



jaf News

A CRIJAF Newsletter



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Editorial

Since the publication of the first issue of *jaf* NEWS, the response from the readers is very encouraging. Through this jute and allied fibre newsletter we want to provide our readers with a perspective that stretches beyond the framework of in-house researches and to think about strategies and their mode of implementation that will make these eco-friendly crops commercially more viable under the current international challenges.

The acceptability of jute and allied fibres in the wider industrial applications, (other than the conventional uses in making Hessians and Sacks) has been well documented but unfortunately not dealt with professionally, in spite of even being fully aware of their role in environment management and maintaining the ever dwindling forest cover. Looking at the present world order through the WTO screen, we must take some immediate actions to promote these crops as the most important commercial crops of the millennium. To achieve this goal the efforts of the scientists, technologists and indeed industrialists need to be invigorated by the will of our regional and central governments.

We are happy to record in the 'events' and 'news' section of the current issue several such efforts by the jute scientists and development agencies. We are confident that their efforts will go a long way in establishing jute as one of our most preferred commodity crops.

I once again appeal to you and your organization to send us your news, views and research highlights that you may wish to convey to the people concerned about jute and allied fibres. I wish to place on record the generous help of Dr. S. Mitra and Dr. S. Sarkar of CRIJAF in providing various news items and in preparing this issue.

—Editor

News

Food Grade Jute Bagas (FGJB) for Packing Spices

A presentation programme on food grade jute bags (FGJB) for packing spices, meant for both domestic consumption and export, was held at Spices Board, Cochin on 2nd July 2003 for apprising the major stakeholders in the spices industry. Director (Marketing) and senior officials of Spices Board, leading exporters of spices, Secretary, JMDC, Senior Scientists from IJIRA and representatives of some jute mills took part in the interactive session. Distribution of informative brochures and interface between jute mills and spices exporters for exploring the prospect of introduction of FGJB for packing spices, for which removal of differential DEPB rates for spices based on the packing material used and competitive pricing of FGJB along with supply of sample bags, etc. were recommended by spices exporters. After in-depth discussion, some concrete steps were identified for gaining greater acceptability of FGJB in the spices sector.

Textile companies of India lag in patenting

Textile multinational companies (MNCs) from Switzerland, Germany and the US are having 85 per cent (497 out of the 588) patents granted by the Indian Patent Offices during 1995-2000. Maschinenfabrik Rieter (108), Zellweger Uster (44) both from Switzerland; Fritz Stahlecker & Hans Stahlecker (42), Rieter Ingolstadt Spinnereimaschinenbau (36), Palitex Project Co. (21) from Germany and E.I. Du Pont De Nemours (30) from the US dominate the list. In contrast, Indian corporate have not shown as much interest in obtaining patents despite the new global patent laws under the World Trade Organization (WTO) regimes.

Interestingly with just 91 patents granted to Indians, the corporate account for only 36. Among them, Star Spin

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Table: Seed yield of JRC 212 and JRO 520 in Raghunathpur, Purulia.

Date of sowing	Treatments	Seed yield (q/ha)	
		JRC 212	JRO 520
June 15	T1	2.358	1.075
	T2	2.133	1.300
	T3	1.400	1.100
	T4	3.208	0.883
July 15	T1	3.883	0.781
	T2	5.141	0.800
	T3	5.008	1.153
	T4	4.983	1.033

In situ Retting of Jute (*Chorchorus olitorius* L.) and Mesta (*Hibiscus cannabinus* L.)

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Conventional retting of jute and mesta requires large volume of water (1:20, plant: water) and takes nearly 14 to 25 days to complete it depending on various external and internal factors associated with microbial retting. We made several attempts to extract fibres from dry and fresh jute and mesta stems *in situ* within a short period under low volume of water.

Dried (6 months old) jute plants were cut into pieces (10-12") and bundled together. In the field, these bundles were embedded on a shallow trench (10-15 cm) on a thin green grass bed and covered with black low-density polyethylene films and sealed all around with soil keeping inside saturated with water.

Freshly cut 90 days old whole mesta plants (cv. HC-583) were also embedded on grass bed, covered with black low-density polyethylene films in bundle-deep water and

sealed all around keeping the upper portion of the film exposed to sun (see photographs). Water level was maintained all throughout the retting period. Sun light increased the internal temperature substantially above the ambient condition. This process perhaps elevated the microbial action and freed the fibres quickly.

