



Scope of Mustard Cultivation for Meeting Edible Oil Crisis Due to Russia Ukraine War

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Mustard (*Brassica* sp.) is one of the important and most popular food items (as edible oil) in the greater Indian sub-continent region including Bangladesh. Due to many reasons this crop is directly or indirectly related to the culture, tradition, society and food habit of this area. In fact, there are a number of food items where mustard oil is mandatory; like- mustard-hilsha fish curry, different meshes (potato, tomato, brinjal, okra, pumpkin etc. vegetables), snacks (*jhal muri*) and so on. Besides food item, this oil also has additional usage as mustard oil cake in improving soil fertility as well as in body massage (applying on skin).

Crop cultivation of Bangladesh is exclusively rice based; so, to include an oil seed crop (mustard) in rice farming system one has to adjust the season and duration of a particular mustard variety depending on the characteristics of the cultivar. Even though four crops pattern is possible in some area but weather factors including late/early winter, sudden rainfall, storm during winter is a major challenge [1]. Furthermore, oil and pulse crop based patterns plays a key role for choosing other crops in a given pattern and mustard can be easily included in the rice based cropping patterns during the fallow period after *aman* rice harvest; nevertheless the production cost of oil seed crops are slightly higher than pulse crops [2]; but due to the upper price of the mustard oil in recent days have created an option to the grower community to make a decision on stabilizing the production of this crop like rice. Currently, only 3% of the total land area is covered by mustard [3] But there is an immense potentiality to raise this area above 20% by utilizing the fallow lands in between the two crop patterns

(*Aman- boro* rice). However, potential yield is a major concern in this regard as to cultivate short duration mustard cultivars some special care and management may be necessary. No or zero tillage may be applied in this regard considering the application of essential fertilizer depending on soil type [4,5].

Current demand of edible oil in Bangladesh is not less than 2.5 million MT; among this, mustard oil is 0.5 million MT. So, about 2 million tons of edible oils has to be imported every year [6,7]. Considering this huge gap between demand and production; government and private sectors are mostly relied on foreign import of edible oils. Russia and Ukraine are the major mustard producing countries in the world (among the top 10); but Now a days due to Russia Ukraine war crisis and international embargos by many countries; a detrimental effect on world food supply chain is acutely observed. Thus, prices of edible oil are also increased. But countries like Bangladesh cannot effort to continuously import oils with spending such a high amount of money. Because it will adversely affect other economic indicators of the national economy. To overcome this situation there is no alternative but to increase the production area and yield of the existing mustard cultivars by proper agronomic management and care.

Agricultural research organizations and some universities of Bangladesh have already released a good number of high yielding and short duration (70-90 days) mustard cultivars like Binasarisha-10, Binasarisha-11, BARI Sarisha-14, BARI Sarisha-15, BARI Sarisha-17, SAU sarisha 1 and so on. If required steps to

supply and ensure seeds of these varieties are taken in the grass root level of the farming community; an increased amount of yield is expected to be achieved. The research extension linkage has to play a crucial role in adopting this varieties. Moreover, currently a big project for enhancing production of oil seed crops is also under process. So, the visible change in production increase and yield may take some time; but for now, farmers should give equal importance of mustard oil cultivation as the cereal crops and vegetables. Contrary, feedback from the farmers regarding constraints should also be taken into account by the extension and research channels.

Bibliography

1. Chowhan S., *et al.* "Four Crops Pattern for Greater Economic Return and Productivity". *Current Research in Agriculture and Farming* 3.1 (2022a): 7-15.
2. Chowhan S., *et al.* "Yield and Profitability Analysis of Pulse and Oil Seed Based Cropping Patterns against Aman-Boro- Fallow Cropping Systems in Magura". *Agricultural Science Digest* 41.1 (2021): 42-48.
3. BBS (Bangladesh Bureau of Statistics). "Yearbook of agricultural statistics-2021". 33rd series, planning division, ministry of planning, Dhaka, Bangladesh 2020 (2021): 119-121.
4. Chowhan S and Islam M. "Zinc Effects Yield of Mustard (*Brassica campestris* L.) Under Zero Tillage". *Asian Journal of Soil Science and Plant Nutrition* 7.4 (2021): 83-91.
5. Chowhan S., *et al.* "No Tillage Cultivation of Mustard Requires Definite Boron Dose for Optimizing Seed Yield". *International Journal of Plant and Soil Science* 34.1 (2022): 105-114.
6. Barta24. "BINA developed oil seed crops to cope with Covid-19 (*In bengali*)" (2020).
7. Jagonews24. "Binaasirsha will save 17,000 crore taka of oil import (*In bengali*)" (2021).