1.1.1 AGE

Onion farmers were classified according to their chronological age in three categories viz., young, middle and old age by adopting class interval method.

The results of the Table-8 revealed that majority of the farmers (58%) belonged to middle age group, 16 per cent farmers belonged to young age and 26 per cent respondents were of old age category. The above figures indicate that youths of this region are away from agriculture, though they were born in agriculture families.

1.1.2 EDUCATION

It could been seen from Table-9 that maximum (39%) onion growers are illiterate, 28 per cent of the growers had primary education, followed by secondary level (12%) and PUC (11%). Only 8 per cent of the onion growers acquired degree level education and 2 per cent post graduate level of education.

1.1.3 OCCUPATION

It is clear from Table-10 that 78 per cent of the onion growers had only agriculture as their main occupation. Only 22 per cent of the farmers were having other small petty business like hotels, pan shop etc. and few were in services.

1.1.4 LAND HOLDING

One important emerging feature of Indian Agriculture is the increasing number of marginal farmers with less than 1 hectare land and small land holding farmers with 1 to 2 hectares. The data of Table-11 indicates that among
the five categories; marginal farmers, small, semi medium, medium and big farmers, majority (35%) of the onion growers belonged to small category having less than 2 hectares of land, followed by semi medium category farmers (31%) having less than 4 hectares of land, medium category (17%) having less than 10 hectares and big farmers (06%).

1.1.5 ANNUAL INCOME

It is evident from the Table-12 that 39 per cent respondents had annual income, ranging from Rs. 0.5 lakh to 1 lakh. 07 per cent farmers’ income is less than Rs. 50,000.00. 10 per cent onion growers had an annual income of Rs. 1.1 lakh to 1.5 lakh and 15 per cent of the farmers had Rs. 1.5 to 2.0 lakh. 29 per cent of the farmers’ income is above 2 lakh from all sources.

1.1.6 LIVE STOCK POSSESSION

The results of the Table-13 show that only 84 per cent respondents had live stock. 16 per cent farmers without cattle population and these farmers may not apply farm yard manure (FYM).

1.1.7 MANURE APPLICATION

The results of the Table-13 revealed that more than half of the onion growers (65%) applied farm yard manure (FYM), though 84 per cent of the farmers had live stock. 35 per cent of the farmers didn’t use the manures and depend only on synthetic fertilizers.

1.1.8 FERTILIZER APPLICATION
Majority of the farmers (91%) applied synthetic fertilizers mainly, DAP, urea, 17:17:17. MOP etc. 09 per cent of the onion growers didn’t use fertilizers and depended only on farm yard manure (FYM) (Table-13).

1.1.9 **WEEDICIDES APPLICATION**

The data of the Table-13 revealed that more than half (55%) of the onion growers used weedicides to control the weeds and remaining 45% people are not aware of the weedicides and their usages.

1.1.10 **MICRONUTRIENT APPLICATION**

The data of the Table-13 shows that farmers of this area were not aware of micronutrients. Very few (20%) farmers did use micronutrients for onion and remaining 80 per cent didn’t use.

1.2 **EXTENSION PARTICIPATION**

Farmers of this area were not aware of the training programs, demonstrations organized by agriculture-horticulture departments. The results of the Table-14 revealed that 33 per cent of the onion growers visited Krishi melas at different places. Only 12 per cent of the farmers visited other fields in nearby villages or taluks, where the crop was good and discussed with experts. But 49 per cent of the respondents consulted and got suggestions from the agro-shop keepers, regarding the doses of fertilizers and disease controlling chemicals.

1.3 **MASS MEDIA UTILIZATION**

It is evident from the Table-15 that among the respondents 46 per cent had television sets and very few of them could see agriculture programs due to
lack of power supply at the time of respective programs. 11 per cent of the onion growers had radio sets and some of them could listen related programs. Only 8 per cent of the farmers are the subscribers of farm magazines and 22 per cent of the farmers are not aware of this or away from the mass media utilization.