Dried jute and fresh mesta plants were retted evenly within 8 days. The obtained jute fibres were lustrous and free from body defects with strength of about 20.40 g/tex.

In another attempt jute retting was done in low volume of water under *in situ* situation in polythene-lined trenches (1-1.5 ft. water) to avoid soil contact and the plants were covered with water hyacinth. It took 18 days time to ret and generated golden yellow fibre. Retting of mesta cv. (HC-583 120 day old) was also possible in low density polyethylene sacs within 10 days.

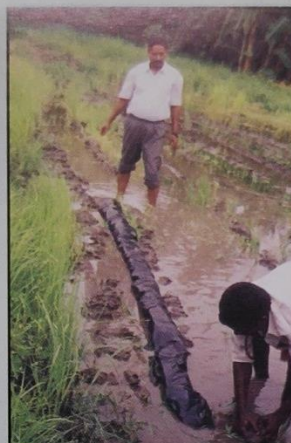


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We found that a huge amount of retting byproduct, rich in organic carbon, nitrogen and other compounds can be captured in this way and can be recycled back to the field. These retting alternatives are easy, cheap, hustle-free, eco-friendly, and may solve the problem of water scarcity during retting.



Jak of Mesta plants on grass layered shallow trench



Plants sealed in polythene film



Retted mesta within 7 days

Weed Management in Jute : Few Findings

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Weeds are the single most important impediment for jute cultivation as this particular problem considerably increases the cost of production, decrease the yield potential by more than 80% and thereby reduces the profitability. It is of great concern that till date no single method of weed control proved successful in this crop, which might be attributed to the inherent weaknesses of jute besides the typical edapho-climatic conditions of jute growing belt favouring excessive weed growth.

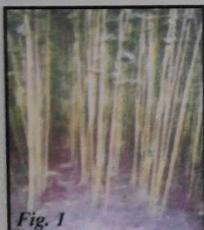


Fig. 1

Field experiment conducted for two years on weed management in recently released jute varieties, viz. JRO 66 (Golden Jubilee Tossa) and JRC 698 (Shrabanti White) revealed that pre-emergence (PE) soil incorporation of Fluchloralin at 1.0 kg a.i. ha⁻¹ along with one hand weeding at 35 days after sowing (DAS) resulting fibre yield of 3.67 t ha⁻¹ (JRO 66) and 2.92 t ha⁻¹ (JRC 698) was comparable with two hand weeding (HW) at 21 and 35 DAS. Higher Weed Control Efficiency (WCE) of 84.7% and 88.6% in *olitorius* and *capsularis* jute respectively were achieved through PE application

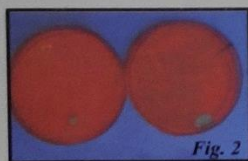


Fig. 2



Fig. 3

of Fluchloralin along with one HW at 35 DAS. (Fig. 1)

The highest net return per rupee investment was 2.70 and 1.64 with the PE application of Fluchloralin and one HW (35 DAS) in JRO 66 JRC 698 respectively.

JRC 698 was more competitive with weeds as compared to JRO 66 as evidenced from the Weed Index value of 55.2 and 59.7% respectively.

Regarding the effect of application of herbicides on soil microbial population in jute soil it was observed that initial depression of total soil bacteria (52.3-57.1%), actinomycetes (29.1-31.6%) and fungi (47.7-50.3%) had occurred due to application of Fluchloralin. However, after 14-21 days of herbicide application the microbial population reached its normal level i.e., 11.8-13.6 x 10⁶ CFU of bacteria, 79.8-90.4 x 10⁵ CFU of actinomycetes and 10.9-12.1 x 10⁴ CFU of fungi in each g of dry soil. (Fig. 2 & 3)

Fibre yield (Y) of JRO 66 was inversely correlated with dry weight of weeds (Y=3.47 - 0.016 X; r = -0.66) and the same equation for JRC 698 was, Y = 2.53 - 0.012 X (r = -0.61). Such strong negative correlation suggests need of timely (within 35 DAS) weeding in both the species of jute.

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