Introduction
India is one of the major oilseed producing country in the world. Among oilseed crops, Brassica group of oilseeds, commonly known as rape seed and mustard, account for over 13.2 per cent of the world's edible oil supply and are the third most important edible oil source after soybean and palm. The global scenario of rapeseed & mustard showed that during 1996-97, its area was 5324.2 million hectare and production was 35.10 million tonnes with the productivity of 1451 kg/ha. Among the 7 Asian countries, China and India together account for 95.4 per cent of the total hectarage and 96.7 per cent of the rapeseed-mustard production in Asia. The yield level ranged from 466 (Kazakhstan) to 1889 kg/ha (Korea Republic) (FAO production year book, 1997). In India rapeseed and mustard occupies second position in acreage with 4.8 million hectare after groundnut (7.0mha.). The contribution of rapeseed and mustard was 7.01 million tonnes and production 4.71 million tonnes with productivity of 667kg/ha. Northern states of the country are the major rapeseed and mustard producing regions accounting for about 90 per cent of country's total production. Rajasthan ranking first with 32.5 per cent of country's total rapeseed and mustard production followed by U.P., Gujarat, Haryana, M.P. and Assam
The oil extracted from rapeseed and mustard is used for culinary purposes and the meal cake. The residue after the oil extraction, as cattle feed. In addition to this, the seeds are used as spices as components in preparation of salad juices curries and pickles. Besides, there is heavy industrial demand of the oil for lubricant and toilet purposes. Rape and mustard seed have about 40 per cent oil on dry weight basis. The meal contains 38-44 per cent high quality protein.

The area production and productivity of mustard in U.P. during last five years given in table (A).

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Area in Lakh ha.</th>
<th>Total production in lakh.me.tan.</th>
<th>Productivity in Qu/ha.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002-03</td>
<td>5.60</td>
<td>5.02</td>
<td>8.96</td>
</tr>
<tr>
<td>2003-04</td>
<td>5.36</td>
<td>5.34</td>
<td>9.95</td>
</tr>
<tr>
<td>2005-06</td>
<td>5.62</td>
<td>6.46</td>
<td>11.49</td>
</tr>
<tr>
<td>2006-07</td>
<td>5.99</td>
<td>6.12</td>
<td>10.22</td>
</tr>
</tbody>
</table>


Nevertheless, the quantity of oil available in the country is far short of the need of the people. The per capita availability of edible
oil in India is only 18g/day as against the normal requirement of 30g/day. To meet the country's requirement of edible oil India has to spend a huge money every year on imports of edible oil. Furthermore, production and productivity of oilseeds in the country have virtually remained stagnant over the year. The average yield of this crop in the country is 848 kg/ha.

Among Brassica group of oilseed crops Indian mustard or Rai [B. juncea (L.) Czern & Coss] occupies quite a large acreage of total rape seed and mustard growing area of Northern India. It has almost replaced yellow sarson on account of its greater resistance to aphids, drought condition and shattering. (Pawlowski.1970, Ray.1978). Due to its economic importance and major growing crop especially in Northern India, Indian mustard requires special attention for its improvement.

Prime consideration with the improvement of this crop is its yield of seeds/ha. But yield is a complex character, governed by several genes interacting each other. Greatly influenced by environmental conditions and is the result of interaction of the environment and the genotype. It is therefore, the genetic diversity present in a crop plays an important rote in improvement of the crop. Greater the diversity more is the genetic potentiality and wider is the scope for improvement. It is therefore, paramount importance for a plant breeder to study as large collection of genotypes/varieties
as possible. Variability in crop plants provides an opportunity for selecting desirable types.

As, yield is a very complex character it is difficult to study and its improvement is even more difficult. Emphasis cannot be laid upon the yield alone due to its complexity in inheritance and being influenced by the environmental factors. A practical if not an ideal approach would then appear to study yield character by breaking it down into its components and studying each one separately as well as in combination with one another. Whitehouse, Thompson and Rioberio (1958) and Grafius (1959) have suggested implicitly or explicity there may not be gene for yield per se but rather for the various components the multiplicative interaction of which results in the artifice of yield. Therefore a essential of have some information on the association between different yield components and their relative contribution to yield. A knowledge of such relations ships essential if selection for the simultaneous improvement of yield components and in turn yield is to be effective. In this context the correlation studies assume special importance as it tell us about the genetic association of different characters with seed yield. But correlation measures do not employ any cause and effect relationship path coefficient analysis as suggested by Wright (1921) on the other hand gives a clear picture cause and effect as it slice off the correlation in to the estimates of direct and indirect contribution of each character towards, yield.
Heritability which is an index of transmissibility of characters from parents to offspring is a suitable measure for assessing the magnitude of genetic portion of total variability. Due consideration must there fore be given to heritability estimates of the characters while improvement in a crop by selection for various characters is to be made. But heritability alone does not give true picture of genetic improvement likely to be made during selection in subsequent generations, it is the genetic gain which predicts the speed of genetic improvement to be affected by selecting a particular portion of the population. Therefore fore crop improvement by selection. It is essential to study the extent of heritability along with genetic advance.

The effects of genotype and environment as phenotype may not be always independent. The phenotypic response to charge in environment is not same for all genotypes, the consequences of variation in phenotypic depend up on the environment. Since GxE interaction has marking effect on genotypic (Comstock and Moll, 1963) hence these interactions are of considerable importance to plant breeders in identifying the genotypes suitable for favourable location/environment or even different fertility levels and assumes importance for potential expression of characters under interest. The main efforts of geneticists are to reduce them or to scale the out. The genotypes adjusting their phenotypic state in response to the environment so that they are able to give their maximum yield or
near maximum economic returns are called "well buffered" genotype (Allard and Hansche 1964). The Indian mustard is generally sown in marginal or sub-marginal lands under poor fertility condition. The low responsiveness to fertilizers in Indian mustard is a limiting factor for poor yield, susceptibility of various genotypes to different insect pest (aphids) and diseases are an other limitation to get self sufficiency in yellow revolution. Hence present investigation was carried out utilizing 25 genotypes over diverse environments to assess to the stability of seed yield and its component traits in Indian mustard under different dates of sowing with varying fertility levels and locations.

The main objective of present investigation is given as under:

1. To assess the amount and nature of genotype environment interaction.

2. To evaluate and screen out the potential genotypes giving consistent performance and genotypes giving good performance under specific environment of Bunkelkhand.

3. To select the genotypes on the basis of stability parameters for various characters.

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