



NAIP- success story- ELS cotton production

K. Sankaranarayanan¹, K. Rajendran¹ and N. Gopalakrishnan²

¹Central Institute for Cotton Research, Regional Station, Coimbatore (T.N.) India

²ICAR, Krishi Bhawan, New Delhi (India)

(Email : kr_agro@rediffmail.com)

The term 'Extra Long Staple' (ELS) cotton typically denotes a cotton fibre of extraordinary fibre length of more than 32.5 mm. normally extra-long staple cotton varieties are used for producing fine and superfine counts of yarn. As per the trade estimate the requirement of ELS cotton is around 15 lakh bales as against present availability of 1.4 lakh bales. Rangaraj, M. S/o Muthegowder, a farmer of Tamil Nadu had harvested 2.5 fold higher seed cotton yield (40.9 q/ha) as compared to control farmers by adopting integrated cotton management technologies. The economic analysis found that cost of cultivation of Rs. 61,750/ha, gross return of Rs. 1,84,092/ha, net return of Rs. 1,22,342/ha and benefit cost ratio of 2.98 realized by him, which were 1.72, 2.5, 3.3 and 1.5 fold, respectively higher than control farmers. The national average productivity of ELS is 370 kg /ha of lint. He obtained the productivity of 1325 kg of lint/ha.

The term 'Extra Long Staple' (ELS) cotton typically denotes a cotton fibre of extraordinary fibre length. The recognized industry standard for the minimum fibre length of an ELS fibre is 1-3/8" or 34.925 mm. But as per the CIRCOT, Mumbai classification, staple length of more than 32.5 mm is considered as ELS category. As vital for fibre length, ELS cottons are also recognized for their superior strength and better uniformity. Normally extra long staple cotton varieties are used for producing fine and superfine counts of yarn. This category of yarn is the main stay of the handloom industry for weaving the traditional Indian apparel of sarees, dhotis, muslin etc. They are also used for knitting high-end varieties of garments, worn close to the skin and kids-wear.

Cotton is the most important commercial crop of India. It contributes to around 65 per cent of the raw material to the textile industry and provides employment to 60 million people. Cotton is grown on 10.5 m. ha with production of 35.1 million bales of lint during 2016-17. India sustained the position of being the second largest consumer and exporter of cotton. Despite good harvest and export, there is mismatch in demand and supply of different staple group of cotton particularly in ELS cotton. As per the trade estimate, the requirement of ELS cotton is around 15 lakh bales as against present availability of 1.4 lakh bales. The country is still importing ELS cotton annually from Egypt, Sudan, U.S.A and others. Suitable areas (90%) for ELS cotton cultivation includes southern transitional zone of Karnataka and winter irrigated tracts of Tamil Nadu. Reason for inconsistent ELS cotton production in the country includes long duration nature of ELS crop, susceptibility to sucking pest, boll worms and severely to

pink boll worms, sterility, poor boll bursting, declining of yield, low productivity, high labour requirement for harvesting; besides, less suitable for rainfed condition, sensitivity to water logging and reddening, competition from high value crops and also within the species, higher production cost and low and non staple market price. The productivity of ELS cotton ranged from 300-370 kg of lint/ha. Assessment on impact of adoption of integrated production technologies on productivity and profitability of ELS cotton was attempted under NAIP-Cotton value chain project. The success story on ELS cotton production is presented here.

Success story : Rangaraj, M. S/o Muthegowder, a farmer of Thoppampalayam village, Arasipalayam (post) Kinathukadav (block), Pollachi (TK) Coimbatore is one of the project farmer of NAIP- cotton value chain project. He has 4.25 acres of rainfed land. Soil test conducted from NAIP project found that his field fertility status was sandy





clay loam in texture, low in available N (138.3 kg/ha), medium in available P₂O₅ (13.6 kg/ha) and high in available K₂O (358.2 kg/ha) with pH (6.3) and EC (0.14 dsm⁻¹). The predominant crops being cultivated are tomato, chillies, cotton and fodder sorghum. Cotton crop was cultivated in an area of 1.6 acres with cow pea and maize as component crop of IPM. He had followed integrated cotton management practices prescribed by CICR under NAIP-CVC project.

