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Comparative performance of Jute (*Corchorus* olitorius L.) and mesta (*Hibiscus sabdariffa* L.) under agronomic practices of each

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The comparative performances of mesta (*Hibiscus sabdariffa* L.) was better than jute (*Corchorus olitorius* L) under Sorbhog condition. The mesta variety HS 7910 gave consistently high fibre yield and fibre quality. The variety is preferable for its wider adaptability and high yield potentiality. The bristlelessness of the variety is an added advantage for management of the crop.

Jute is an important cash crop of India and mesta has long been recognised an important substitute for jute (Kundu et al., 1959; Sharma, 1967). Mesta is closely allied with jute in its spinning quality and therefore mesta fibres can be mixed with jute (Sanyal, 1959). Mesta plays an important role in the jute industry by supplementing the raw fibre supply when production of jute fibre falls below the requirement of mills (Chakravarthy, 1973). Mesta is mainly grown in West Bengal, Andhra Pradesh, Orissa, Assam, Tripura, Uttar Pradesh and Bihar. The area under mesta up to 1976-77 was about 3.52 lakhs hectares and the production of mesta was 17.46 lakhs bales as against 53.53 lakhs bales of jute (Sanyal, 1976-1977). In view of high yield potential of mesta fibres combined with wider adaptability, a trial was conducted to study the comparative performance of *Olitorious* jute and Sabdariffa mesta under agronomic practices.

MATERIALS & METHODS - The trial was

with 2 varieties of *olitorius* jute (JRO 632 and JRO 524) and 4 varieties of sabdariffa mesta (HS 4288, HS 7910, HS 7920 and AMV1). the plot size was 6 m x 4 m. A fertilizer dose of 60 kg N, 30 kg P₂O₅ and 30 kg K₂O for jute and 40 kg N, 20 kg P₂O₅ and 20 kg K₂O for mesta was given. P and K were applied as basal dressing before sowing and N was top dressed in two equal instalments to 4 and 6 weeks crops. Sowing was done in the last week of April at a distance of 30 cm in row to row and 5-7 cm within the rows. The crop (both jute and mesta) was harvested after 135 days at prebud stage. The pedigree and distinguishing characters of the varieties are listed in Table 1. The fibre yield data were analysed for individual years as well as subjected to pool analysis. The fibre quality of the varieties under test was evaluated.

RESULTS & DISCUSSIONS - The fibre yield data and quality characters of fibres are presented in Tables 2 & 3. Although the

conducted on sandy loam soils at Ramie varieties differed significantly in individual Research Station, Sorbhog, Assam from 1976 to 78 in randomised block design in 6 replications when the data of three years (1976-78) were



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JKD 632	JKU 524		15 4288		15/310	121320	NOT Y 1
FIBRE	YIELD	OF	JUTE	AND	MESTA	IN DIFFERENT	YEARS

	Table 1Pedigree	edigree and distinguishing characters of the varieties				
Variety	Pedigree	Distinguishing characters				
JRO 632	Old selection from an indigenous type	Stem full green; leaf glabrous, acuminate, basal appendages big				
JRO 524	JRO 632 x Sudan Green	Stem full green; leaf glabrous, accuminate, basal appendages big				
HS 4288	RT1xRT2	Bristled; stem green with red pigementation at the nodes; petiole and leaf base red pigemented;	ne			
		leaf deeply palmately 5 lobed	2			
HS 7910	HS 4288 x RT 1	Non bristled; stem basal portion				
		greenish red and upper portion red; leaf palmately 5 lobed				
HS 7920	HS 4288 x RT 1	Non bristled; stem full green; leaf palmately 5 lobed				
AVM 1	Selection from HS 481	Bristled; crimson purple pigmenta- tion both on internodes and nodes;				

apical portion more intensely pigmented; petiole completely red; leaf palmately 5 lobed

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	Table 2 Fibre yield in q/ha				
Variety	1976	1977	1978	Mean	
JRO 632	6.3	24.2	15.4	15.3	
JRO 524	10.0	35.2	16.0	20.5	
HS 4288	26.1	22.3	22.6	23.7	
HS 7910	27.4	21.8	25.1	24.8	
HS 7920	21.6	17.5	21.7	20.2	
AMV i	26.0	18.7	18.9	21.3	
SEm±	1.7	1.6	1.2	4.2	
CD at 5%	5.1	1.8	3.4	NS	

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fibre fineness
3.5
3.6
3.8
4.8
3.9
3.8

Table 3 Quality characters of fibres

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combined and pooled. There was fluctuation in yield with respect to years. In 1976 and 1978, the mesta varieties yielded significantly more than the two jute varieties whereas in 1977 the jute varieties out yielded the mesta varieties (Figure 1). Though the varietal difference was not significant when the 3 years data were combined, mesta varieties especially HS 7910 and HS 4288 recorded highest yield (25 q/ha and24 q/ha) then the jute varieties and the other 2 mesta varieties under Sorbhog condition. HS 7910 and HS 4288 gave consistently promising performance compared to the *Olitorious* varieties.

The fibre quality test also indicated that HS 7910 had comparable fibre strength and almost similar fineness with the *Olitorius* varieties ACKNOWLEDGEMENT - We thank Dr Nirmalendu Mukherjee, Project Co-ordinator, All India Co-ordinated Research Project on Jute and Allied Fibres for providing facilities and to Dr. A. Chakravarty, Director, Jute Technological Research Laboratories, Calcutta for quality test of the fibre samples.

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though the fibres were somewhat coarse.

HS 7910 was, therefore, at par with the standard variety (HS 4288) in yield. The superiority in yield of HS 7910 was reported from trials conducted for 3 months, at J.A.R.I., Barrackpore in two locations (Anon., 1973-74). In addition, the bristlelesness of the variety is an added advantage in the management of the crop. The high yield potentiality, bristlelesness of stem, comparable fibre tenacity with jute and yield tolerance to *Phytopthora parasitica* (Anon, 1978) have made HS 7910 easily acceptable and preferable to cultivators for growing Sabdariffa mesta in light soils where jute fails because of its wider adaptability. This Sabdariffa variety may, therefore, be recommended to cultivators for growing in the light soils of Assam.

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