1.4 CONSULTANCY CONTACT

The results from the Table-16 shows that very small per cent (7%) of the respondents visited and consulted the horticulture office and Krishi Vignana Kendras about the advance cultivation practices of onion. 23 per cent of the farmers visited Raita Samparka Kendras

1.5 KNOWLEDGE LEVEL OF RECOMMENDED CULTIVATION PRACTICES OF THE ONION GROWERS

The data of the Table-17 and Fig. 6 sheds light on the details of different levels of knowledge of “yes” and “no” by the onion growers. The results are presented step (practice) wise in the following paragraphs.

1.5.1 RECOMMENDED VARIETY AND SEED TREATMENT

From the results of the Table-17 it is clear that only 20 per cent of the onion growers were having knowledge about recommended variety. While in case of seed treatment not a single (0%) respondent was having knowledge about seed treatment as per the recommendations.

1.5.2 TRANSPLANTING, SPACING AND IRRIGATION

From the data of the Table-17 it is seen that in case of transplantation, 81 per cent had the knowledge about transplantation time and method. As far as
irrigation is concerned 91 per cent of the onion growers had the knowledge of irrigation and 9 per cent respondents were not aware of the intervals between two irrigations. In this area no farmer has adopted drip irrigation.

1.5.3  **RECOMMENDED QUANTITY OF FYM AND FERTILIZER**

The data of the Table-17 indicated that only 33 per cent onion farmers were having knowledge about recommended quantity of farm yard manure (FYM). In case of quantity (dose) and types of chemical fertilizers, very low (8%) per cent of respondents were having knowledge. Rest of the farmers (92%) depend on the advice of the agro-chemical shop keepers about the type and dose of fertilizers.

1.5.4  **USAGE OF WEEDICIDES AND PLANT PROTECTION PRACTICES**

It is clear from the Table-17 that nearly half of the farmers were having the knowledge of weedicides and their usage. 45 per cent of the respondents were not aware of weedicides and their usage and 55 per cent of the farmers had been using different weedicides. In case of plant protection 12 per cent farmers had the knowledge about plant protection. Remaining (88%) farmers were depending on the recommendations of the agro-chemical shop keepers for the type of insecticides and fungicides.

1.6  **OVERALL KNOWLEDGE LEVEL OF CULTIVATION PRACTICES OF ONION**
The data of the Table-18 revealed that significant percent of the onion growers (59%) had medium level of knowledge about the onion cultivation practices. Whereas 22 per cent of the respondents had low and 19 per cent had high level of knowledge.

1.7 PRODUCTION PROBLEMS EXPERIENCED BY THE ONION FARMERS

Onion growers have been facing a number of production problems right from beginning. The data of the Table-19 revealed that 74 per cent of the respondents had no knowledge about improved varieties, 100 per cent of the farmers lacked knowledge of seed/sampling treatment, 12 per cent of the growers were not getting seeds or planting material in time and 34 per cent of the respondents expressed concern about high cost of seeds/samplings.

Majority (80%) of the respondents expressed the problem of high cost of fertilizers; followed by 09 per cent non availability of fertilizers in time. 92 per cent of the respondents had no knowledge of the doses of fertilizers and different types of soils in which onion is grown.

In case of water management, 73 per cent of the respondents had inadequate irrigation facilities and 81 per cent of the farmers had shortage of water to rabi and summer crop.

With regards to weed management, 45 per cent of the respondents lack the knowledge of weedicides, 80 per cent of the onion growers complained that hand weeding is expensive and labour-consuming followed by labour problems for weeding 65 per cent. Only 55 per cent of the respondents applied weedicides for onion.
With regards to diseases and pest management, 90 per cent of the respondents said about difficulty in identifying the diseases and pests, 89 per cent of the onion growers lacked the knowledge of control measures of various diseases and pests. 81 per cent of the farmers expressed concern about high cost of pesticides and fungicides.

In case of harvesting, 86 per cent of the respondents complained about labour problems for harvesting followed by (77%) lack of knowledge about improved method of harvesting.