The Extra Long Staple (ELS) RCHB 708 Bt Hybrid was planted at 150 x 60 cm in the month of July, 2011 after getting sowing rain under rainfed condition. The seasonal rainfall of 655.5 mm was received during the cropping season (July-December). He had adopted moisture conservation practices of all furrows opening after last interculture. Integrated nutrient management of 3 tons of poultry manure, 7 tons of farm yard manure, bio fertilizer and 57.6:28.8:28.8 kg of N, P₂O₅ and K₂O fertilizer nutrient applied for 1.6 acre of land. Full dose of phosphorus and 25 per cent of nitrogen and potassium were applied basally and remaining of 75 per cent of nitrogen and potassium were applied as three split at 45, 75 and 105 days after sowing. The crop was counted with 37-42 sympodia having 150 to 420 green bolls.

Table 1 : Yield (q/ha) and economics of control and successful farmers

Particulars	Control	Rangaraj (NAIP farmer)
Yield(q/ha)	16.3	40.9
Gross return (Rs./ha)	73366	184092
Cost of cultivation (Rs./ha)	35929	61750
Net return (Rs./ha)	37437	122342
B:C ratio	2.04	2.98

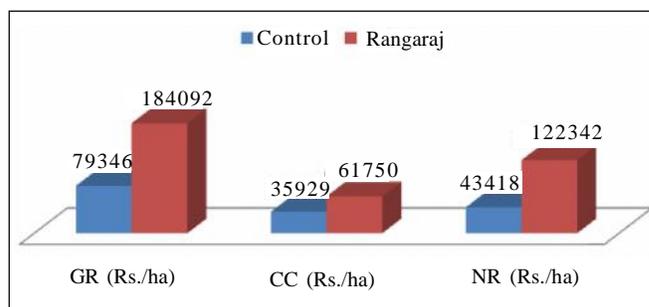


Fig. 1 : Economics of success and control farmers

Techniques involved in clean cotton picking were followed as per the advice of project personnel resulted in less quantity (7.75 kg) of cowdy (bad kapas). Sucking pest menace was effectively suppressed by resorting to five spray of pesticides.

Yield and economics : He had harvested 26.5 q of seed cotton yield from 1.6 acre of land (equal to 40.9 q/ha) also with 70 kg of cowpea and one quintal of maize from border crop. The economic analysis found that cost of cultivation of Rs. 40,000 (equal to Rs. 61,750/ha), gross return of Rs. 1,19,250 (equal to Rs. 1,84,092/ha), net return of Rs. 79,250 (equal to Rs. 1,22,342/ha) and benefit cost ratio of 2.98, respectively realized from cultivation of 1.6 acre of ELS cotton. He made success by achieving high yield (40.9 q/ha) in ELS cotton under rainfed condition. The national average productivity of ELS cotton is 370 kg/ha of lint. He obtained the productivity of 1325 kg of lint/ha. The control farmers realized an average of 16.3q/ha of seed cotton yield, gross return of Rs. 73,366/ha, net return of Rs. 37,437/ha with benefit cost ratio of 2.04. He is happy with high yield and profit realized in ELS cotton cultivation by adopting integrated cotton management practices prescribed by NAIP-CVC project from ICAR-CICR. The success story on ELS cotton showsthat higher productivity of ELS cotton is possible by adopting integrated cotton management strategies.

Summary : Rangaraj, M. S/o Muthegowder, a farmer of Tamil Nadu had harvested 2.5 fold higher seed cotton yield (40.9 q/ha) as compared to control farmers by adopting integrated cotton management technologies. The economic analysis found that cost of cultivation of Rs. 61,750/ha, gross return of Rs. 1,84,092/ha, net return of Rs. 1,22,342/ha and benefit cost ratio of 2.98 realized by him, which were 1.72, 2.5, 3.3 and 1.5 fold, respectively higher than control farmers. The national average productivity of ELS is 370 kg/ha of lint. He obtained the productivity of 1325 kg of lint/ha.

Received : 14.06.2018

Revised : 16.06.2018

Accepted : 19.06.2018