



## Enhancing production and productivity of oilseed *Brassica*: research need for 21<sup>st</sup> century

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India is one of the largest cultivators of oilseeds crop. Per capita consumption of vegetable oils has increased from 6.2 kg/year in 1986-87 to 14.2 kg/year during 2012-13 this eventually pushes the demand for oil significantly. Rapeseed-mustard is the third most important source of edible oil after soybean and oil palm. In India, it is commonly referred to as Sarson. It is an important cooking medium and dietary fat of the majority of northern, north-western, central, eastern and north-eastern states of India. It is also the most common medium of pickling and food preservation. Domestic production of edible oil has remained almost stagnant during last five years oilseed production in the country is facing several challenges related to biotic as well as abiotic stresses, natural resources, climate change and fragmented land holdings.

The projected annual requirement of total vegetable oil by 2025 AD is 27 m tones with the production target of 14.03 mt tonnes to meet enhanced per capita consumption 16.98 kg/year. This is challenging, nevertheless it is possible to achieve the goal by adopting vertical and horizontal growth. Immediate research need for vertical growth would conventional

breeding with emphasis on sustainability, genetic engineering of through exploitation of available genetic variability heterosis breeding should be the major focus. Furthermore, augmentation or identification of trait specific germplasms, pre breeding and genetic enhancement, allele mining, proteomics, marker assisted breeding and gene pyramiding would facilitate better exploitation of the available gene pools in order to overcome the production constraints reducing the yield gap and additional area under cultivation are the viable approaches for horizontal growth. An estimate area of 1.08 mha could be brought under rapeseed-mustard cultivation from eastern Uttar Pradesh, Bihar, West Bengal, NEH region, Madhya Pradesh, Jharkhand, Odisha and Chhattisgarh where the fields remain fallow after rice cultivation. Non-traditional area such as Karnataka, southern Rajasthan and Vidarbha region of Maharashtra could contribute about 0.3 mha area for rapeseed-mustard cultivation.

**Conclusion:** It is possible to minimize the demand and supply gap by proper technology interventions for improving the yield. Also, bringing non-traditional area for cultivation will assist in achieving the target.