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# Technological gaps and constraints of mustard cultivation in Gohad block of Bhind district (M.P.)

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**Abstract**
Mustard (*Brassica juncia*) under the names rapeseed and mustard, several oilseeds belonging to the cruciefecae are grown in India. Brown mustard commonly called rai (raya or laha)–*Brasica juncea* (L.) Czern. & Coss. ORIGIN Brassica juncea was originally introduced from china into north-eastern India. Hence it has extended into Afghanistan via the Punjab. Rapeseed and Mustard yield the most important edible oil content of the seeds of different range from 30 to 48 percent. In the case of white mustard, the oil content range from 25 to 33 percent. The oil obtained is the main cooking medium in northern India cant replaced by any other edible oil. The seed and oil are used as a condiment in the preparation of pickles and for flavouring curries and vegetables. The oilcake is mostly used as cattle feed. The leaves of young plants are used as a green vegetable. The study was carried out in Bhind district of Madhya Pradesh.

**Keywords:** mustard cultivation, technological gaps and constraints

## Introduction
Mustard (*Brassica juncea*) under the names rapeseed and mustard, several oilseeds belonging to the cruciferae are grown in India. Brown mustard commonly called rai (raya or laha)–*Brasica juncea* (L.) Czern. & Coss. ORIGIN Brassica juncea was originally introduced from china into north-eastern India. Hence it has extended into Afghanistan via the Punjab. Rapeseed and Mustard yield the most important edible oil content of the seeds of different range from 30 to 48 percent. Mustard is the most remunerative and dominant oilseed crop and more than 60 per cent of this crop area lies in Chambal command area in Madhya Pradesh. Bhind is one of the leading mustard growing districts of the state which share 146747 hectare area, 136767 metric tones production and 932 kg/ha productivity in the year 2007-08. The yield per hectare of mustard crop is very low though having high percentage of cropped area. It is also clearly observed from the available secondary data from Agricultural Statistics that the area, production and yield of corresponding previous years of Bhind district had a continuous decreasing during three year to know the technological status of mustard growers to develop technological strategy for higher production per unit area. The study was carried out in Bhind district of Madhya Pradesh. The north most district of Madhya Pradesh is Bhind. It is surrounded in the west by Morena district and Rajasthan state, in the north by District Itahwa Uttar Pradesh State and in the south by Gwalior districts of Madhya Pradesh.

## Methodology
The study was carried out in Bhind district of Madhya Pradesh. The north most district of Madhya Pradesh is Bhind. The latitudinal extend of Bhind is $25^0$ 54’ 5” to $26^0$ 47’ 5” and the longitudinal extent is $78^0$ 12’ 45” to $79^0$ 8’ 30” East. At the height of 152 to 183 meters from the mean sea level. It is surrounded in the west by Morena district and Rajasthan state, in the north by District Itahwa Uttar Pradesh State and in the south by Gwalior districts of Madhya Pradesh. The research design adopted for the study was ex-post-facto technique. It means that the experiment has already taken place. Ex-post-facto research design is the description of the present situation as an effect of some previously acting causal factors and attempt to trace back, over an interval of time to some assumed causal complex of which operating at an earlier date. In the present study were drawn through application of three-stage sampling. (District-Block-Village) Bhind district comprises of six blocks out of which only one block, namely Gohad was selected purposively because, the block has maximum area and low production under mustard cultivation.

As compared to other blocks, the block is nearer to RVSKVV Gwalior, Agriculture College Gwalior and Krishi Vigyan Kendra Lahar (Bhind). The block comprises of 68 villages. A list of mustard growing villages was prepared with the help of extension official. Out of which, only 12 villages namely, Suhans, Ray ki pali, Aino, Dharpura, Loharipura, Chandokhar, Basawari, Jasarathpura, Lodhe ki pali, Kanipura, Sunaripura, and Nawali were randomly selected for the study on the basis of larger area under mustard crop. The study was conducted in the study area Gohad in 2009-10. There were 10 respondents randomly selected from each Village. A list of mustard growers of each selected villages was prepared with the help of Rural Agriculture Extension Officer's. Out of which an equal number of growers were selected through random sampling method to make the total sample size of 120 for investigation.

**Result & Discussion**

The personal-socio-economic attributes of mustard growers were selected in the study and after reviewing the results on the basis of information gained, it can be summarized that the majority of mustard growers (50%) were of middle aged (36 to 57 years), higher percentage (31.66%) of them were educated up to primary level and higher percentage (56.67%) had medium socio-economic status. The higher percentage of mustard growers (52.50%) possessed medium material possession, higher percentage (34.16%) had large size (above 10 acres) of land holding, majority of growers (36.67%) were practicing farming as their main occupation, majority of the growers (34.16%) had farm power of two bullocks, had low social participation (64.17%),had high scientific orientation (75.85%). Nearly half of the growers (48.34%) had high extension participation, had medium mass media exposure (41.66%). The higher percentage of mustard growers (44.17%) had medium level of knowledge and majority of the growers (46.67%) had low level of adoption.

**Technological gap**

The majority of growers (80.83%) had medium to high technological gap of mustard production practices. This may be due to non-availability of technological information or various constraints in adoption of the practices. As regard to technological gap of mustard growers according to their different package of practices, the maximum mean technological gap was found in precaution in using plant protection chemicals (71.53%) and minimum mean percentage gap was found in irrigation management (19.20%). The study further indicates that the mean technological gap in other practices were disease management (68.02%), insect management (66.20%), seed management (59.78%), fertilizer management (57.26%),seed rate(39.62%), selection of seed (37.05%) and field management (34.51%).

**Constraints**

**A. Situational constraints**

Irregular supply of electricity was faced by majority (78.33) of the mustard growers in the study area, while more than sixty per cent growers were facing the problems of non-availability of sufficient water for irrigation and lack of labourers at the time of harvesting.

**B. Technological constraints**

The large majority (87.50%) of growers were faced lack of knowledge to identify pests and diseases, majority (74.16%) were having lack of knowledge about seed treatment and their doses and majority of the growers (68.33%) had lack of information about improved varieties of mustard.

**C. Economical constraints**

The large majority of growers were facing the economic constraints such as lack of money to purchase useful agricultural material (77.50%) and high cost of seeds, fertilizers, insecticides & implements (74.16%), while more than fifty percent (56.66%) growers were having problem of high labour charges.

**D. Market related constraints**

More than eighty per cent growers were facing the market related constraints such as exploitation by middle men (82.50%), lack of proper weighing process (79.17%) and lack of selling price of produce (74.16%), while 70.83 percent growers faced the problem of lack of knowledge of actual market price.

**E. Extension related constraints**

The majority of growers (79.17%) faced the problem of irregular visit of RAEOs. The other constraints were lack of technical guidance, non-availability of literature and lack of demonstration on farmers' field in the study area.

**Conclusion**

The findings of the study clearly revealed that lack of knowledge to identify pests and diseases, lack of knowledge about seed treatment and their dozes, lack of information about improved varieties of mustard, exploitation by middle men, lack of proper weighing process, lack of selling of the produce, irregular visit of RAEOs, lack of technical guidance, non-availability of literature, irregular supply of electricity, non-availability of sufficient water for irrigation, lack of labourers at the time of harvesting lack of money to purchase useful agricultural material, high cost of seed, fertilizers, insecticides and implements and high labour charge etc. were major constraints as perceived by the respondents in mustard cultivation. The findings of the study throw the light on the constraints which make the mustard growers unable to adopt the mustard cultivation technologies. The developmental agencies working in the area should plan their future course of action regarding mustard cultivation technology considering the possible constraints in mustard cultivation.

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