



## Evaluation of Linseed Varieties in Mid Hill Conditions

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Linseed (*Linum usitatissimum* L.) offers significant potential to boost income for marginal farmers in Northeast India. It is an important industrial and edible oil and fiber producing crop. The crop is being grown either for oil or fiber (linen) purposes depending on the varieties selected. The food products supplemented with flaxseed are becoming increasingly trendy due to their high levels of unsaturated fatty acids, protein, phytonutrients and soluble fibre. In spite of its economic importance, most of the farmers in NEH region are not aware about the potential of this crop. The lack of improved varieties and untimely sowing, is also one of the important factor resulting in low crop yield of linseed. In NEH region, the crop is suitable for winter (rabi) season with optimum sowing time from October–November.

### Materials and Methods

The varietal trial of linseed was carried out at the research farm Gori, ICAR RC for NEH AP Centre. A total of 6 varieties namely JLS-95, RLC-153, LSL-93, T-395 (NC), Shekhar, Priyam (ZC) evaluated for yield and suitability to local climatic conditions in mid hill ecosystem. The crop was sown on first week of November in RBD with 3 replications with a spacing of 30 cm x 10 cm and following the recommended package of practices.

### Results and Discussions

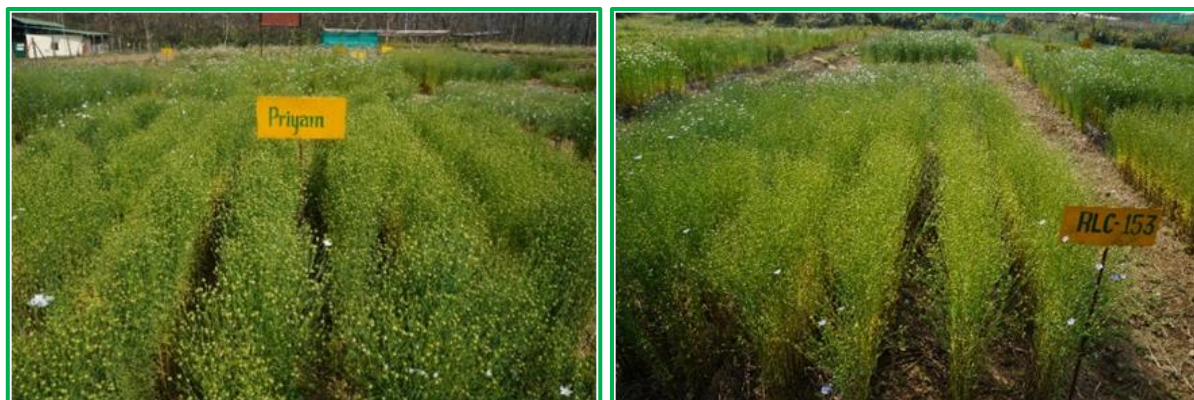
The variation in mean values of different yield traits of linseed was shown in table-1 and the field performance of the varieties was illustrated in figure-1. Mean plant height was highest in RLC-153 (79.01 cm) and lowest in LSL-93 (49.08cm). Days to fifty percent flowering was shortest in LSL-93 (77.25) and longest in Priyam (103.75 days). While shortest days to maturity was recorded in T-395 (144.25 days) and longest in JLS-95 (149.5 days). Highest crop stover yield of 41.55 q/ha was recorded in RLC-153, and lowest in LSL-93 (18.37q/ha). The highest seed yield of 13.76 q/ha was recorded in Priyam followed by T-395 (13.15q/ha), RLC-153 (13.05q/ha), Shekher (12.73q/ha), JLS-95 (12.42 q/ha) and lowest in LSL-93 (9.66 q/ha). Thus, Priyam and T-395 can be identified as most suited and promising and could be promoted in the NEH region for augmentation of oilseed yield production and productivity. In addition to that, this varieties can also be taken up as frontline demonstration for popularization of linseed in NEH region where the farmers are not much aware about the importance and potential of this crop. Linseed crop is easy to grow and adaptable to any soil conditions. Hence it can be incorporated into different cropping systems for diversification in enhancing cropping intensity and income generation of small and marginal farmers. Flaxseed as a functional food has a vast array of medical benefits and nutraceutical values. It can be grown as dual purposes for seed and the extraction of fibre from the stover. With this wide array of applications, it has a huge potential to be popularized by attracting young entrepreneurs and start-ups to come up with diverse valuable products.

## Conclusion

Linseed crop with its versatility and climatic adaptability offers ample scope for its expansion for cultivation under conserved soil moisture and limited soil nutrient conditions with lesser management practices. The major constraints for cultivation of linseed in NEH region includes soil acidity, water scarcity during post monsoon period, short time lag period after harvest of paddy in case of rice-based cropping systems, lack of irrigation facilities, etc. Thus, identification of short- varieties with manipulation of sowing time is necessary to mitigate the co-incidence of pre-kharif monsoon showers during crop maturity. Further, sensitization and popularization programmes need to be intensified among the small and marginal farmers in the region.

**Table 1. Performance of different linseed varieties in mid hill climatic condition of Arunachal Pradesh**

Varieties	Plant height (cm)	Days to 50 % flowering	Days to maturity	Stover yield (q/ha)	Seed Yield (q/ha)
LSL-93	49.08	77.25	151.5	18.37	9.66
RLC-153	79.01	101.5	152	41.55	13.05
T-395	57.92	88	144.25	21.97	13.15
Priyam	69.83	103.75	147	39.9	13.76
JLS-95	68.28	95.25	157.75	35.37	12.42
Shekhar	67.06	98	149.5	25.72	12.73
<i>SE(m)</i>	<b>3.04</b>	<b>3.48</b>	<b>0.474</b>	<b>3.42</b>	<b>0.30</b>
<i>C.D.</i>	<b>9.25</b>	<b>10.57</b>	<b>1.443</b>	<b>10.40</b>	<b>0.92</b>



**Fig. 1: Field performance of different linseed varieties in mid hill condition, Arunachal Pradesh**