With regards to storage, 22 per cent of the respondents lack the knowledge about curing and drying, 84 per cent of the farmers lack the knowledge of improved storage structures of onion. 8 per cent of the onion growers had the problem of costly storage facilities.

With regards to other problems, majority (88%) of the respondents experienced electricity shortage, followed by lack of capital (84%) for the development works. 49 per cent of the onion growers experienced inadequate availability of farm yard manure (FYM), 51 per cent of the respondents expressed concern about the high cost of farm yard manure (FYM), 27 per cent of the farmers expressed helplessness about increased incidence of the diseases and pests after the rainfall and fog (Plate-22).

1.8 MARKETING BEHAVIOUR OF ONION GROWERS
The details of the Table-20 revealed the marketing behaviour followed by the onion growers. It was found that 08 per cent of the growers sold their produce after one or two months, about 28 per cent of the respondents reported that they disposed their produce immediately after harvest, if the prices are favourable and remaining respondents (64%) sold their produce immediately after the harvest, whatever the prices may be.

It was reported that 19 per cent of the growers were selling their produce at a particular period because of its highly perishable nature and 21 per cent of the respondents sold the produce at a particular period due to the bad quality. About 52 per cent were sold due to pressing needs of cash. 08 per cent of the respondents sold their produce when the price was good, as they had storage facility and their financial condition was good.

Majority (63%) of the respondents sold their produce in the distant markets viz., Hyderabad and Bangalore, 20 per cent of the onion growers sold the onion to the wholesalers through commission agents at the district (Gulbarga) market. Only 08 per cent of the farmers sold their produce to the village level traders or farmers themselves sold the produce on market days in nearby villages.

As for as information of market price is concerned, majority (73%) of the respondents get it from others who visited market, 11 per cent of the farmers get the information by personally visiting the market, 8 per cent of the onion growers get the information through television and the same percentage of the farmers get the price information from the news papers.
Most (40%) of the farmers suggested the reduction of commission rates for their produce, 10 per cent of the respondents demanded that prices should be fixed before the cropping system, 15 per cent of the onion growers opined that rest houses should be constructed in the market place itself and 04 per cent respondents said to establish cold storages.

1.9 MARKETING PROBLEMS FACED BY THE ONION GROWERS

The data of the Table-21 revealed that 82 per cent of the respondents expressed unhappiness regarding low price for onion followed by 80 per cent of the respondents expressed concern about fluctuation in the market price. In case of the quantum of commission in the onion market, 66 per cent of the respondents expressed anger over very high commission for their produce, 22 per cent farmers complained about lack of credit facility, 48 per cent of the farmers said about heavy charges for transportation, 24 per cent for inadequate transportation facilities and 26 per cent farmers were not getting the market information.

1.10 SUGGESTION FOR ONION PRODUCTION AND MARKETING BY THE ONION GROWERS

It is evident from the Table-22 that majority (88%) of the respondents suggested to fix the rate or support price, based on production cost, 92 per cent of the farmers said that government should purchase onion regularly, 80 per cent of the respondents suggested horticulture department should give technical assistance in the production practices, 67 per cent of the farmers told that government should provide subsidy for the construction of
store house, 68 per cent of the respondents asked to provide subsidy on fertilizers and plant protecting chemicals, 24 per cent of the farmers suggested to extend crop insurance scheme to onion and 44 per cent of the respondents forced to establish the processing industry of onion. These were the suggestions given by onion growers to overcome production and marketing problems.

1.11 ECONOMIC ANALYSIS OF ONION GROWERS IN GULBARGA DISTRICT

Average expenses of the onion growers per acre (including agricultural practices, transportation expenses and commission charges) are Rs. 29,687.30 and the net average profit/income per acre is Rs. 36,762.20. The cost benefit ratio of onion cultivation is 1:1.23 (Table-23).

II. RESULTS (ONION SEED PRODUCERS)

2.1 PROFILE OF ONION SEED PRODUCERS