INTRODUCTION

India occupies an important place in the oilseeds map of the world due to the fact that it produces many kinds of oilseeds in appreciable quantities and stands first in the world. Among five important oilseed crops (Groundnut, rape and mustard, linseed, sesameum and castor) grown in the country, rape and mustard is next to groundnut with regard to acreage and production. Toria belongs to rape and mustard group of oilseed crops. In records of agricultural statistics rape and mustard are mentioned together. It is, therefore, not possible to know the exact acreage under Toria (Brassica campestris var. Toria).

The importance of Toria in Indian agriculture springs from several facts. Firstly, being short duration crop (3-4 months) it has been abundantly established that this crop fits admirably well in the cropping schedule of the farm. If timely sown and harvested, wheat, barley or other rabi crops can be taken after Toria and the early maize or fodder crops can be grown. So it fits very well in multiple cropping system. Secondly it is marketed early and provides the cultivator with cash at a time when he has to pay land revenue to the Government. Toria oil is of
good quality, it is not very pungent and as such is valued. 

The cake is also of good quality and is liked by cattle. Inspite of such a great importance of Toria in the agricultural economy the average yield of the crop is not encouraging. Therefore steps should be taken to increase the seed

and oil yield of this crop.

Present information available on the cultural and

manurial requirements of Toria under irrigated conditions

is inadequate. Further the same technology can not be applied

uniformly for all varieties of Toria represented by different

plant types, growth behaviour and maturity. The differences

in plant types had made it still more difficult to adopt

uniform row-spacing. Hence, the study of plant row-spacing

becomes a vital factor in such types. Further more wide

variation in their growth behaviour and maturity results in

differential requirements for nutrients, particularly nitrogen

which is universally deficient in Indian soils.

Though the application of nitrogenous fertilizers

results in better vigour of plant and ultimately it reflects

on the final grain yield, but still conflicting results have

been reported by some workers particularly on Toria as is

evident from the review of literature. Moreover, as Toria
3.

is mainly grown for the purpose of extracting oil from its seeds, therefore, the effect of increasing dose of nitrogen on yield and quality of oil must also be made.

Keeping in view the above aspects and lack of specific information on these aspects for new varieties, the present investigation was planned under the agro-climatic conditions of Meerut region. The main objectives of the experiment are:

1. To search out the growth behaviour of *Torina* varieties as altered by nitrogen fertilization and row-spacing (Plant population).
2. To evaluate yielding potentialities of *Torina* varieties under different fertility and plant population.
3. To determine the up-take of nitrogen by different varieties of *Torina* under different levels of nitrogen and plant population.
4. To find out the response of varieties to nitrogen fertilization and plant population in terms of oil content and protein content of *Torina*.
5. To select the best variety of *Torina* for rotation with wheat.
6. To study the net income from *Torina - Wheat* rotation.