfed sunflower cultivation and also method of sowing. More than 80 per cent of respondents had knowledge on insect pests of sunflower, hybrids, period of weed free condition, practices recommanded for uniform seed germination, recommended quality of FYM, major diseases of sunflower, thinning time recommended seed rate of hybrids and harvesting stage. Whereas 30-60 per cent of the respondents had knowledge on chemicals recommended for heliothis control, seed treatment chemical and dosages, varieties recommended for cultivation, recommended seed rate for varieties, recommended fungicides for leaf spot control, duration of hand pollination to increase seed filling and optimum plant population. Very meagre percentage of respondents had knowledge about duration of seed hardening,

| Table 2 : Knowledge of farmers on sunflower production technology (N=240) | | |
|---|---|---|
| Sr. No | Items of knowledge | Frequency | Percentage |
| 1. | Soils suitable for rainfed sunflower | 240 | 100 |
| 2. | Method of sowing | 240 | 100 |
| 3. | Insect, pests of sunflower | 230 | 91.66 |
| 4. | Recommended hybrids | 196 | 81.66 |
| 5. | Period of weed free condition | 228 | 95.00 |
| 6. | Practice recommended for uniform seed germination | 204 | 85.00 |
| 7. | Recommended quantity of FYM | 204 | 85.00 |
| 8. | Major diseases of sunflower | 212 | 88.33 |
| 9. | Critical moisture stress stage | 187 | 77.91 |
| 10. | Time of thinning | 208 | 86.66 |
| 11. | Recommended seed rate for hybrids | 204 | 85.00 |
| 12. | Methods recommended for improving grain filling | 156 | 65.00 |
| 13. | Harvesting stage | 192 | 80.00 |
| 14. | Chemicals recommended for heliothis control | 132 | 55.00 |
| 15. | Seed treating chemical dosage | 110 | 45.83 |
| 16. | Varieties recommended for cultivation | 109 | 45.49 |
| 17. | *Kharif* sowing time | 146 | 60.83 |
| 18. | Recommended seed rate for varieties | 95 | 39.58 |
| 19. | Recommended fungicide for leaf spot control | 93 | 38.75 |
| 20. | Spacing | 180 | 75.00 |
| 21. | Duration of hand pollination to increase seed filling | 118 | 49.16 |
| 22. | Recommended fertilizer dose (NPK) | 60 | 25.00 |
| 23. | New methods for bird scanning | 38 | 15.83 |
| 24. | Optimum plant population | 85 | 35.41 |
| 25. | Duration of seed hardening | 11 | 4.58 |
| 26. | Herbicide used for weed control | 5 | 2.08 |
| 27. | Herbicide dosage and time of application | 2 | 0.83 |

herbicides used for weed control and herbicide dosage and time of application. The results are in confirmation with the findings of Hanumanaikar (1995) in sunflower crop.

### Relational analysis:

The relationship between personal socio-economic

*Agric. Update* | Aug. & Nov., 2010 | Vol. 5 | Issue 3 & 4 |

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and psychological characteristics to the knowledge of respondents have been presented in Table 3.

Table 3 reveals that, age, education, land holding, annual income, mass media participation, extension contact, cosmopoliteness, risk orientation and organizational participation had positive and significant relationship with knowledge. The findings were in agreement with those of Bhoite and Dusane (1990), Hanumanaikar (1995) in sunflower crop.

| Table 3 : Relationship between personal, socio-economic and psychologica characteristics to knowledge of respondent (N=240) | | |
|---|---|---|
| Sr. No. | Variables | r value |
| 1. | Age | 0.20813* |
| 2. | Education | 0.75631** |
| 3. | Land holding | 0.61423** |
| 4. | Annual income | 0.56396** |
| 5. | Mass media participation | 0.58414** |
| 6. | Extension contact | 0.68938** |
| 7. | Cosmopoliteness | 0.61742** |
| 8. | Risk orientation | 0.68936** |
| 9. | Economic motivation | 0.59821** |
| 10. | Management orientation | 0.73124** |
| 11. | Organisational participation | 0.56323** |

* and ** indicate significance of values at P=0.05 and 0.01, respectively

## Conclusion:

Majority of the sunflower growing respondents belonged to medium knowledge category and majority of the farmers having detailed knowledge about important sunflower cultivation practices. Since knowledge is important for adoption of any cultivation practice, the extension agency should put forth its efforts to educate the farmers by conducting demonstrations organizing training programmes, field days, exposure visits and applying other extension methods about sunflower production technology, keeping in view the positive and significant relationship with personal, socio-economic and psychological characteristics with the knowledge of the respondents.

Authors' affiliations:

**S.H. GOTYAL,** Department of Agricultural Extension, College of Agriculture, BIJAPUR (KARNATAKA) INDIA

**M.B. PATIL,** Department of Agronomy, College of Agriculture, BIJAPUR (KARNATAKA) INDIA

**R.H. HANUMANAIKAR,** Department of Extension Education, College of Agriculture, BIJAPUR (KARNATAKA) INDIA

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