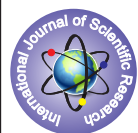


## Technological Gap in Adoption of Recommended Cultivation Technologies in Gram



### Agronomy

**KEYWORDS:** Technological Gap, Adoption, cultivation, rhizobium)

**P. P. Bhople**

Associate Professor Department of Extension Education, Dr. PDKV, Akola

**G. Bhavani**

P.G.Student Department of Extension Education, Dr. PDKV, Akola

**Y. B. Shambharkar**

Assistant Professor, Department of Extension Education, Dr. PDKV, Akola

**Priti Todasam**

Senior Research Assistant Department of Extension Education, Dr. PDKV, Akola

### ABSTRACT

Recommended Cultivation Technologies in Gram” was undertaken for the year 2015-16 in Yavatmal district of Maharashtra State with the objectives to study the extent of technological gap between recommended and actually adopted cultivation technologies by the gram growers and to identify the perceived reason for yield barriers in gram production. An exploratory design of social research was used for present study. A sample of 100 gram growers as respondents was drawn from Yavatmal District. Findings revealed high technological gap in adoption of seed treatment (74.00%) and control measures (70.00%) for diseases. Reasons perceived for yield barriers in gram production revealed number of reason, among them, in case of seed treatment, lack of knowledge about benefit of seed treatment (71.00%) and non availability of rhizobium (64.00%) at sowing time mentioned by majority of the respondents.

### Introduction

The present study entitled “Technological Gap in Adoption of Recommended Cultivation Technologies in Gram” was undertaken for the year 2015-16 in Yavatmal district of Maharashtra State. Gram is the most important pulse crop in the country. It has a unique role in human and animal nutrition as well as in the improvement of soil fertility by improving the physico-chemical and biological properties of the soil. In India, area under gram was 63.05 lakh ha and the production was 50.82 lakh tones. However, its average productivity was found very less. It is therefore, found necessary to know the probable reason for very less production of gram as compared to our yield level at research station and demonstration plot. Hence, the present study was framed and undertaken with the following specific objectives to find out the yield barriers in production of gram crop.

### OBJECTIVES OF THE STUDY

- (1) To study the extent of technological gap between recommended and actually adopted cultivation technologies by the gram growers.
- (2) To identify the perceived reason for yield barriers in gram production.

### MATERIALS AND METHODS

An exploratory design of social research was used for present study. A sample of 100 gram growers as respondents were drawn from Babbhulgaon and Kalamb Panchayat Samiti of Yavatmal District. Ten farmers were randomly selected from each selected villages of these two Panchayat Samities. The information was obtained from them which was considered for tabulation and analysis of data.

### RESULTS AND DISCUSSION:

The salient findings of the present study are summarized as under.

#### I. Extent of practice wise technological gap

The data in Table 1 shows that, high technological gap were observed in adoption of seed treatment (74.00%) and control measures for diseases (70.00%). This was followed by medium level gap in respect of adoption of improved and high yielding varieties (60.00%), proper sowing time (55.00%), control measure for pest (52.00%), fertilizer application (48.00%), seed rate (45.00%) and application of irrigation to the chickpea at proper time (39.00%). Low technological gap was observed in the practices like, intercropping operation (24.00%), preparatory tillage (23.00%), method of sowing (12.00%) and proper harvesting time (10.00%) in case of gram crop.

#### III. Perceived reasons for yield barriers in chickpea production

The study revealed that in Table 3, in case of preparatory tillage operation, non availability of requisite quantity FYM in the village (23.00%), lack of sufficient own cattle (20.00%) and non availability of

labour (15.00%) were the main reasons expressed by the gram growers. In case of method of sowing, non availability of tractor in the field (15.00%) and non availability of seed drill (12.00%) were perceived reason for yield barriers in gram. In case of sowing time, one fourth (24.00%) of the farmers felt that sowing of gram at proper time was not important, it was followed by rush to other agriculture work (18.00%), land was not prepared timely (15.00%), non availability of inputs (12.00%) and non availability of bullock pair mentioned by 5.00 per cent of the respondents. In case of seed rate, due to high cost of seed it was felt un-economical (27.00%) and depend on past year experiences of seed rate (15.00%) were the reasons observed in this practice.

Regarding variety, non availability of improved seed in time (35.00%), seed was made available by State Dept. on subsidy (27.00%) and non availability of irrigation facilities mentioned by 24.00 per cent of the respondent. While, studying reason behind seed treatment, lack of knowledge about the benefit of seed treatment (71.00%) and non availability rhizobium (64.00%) during sowing time. In case of spacing, un-awareness about maintaining proper plant population (15.00%) and it was not felt important by the farmers (10.00%) to maintain proper spacing in gram crop.

In interculture operation, un awareness about weedicide (61.00%) and second weeding perceived not necessary expressed by 27.00 per cent of the respondents. In case of application of fertilizer high cost of fertilizer (45.00%) and non availability of chemical fertilizer at proper time mentioned by 32.00 per cent of the respondents. In case of irrigation management, non availability of irrigation facility 38.00 per cent and preferred to give water to wheat crop rather than gram crop mentioned by 27.00 per cent of the respondents. Regarding pest management, lack of knowledge about pest and diseases (63.00%) and high cost of insecticides and pesticides maintained by (45.00%) of the respondents and in case of harvesting non availability of labour during harvesting mentioned by 10.00 per cent of gram grower. These are the main perceived reasons observed behind the breaking of yield potential of gram.

