

Technical Note No. 57

(iii) DEEP PLANTING MEANS BETTER SURVIVAL AND GROWTH

M. I. Sheikh

In Rakh Daggar Kotli (av. ann. rainfall 250 mm) an experiment was laid out in split plot design to determine the effect of depth of planting on the survival and growth of *Acacia aneura*, *Acacia modesta* and *Tecoma undulata* under barani conditions in July, 1980 using six replications. Twenty five plants of each species were planted in a replication in each depth of planting at 2 x 2 metre spacing. The plants were planted at two depths i.e. 30 cm and 18 cm in the pits of 0.5 meter diameter.

The data recorded during November, 1984 on the survival and growth of each species and treatment are summarized below:

Survival of plants in November, 1984
(Out of 25 plants planted)

Replication	Deep planting				Shallow planting			
	<i>Acacia aneura</i>	<i>Acacia tortilis</i>	<i>Tecoma undulata</i>	Av.	<i>Acacia aneura</i>	<i>Acacia tortilis</i>	<i>Tecoma undulata</i>	Av.
1.	4	15	19	12.7	5	15	15	11.7
2.	12	21	18	17.0	11	5	1	5.7
3.	5	17	12	11.3	7	12	11	10.0
4.	5	16	17	12.7	15	20	2	12.3
5.	9	13	9	10.3	4	6	14	8.0
6.	3	17	18	12.7	3	10	9	7.3
Average	6.33	16.5	15.5	12.77	7.5	11.33	8.66	9.16
Survival percentage	25.3	66.0	62.0	51.11	30.0	45.3	34.7	36.67

Survival percentage of species in different depth in various method of planting

Species	Deep planting	Shallow planting	Average
<i>Acacia aneura</i>	25.3	30.0	27.65
<i>Acacia tortilis</i>	66.0	45.3	55.65
<i>Tecoma undulata</i>	62.0	34.7	48.3
Average	51.11	36.7	43.9

As data indicate the survival percentage in deep planting and shallow planting is 51% and 37% respectively. In both depths of planting the maximum survival was of *Acacia tortilis* being 56% followed by *Tecoma undulata* 48% and 28% of *Acacia aneura*.

Average height gained by plants (cm) in November, 1984

Replication	Deep planting				Shallow planting			
	<i>Acacia aneura</i>	<i>Acacia tortilis</i>	<i>Tecoma undulata</i>	Av.	<i>Acacia aneura</i>	<i>Acacia tortilis</i>	<i>Tecoma undulata</i>	Av.
1.	132	187	98	139.0	72	263	93	142.7
2.	112	332	155	199.7	87	279	80	148.7
3.	74	336	171	193.7	67	452	142	220.3
4.	124	284	174	194.0	95	346	50	163.7
5.	83	319	207	203.0	77	217	147	147.0
6.	92	330	128	183.3	77	204	114	131.7
Average	102.8	298.0	155.5	185.4	79.1	293.5	104.3	158.9

Name of species	Deep planting	Shallow planting	Average
<i>Acacia aneura</i>	102.8	79.1	90.95
<i>Acacia tortilis</i>	298.0	293.5	295.75
<i>Tecoma undulata</i>	155.5	104.3	129.0
Average	185.43	158.96	172.20

The average height attained by all the three species in deep planting was 185 cm and in shallow planting was 159 cm and in shallow planting 159 cm respectively. *Acacia tortilis* showed significantly better rate of growth in both the planting depths as the height gained during the year was 296 cm. The average heights of *Tecoma undulata* and *Acacia aneura* were 129 and 91 cm respectively.

The results of the experiment indicate:

- that deep planting is better for the establishment of the trees in arid and semi-arid conditions.
- Planting of *Acacia tortilis* should be encouraged in all such areas.