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Performance of Sesamum in Udalguri District of Assam

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Abstract

A demonstration was conducted on scientific cultivation practices of Sesamum on Cluster basis in 4 villages of Udalguri district, Assam, India viz. Jungle Borigaon, Nalkhamara, Habigaon and Majbat during 2020-21. The crop was sown in lines and fertilizers were applied in the form of N: P₂O₅: K₂O @ 30:20:20 kg/ha. Weeding was done manually at 20 DAS. The results revealed an increase in grain yield by 47.5% over the local practices (i.e. 6.05 q/ha for demonstration). A net return of Rs. 23,350.00 /ha was recorded in the demonstration plots, which was found to be higher than the local practices (net return Rs. 14,350.00 /ha). The B:C ratio was also found to be higher in the improved practices (1.93) over the local practices (1.77). Hence, it can be concluded that the use of improved cultivation practices in sesamum not only increases yield but also net return or profit of the farmer.

Background Information

Sesamum is an important oilseed crop of Assam. It is also widely grown by the farmers of Udalguri district. Sesamum is well adapted to harsh environmental conditions and constitutes an alternative cash crop for smallholders in developing countries. Despite its economic and nutritional importance, sesamum is considered as an orphan crop because it has received very little attention in the field of research. Thus, it lags behind the other major oilseed crops as far as genetic improvement is concerned. It has both nutritional and medicinal values. The world harvested about 3.84 million metric tonnes of sesamum seeds in 2010. Sesamum is also widely grown in Udalguri district of Assam as an oilseed crop. Sesamum seeds are also used for preparation of traditional Assamese snacks viz. pitha, laddu, and few other curry recipes. Some of the common varieties of Sesamum are Koliabor Local, ST- 1683, Punjab Til No. 1, AST-1. A second crop e.g. mustard can also be possibly grown after sesamum, provided, quick maturing varieties viz. SP 1181 (Madhavi), Gouri and Vinayak are grown. Duration of Sesamum crop is usually 90-95 days depending on different varieties.

Owing to the diverse agro climatic situations, Udalguri district of Assam is endowed with a comparative advantage for growing Oilseed crops like Sesamum. But they are not aware of proper scientific technologies and good variety. Local varieties provide lower yield and poor seed quality. Farmers were optimistic in adopting the technology provided under CFLD, NMOOP project of Govt. of India.

Institutional Involvement and Technology Details

Krishi Vigyan Kendra, Udalguri conducted a demonstration of 10 ha of Sesamum crop under the National Mission on Oilseeds and Oil Palm project (NMOOP), in cluster mode in the year 2020-21. The demonstration was led by

the KVK in 4 nos. of villages of Udalguri district viz. in Jungle Borigaon, Nalkhamara, Habigaon and Majbat villages of Udalguri district. A total of 25 numbers of farmers were involved in the programme for cultivation of the sesamum crop. KVK Udalguri, provided training on Scientific cultivation of sesamum in cluster basis to the farmer beneficiaries and also provided the inputs for crop cultivation like sesamum seeds, chemicals, and vermicompost. Regular advisories were also provided to the farmers to solve their day to day problems and had feedback and monitoring.

The crop was grown in well-drained upland rainfed condition. The crop was cultivated during the *kharif* season of 2020-21. Land was prepared to a fine tilth by 4 numbers of ploughings followed by laddering. Sowing of Sesamum was done in the month of July, 2020. A spacing of 30 cm between rows and 10 cm between plants was maintained under line sowing condition.

The variety of sesamum used for cultivation was Bhahuabheti (Kaliabor local), which has a duration of 85-90 days. Potential yield of the said variety is 6-8 q/ha. Seed treatment was

done with Carbendazim @ 2 g/kg seeds against stem rot and phytophthora blight. Seed rate followed, for the crop was 4 kg/ha. Fertilizer-NPK was applied in the form of Urea, SSP and MOP @ 65, 125 and 33 kg/ha respectively (N: P₂O₅: K₂O @ 30:20:20 kg/ha) at the time of sowing. Farm Yard Manure (FYM) was applied @ 10 t/ha. Weeding was done manually at 20 days after sowing.

Success Point/ Results

The average yield of the crop was recorded to be 6.05 q/ha and net return was Rs. 23,350.00/ha with a B:C ratio of 1.93. It was found that majority of the participant farmers in the programme (75%) had fully adopted the improved practices viz. proper land preparation, use of high yielding varieties, sowing time and application of manures and fertilizers. The technology has been appreciated by the farmers of nearby villages and they are willing to adopt it in the coming season. Farmers were satisfied with the yield of the variety and are ready to adopt the technology.

Table 1: Performance of technology vis-à-vis Local check (Increase in productivity and returns)

| Treatment | Yield (q/ha) | Gross cost (Rs./ha) | Gross Income (Rs./ha) | Net Income (Rs./ha) | B:C Ratio |
|--------------------------------|--------------|---------------------|-----------------------|---------------------|-----------|
| Farmer practices | 4.10 | 18,450.00 | 32,800.00 | 14,350.00 | 1.77 |
| Demonstration | 6.05 | 25,050.00 | 48,400.00 | 23,350.00 | 1.93 |
| % Increase over local practice | 47.5 | | | | |



Figure 1: Input distribution under the programme



Figure 3: Visit of Senior ADOs, DAO, Udalguri along with KVK staff



Figure 2: Land preparation for Sesamum cultivation



Figure 4: Field visit by KVK, Udalguri in vegetative stage of the crop



Figure 5: Inspection of pest and diseases by KVK Staff



Figure 6: Flowering stage of the crop



Figure 7: Pod initiation stage



Figure 8: Field Day and awareness on the variety and improved cultivation practices to farmers of nearby areas.

Outcome/ Extension Aspects

The total of 60.5 q of seed yield was obtained from the 10 ha area of cultivation. Out of this, 40 q was already sold or booked cultivation by other farmers of nearby villages for the next season.

Conclusion

Thus, the cultivation of *Sesamum indicum* var. Bhahuabhethi, with improved management practices (as conducted under the demonstration plot) was found to be more productive and can replace the local check *i.e.* farmers' practice since it fits to the existing farming situation for higher productivity and income. The practice under demonstration plot is not only the scientific basis for balanced fertilization but it also enables farmer to choose the proper fertilizer management practices.

References

Debnath, P., Singh, R., Feroze, S.M., Sarkar, A., 2015. Study on Growth and Instability of Sesame in North-Eastern Hill Region of India. *Economic Affairs*, 193-196.

Package of Practices for Kharif Crops of Assam, 2019. Assam Agricultural University and Dept. of Agriculture, Assam, pp. 52-53.