**Table 1. Distribution of respondents according to their extent of practice wise technological gap**

| Sr. No. | Recommended practices | Mean TGI | TGI Level |
|---------|-----------------------|----------|-----------|
| 1       | Preparatory tillage   | 23.00    | Low       |
| 2       | Method of sowing      | 12.00    | Low       |
| 3       | Sowing time           | 55.00    | Medium    |

|    |                              |       |        |
|----|------------------------------|-------|--------|
| 4  | Seed rate                    | 45.00 | Medium |
| 5  | Variety                      | 60.00 | Medium |
| 6  | Seed treatment               | 74.00 | High   |
| 7  | Spacing                      | 15.00 | Low    |
| 8  | Intercultural operation      | 24.00 | Low    |
| 9  | Fertilizer application       | 48.00 | Medium |
| 10 | Irrigation application       | 39.00 | Medium |
| 11 | Control measure for pest     | 52.00 | Medium |
| 12 | Control measure for diseases | 70.00 | High   |
| 13 | Harvesting                   | 10.00 | Low    |

**Table 3. Distribution of respondents according to perceived reasons for yield barriers in gram production**

| Sr. No.  | Perceived reasons                                              | Respondents n=100 |            |            |
|----------|----------------------------------------------------------------|-------------------|------------|------------|
|          |                                                                | Nos.              | Percentage | Rank order |
| <b>A</b> | <b>Preparatory tillage</b>                                     |                   |            |            |
|          | 1.Non availability of requisite quantity of FYM in the village | 23                | 23.00      | XI         |
|          | 2.Lack of sufficient own cattle                                | 20                | 20.00      | XII        |
|          | 3.Non availability of labour                                   | 15                | 15.00      | XIV        |
| <b>B</b> | <b>Method of sowing</b>                                        |                   |            |            |
|          | 1.Non availability of tractor                                  | 15                | 15.00      | XIV        |
|          | 2.Non availability of seed drill                               | 12                | 12.00      | XV         |
| <b>C</b> | <b>Sowing time</b>                                             |                   |            |            |
|          | 1.It was not felt important                                    | 24                | 24.00      | X          |
|          | 2.Rush of other agriculture work                               | 18                | 18.00      | XIII       |
|          | 3.Land was not prepared timely                                 | 15                | 15.00      | XIV        |
|          | 4.Non availability of inputs                                   | 12                | 12.00      | XV         |
|          | 5.Non availability of bullock pair                             | 05                | 05.00      | XVII       |
| <b>D</b> | <b>Seed rate</b>                                               |                   |            |            |
|          | 1.Felt un-economical due to high cost of seed                  | 27                | 27.00      | IX         |
|          | 2.Depend on past experience of seed rate                       | 15                | 15.00      | XIV        |
| <b>E</b> | <b>Variety</b>                                                 |                   |            |            |
|          | 1.Non availability of improved seed in time                    | 35                | 35.00      | VII        |
|          | 2.Seed made available by State Dept. on subsidy                | 27                | 27.00      | X          |
|          | 3.Non availability of irrigation facilities                    | 24                | 24.00      | IX         |
| <b>F</b> | <b>Seed treatment</b>                                          |                   |            |            |
|          | 1.Lack of knowledge about the benefit of seed treatment        | 71                | 71.00      | I          |
|          | 2.Non availability of Rhizobium                                | 64                | 64.00      | II         |
| <b>G</b> | <b>Spacing</b>                                                 |                   |            |            |
|          | 1.Un awareness about maintaining proper plant population       | 15                | 15.00      | XVI        |
|          | 2.It is not felt important by the farmers                      | 10                | 10.00      | XIV        |

|          |                                                                   |    |       |      |
|----------|-------------------------------------------------------------------|----|-------|------|
| <b>H</b> | <b>Interculture operation</b>                                     |    |       |      |
|          | 1.Un awareness about weedicide                                    | 61 | 61.00 | IV   |
|          | 2.Second weeding perceived not necessary                          | 27 | 27.00 | IX   |
| <b>I</b> | <b>Application of fertilizer</b>                                  |    |       |      |
|          | 1.High cost of fertilizer                                         | 45 | 45.00 | V    |
|          | 2.Non availability of chemical fertilizer at proper time          | 32 | 32.00 | VIII |
| <b>J</b> | <b>Irrigation management</b>                                      |    |       |      |
|          | 1.Non availability of irrigation facility                         | 38 | 38.00 | VI   |
|          | 2.Preferred to give water to wheat crop rather than Chickpea crop | 27 | 27.00 | IX   |
| <b>K</b> | <b>Plant protection</b>                                           |    |       |      |
|          | 1.Lack of knowledge about pest and disease                        | 63 | 63.00 | III  |
|          | 2.High cost of insecticides and pesticides                        | 45 | 45.00 | V    |
| <b>L</b> | <b>Harvesting</b>                                                 |    |       |      |
|          | 1.Non availability of labour during harvesting                    | 10 | 10.00 | XVI  |

#### Conclusion:

Regarding practice wise technological gap, it is found that, high technological gap was observed in adoption of seed treatment (74.00%), control measures (70.00%) for diseases. This was followed by medium level of gap in case of adoption of improved and high yielding varieties (60.00%), proper sowing time (55.00%) and control measures for pest (52.00%). Findings related to perceived reasons for yield barriers in gram production revealed number of reason, among them, in case of seed treatment, lack of knowledge about benefit of seed treatment (71.00%) and non availability of rhizobium (64.00%) at sowing time mentioned by majority of the respondents.

It could therefore be concluded that, if the gram growers will overcome these barriers for non adoption of recommended package of practices in gram, then there will be a large scope to increase their productivity in the gram crop.

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