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UNDERPLANTING OF SISAL IN IRRIGATED PLANTATIONS

by

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SUMMARY

In our efforts to search out some suitable substitute of jute for the manufacture of ropes, bags, etc. Sisal was planted on experimental basis as understorey in recently thinned out areas of irrigated plantations. The observations made so far are not conclusive but one thing has been clearly indicated that control of damage by porcupine, cattle and other such animals is very essential for the success of this species.

INTRODUCTION

There has been acute shortage of hard and durable fibrous material in Pakistan for the manufacture of ropes, bags, etc. Huge amount in foreign currency is spent every year on import of such material. It has, therefore, become imperative to find out any substitute for jute. Sisal, which yields long and strong fibre from its leaves and which is suitable for growing in sub-tropical area like Pakistan, has attracted the attention of Foresters as a source of such material. Before recommending its cultivation

on a large scale it was essential to have experimental planting to find out and standardise technique for its propagation and management.

In the past, trials were made on this plant in different parts of the country but did not meet with much success due to the fact that the plant has certain requirements of soil and water and thrives only when these are fulfilled. The field staff was unfamiliar with the proper technique of field planting and requirements of the plants. To study the behaviour of this plant under different site factors and to standardise the technique for its nursery and field planting, experiments were started during 1977-78. Alongwith these experiments, trials were also started to study its behaviour as understorey in thinning areas in the irrigated plantations. The results of such underplanting have been reported in this note.

EXPERIMENTAL PROCEDURE

Agave plants procured from old sisal plantations from Jallo, Rakh Sehj Bhuneki and Gujar Khan area were planted in irrigated plantations as understorey in thinning areas. This planting was done during 1978 at a spacing of about 10' x 6' along the trenches. After planting, these plots (except that at Changa Manga) were handed over to the territorial staff for maintenance purposes. These have received normal irrigation alongwith the rest of the plantation.

Generally no weeding was carried out. The main limiting factor for this species has been the damage by porcupine and trampling by cattle.

RESULTS

Data collected during October, 1979 has been summarised and given below:

SURVIVAL %AGE

Location	Date of planting	No. of plants planted	No. of plants surviving	Survival %age
Daphar Cpt.109	May, 1978	1500	380	25
Daphar Cpt.120	Aug. 1978	750	170	22
Arifwala Cpt.12	Jun. 1978	300	105	35
Chichawatni Cpt.9	May, 1978	1000	92	9
Changa Manga Cpt.55	May, 1978	3091	3006	97

HEIGHT GROWTH

Location	Date of planting	Max.height (Ft.-Inches)	Av: height (Ft.-Inches)
Daphar Cpt.109	May, 1978	1 - 4	0 - 3
Daphar Cpt.120	Aug. 1978	1 - 8	0 - 4
Arifwala Cpt.12	Jun. 1978	3 -11	2 - 5
Chichawatni Cpt.9	May, 1978	2 - 6	1 - 1
Changa Manga Cpt.55	May, 1978	1 - 8	0 -10

DISCUSSION

The results of these trials have not been encouraging as apparent from the above figures. The main cause for the poor performance of this plant has been the excessive damage by porcupine. Trampling by cattle has also been responsible to some extent. In some cases excessive irrigation combined with shade of the upper storey has also been the cause for the poor growth or even death of the plants. Small size of plants used for planting is another factor responsible for poor survival of this species.

CONCLUSION

Control of porcupine is very essential for success of sisal plantations. Existing experiments should be continued to confirm the observations recorded so far.