#20

ECONOMICS OF DIFFERENT METHODS OF RAISING ACACIA NILOTICA ON FARM LANDS

By

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SUMMARY

To compare the cost of raising Acacia nilotica (Kikar) on farm lands under barani conditions by two common methods i.e. direct sowing vs tubed planting, an experiment was laid out in Shakargarh Tehsil during July, 1987. The operation-wise cost incurred on raising of Acacia nilotica by two methods was calculated. The results indicate that although the method of direct sowing is easier and apparently cheaper also but in the long run method of raising kikar woodlots on farm lands by planting tubed plants is preferable.

INTRODUCTION

The farmlands produce 90% of the fuelwood consumed in the country. To avoid any more serious crisis regarding the availability of fuelwood in future, planting of more trees on the farmlands is the only feasible course of action. Now, when planting of trees on farmlands is already being recommended to farmers, it is also essential to advocate a cheaper method of raising trees. Acacia nilotica is one of the most commonly grown species for producing fuelwood. Its timber is used for

constructional purposes, agricultural implements and pit props. The bark is in great demand by tanning industry. It is also a good fodder tree.

At present, generally tubed plants of this species are distributed to the farmers for planting on their farmlands. This species is also raised by direct sowing of seed in our forest areas. It was proposed to study the feasibility of raising plants of Acacia nilotica through direct sowing on farmlands and also to compare the economics of the two methods i.e. planting of tubed plants and raising plants through direct sowing.

STUDY SITE

Experiment was laid out on a private farmland at Sunduquepur village in Tehsil Shakargarh of District Sialkot. It is situated on longitude 74^{o} 32' E and latitude 32^{o} 30' N and its elevation from sea level is 243 m. Average rainfall varies from 5.0 mm to 236.2 mm while average temperature ranges from 11.4^{o} C to 33.7^{o} C. Kikar is the predominant species of the area.

MATERIAL AND METHODS

Experiment was laid out in July, 1987 to determine the economics of raising kikar by direct sowing vs planting of tubed plants:

T_1 = Planting using tubed plants

T_2 = Direct sowing of seed

Two hundred pits of size 12" dia and 15" depth were made per plot at 2 x 2 m spacing for planting of tubed plants while for sowing of seeds 200 spots of size 12" dia with 3" deep soil working were made per plot at 2 x 2 m spacing. Sowing was done by dibbling while planting was done by removing the polythene tube from the ball of earth. The experiment was replicated four times. The seed was given hot water treatment before sowing. Total number of plants for each treatment was eight hundred.

RESULTS AND DISCUSSION

Survival data was collected in April, 1988 and again during July, 1988 with the following results given in Table 1.

Table 1: Survival percentage of Acacia nilotica.

Replication	T_1		T_2	
	April,88	July,88	April,88	July,88
R_1	100	94.94	27.27	10.10
R_2	100	95.95	25.75	8.08
R_3	100	96.46	9.09	5.57
R_4	100	99.49	4.41	2.52
Av. survival %age.	100	96.71	16.63	5.56
Actual No. of live plants.	800	774	133	52

The expenditure incurred on raising of Acacia nilotica by the two methods is compared in Table 2 below:

Table 2: Expenditure Statement from July, 1987 upto 30.9.1988

Sl. No.	Operation	Quantity	Expenditure(Rupees) Tubed planting	Direct sowing
1.	Clearance of site	1 ac.	125	125
2.	Layout & Dagh-bailing	1 ac.	025	025
3.	Digging of pits	800 Nos.	125	-
4.	Making of spots	800 "	-	50
5.	Making of wats	1500 cft.	93.75	93.75
6.	Purchase of plants	1000 Nos.	1000	-
7.	Purchase of seed	900 gms.	-	180
8.	Transportation of tubed plants.	1000 Nos.	400	-
9.	Planting of plants	800 Nos.	300	-
10.	Sowing of seeds in spots (five times)	800 "	-	200
11.	Hand watering (six times)	1600 "	600	600
12.	Weeding	4 "	250	250
13.	Transportation of ballies for fencing	80 "	50	50
14.	Fixing of ballies	80 "	62.50	62.50
15.	Fixing of barbed-wire	2500 rft.	62.50	62.50
	Total expenditure	=	3093.75	1698.75
	Total No. of live plants	=	774	52
	Ultimate expenditure for raising of one plant for 14 months.	= Or Say Rs.	3.99 4.00	32.67 33.00

Expenditure statement shows that the cost of raising of Acacia nilotica by two methods for most of the operations is almost the same except for (i) Earthwork - the cost for digging of 800 pits is Rs.125/- while for making of 800 spots for seed sowing needed Rs.50 only, (ii) Tubed planting, the plants were purchased for Rs.1000 while purchase of 900 gms seed required Rs. 180 only,(iii) Transportation of plants further added Rs.400 to the cost of tubed planting while

the expenditure was nil on this operation in case of direct sowing method, and (iv) Planting cost again made the method of tubed planting expensive by requiring Rs.300, while similar expenditure in case of direct sowing was Rs.200 only inpite of the fact that the seed hed been resown five times.

More importantly, survival in case of tubed planting was 96.71% while plant percentage in case of direct sowing was 6.56% only. This makes the actual cost per surviving plant Rs.4.00 and Rs.33.00 for tubed planting and through direct sowing, respectively. Thus the method of tubed planting showed better performance as compared to direct sowing of seed.

CONCLUSION

Although method of direct sowing of kikar (*Acacia nilotica*) for its raising on farmlands may appear to be easier and cheaper but in the long run method of planting nursery raised tubed plants is better and preferable for raising its woodlots.