Jute *(Tossa jute = Corchorus olitorius L., White jute = Corchorus capsularis L.)*

French: Jute; Spanish: Yute; Italian: Corcoro; German: Jute

Crop data

Annual.
Harvested part: whole stem.
Sown early rainy season (February-April): direct seeding.
Harvested 3-5 months after sowing.
Spacing 25 cm x 7 cm = 570 000 plants/ha.
Preferred soil: river silt alluvium, pH 5.4 - 6.4.
Adapted to tropical and subtropical regions. Bangladesh and India have dominated world production but the crop is also grown in China, Thailand, Nepal, Burma etc.

Generally unirrigated.

Nutrient demand/uptake/removal

Nutrient uptake - Macronutrients						
Fibre yield - t/ha	**Source**	**kg/ha**				
		N	**P2O5**	**K2O**	**MgO**	**CaO**
C. olitorius (JRO-632) 3.0	Mandal et al, 1979	89	58	181	37	151
C. capsularis (JRC-212) 2.0	Mandal et al, 1979	63	31	159	43	99

Fertilizer recommendations

It is essential to neutralize soil acidity by liming.

Farmyard manure or compost at 5-10 t/ha should be applied and well incorporated during land preparation, together with all the mineral P and K needed. Mineral fertilizer is generally applied in the form of a basal NPK fertilizer which depends on the cropping pattern and on soil analysis. One third of the fertilizer N may be applied during land preparation or after the first weeding and thinning (30 days crop age) and the rest topdressed at 45 days crop age or after the final weeding.

Present fertilier practice

Bangladesh						
Major Zones	**Agroecological Region**	**Land & Soil Characteristics**	**Jute type/Varieties**	**Fertilizer rates - kg/ha**		
				N	**P2O5**	**K2O**
Jat	Young Brahma-	Highland	Tossa;	40	0	10
area	putra & Yamuna	Loam	0-9878			
	Floodplain	OM: low	0-4			
		pH: 5.5-6.8				
		K: medium				
	Madhupur tract	Highland,	Tossa;	40	0	20
		Loam	0-9897			
		OM: low	0-4			
		pH: 4.8-5.6				
		K: medium				
	Old Brahmaputra	Highland	White;	40	0	10

	Floodplain	Silt loam	D-154			
		OM: low	CVL-1			
		pH: 5.1-5.6	CVE-3			
		K: low	CC-45			
		Highland	White,	40	10	20
		Loam	as above			
		OM: medium				
		K: low				
	Lower Meghna	Highland	White,	30	0	0
	Floodplain	Silt loam	as above			
		OM: medium				
		pH: 5.0-6.0				
		K: low				
	Old Meghna	Medium	White,	30	0	0
	Floodplain	highland	as above			
		Silt loam				
		OM: medium				
		pH: 5.0-6.1				
		K:low				
		Medium	White,	30	0	10
		lowland	as above			
		Loam				
		pH: 5.5-6.5				
		K:low				
District	High Ganges River	Highland	Tossa;	40	0	10
	Floodplain	Silt loam	0-9897			
		OM: low	0-4			
		pH: 6.1-7.9				
		K: medium				
		Medium	Tossa,	45	0	10
		highland	as above			
		Loam				
	Low Ganges River	Highland	Tossa;	40	0	20
	Floodplain	Silt loam	as above			
		OM: low				
		pH: 6.2-7.7				
	Karatoya-Bengali	Highland	White;	40	0	10
	Floodplain	Silt loam	D - 154			
		OM: low	CVL - 1			
		pH: 5.4-5.7				
		Silty Clay-				
		loam	CVE - 3			
		K: low	CC - 45			
	Gopalgani-Khulna	Medium	White;	30	0	0
	Bils	highland,	as above			
		Clay				
		OM: medium				
		pH: 5.4				
		K: high				
Northern	Old Himalayan	Medium	Tossa;	40	10	20
	Piedmont plain	highland	9-9897			
		Loam	0-4			
		pH: 4.5-5.5				
		K: low				

	Tista Meander	Highland	Tossa;	40	0	20
	Floodplain	Loam	as above			
		OM: low				
		pH: 5.4-6.5				
		K: medium	White;	40	0	10
			as above			
		Medium				
		highland				
		OM: low	White; as above	40	10	20
Highland = land above normal flood-level.						
Medium highland = land normally flooded to about 90 cm in flood season.						
Medium lowland = land normally flooded to 90-180 cm in flood season.						
Fertilizer nutrient sources: N = urea, P = triple superphosphate, K = muriate of potash (60 % K2O).						

It is advisable to apply 5.0-7.7 t/ha well decomposed cow-dung 2-3 weeks before sowing, in which case the P and K fertilizers may be omitted except for the variety 0-9897 which would then need 10 kg P2O5 and 20 kg K2O/ha; for this variety the first dressing of urea should be reduced by 50 %; for other varieties no urea would be needed in the initial application and, in the second application (45 days after sowing) urea may be reduced by 25 %.

India							
Zone	**Agroecological Region**	**Land & Soil Characteristics**	**Jute type/Variety**	**Fertilizer rates - kg/ha**			**Remarks**
				N	**P2O5**	**K2O**	
1.	Gangetic	Gangetic alluvium	Tossa;	40	20	20	10 t/ha of
	West Bengal	sandy loam/loam	JRO-632				organic
		OM: medium/low	JRO-7835				manure
		K: medium	JRO-878				
			JRO-524				
2.	Teesta	grey alluvium	White;	45	20	20	Organic
	Mahananda	sandy loam/loam	JRC-321				manure and
	North	OM: low	JRC-212				liming of
	Bengal	pH: acidic					250-500 kg/ha is essential
3.	Upper Assam	North of bank of	Tossa;	40	20	20	Organic and
		Brahmaputra,	as above				liming as
		sand/loam	zone 1				above
		OM: low	White;	45	20	20	Organic &
		pH: acidic	as above				liming as
			zone 2				above
4	Lower Assam	Alluvium lateritic	Tossa;	30	20	20	Liming as
	and Meghalaya	area with red soil	as above				above
		and new clay loam	zone 1	40	20	20	
		OM: medium	White;				
		pH: mainly acidic	as				

			above				
			zone 2				
5.	Tripura	as above zone 4	Tossa;	30	20	20	Liming as
	Cachar		JRO-7835				above
	Surma		JRO-632				
	Valley		White;	40	20	20	
			JRC-321				
			UPC-94				
6.	Coshi	Grey alluvium,	White;	40	20	20	Liming as
	command	water stagnation	as above				above
		OM: medium to low	zone 2				
		pH: mainly acidic	Tossa;	30	20	20	
			JRO-7835				
			JRO-878				
7.	Mahanadi	Alluvium yellow	White;	45	20	20	Limins
	Delta	& red lateritic &	JRC-212				as above
		metamorphic rocks	JRC-7477				
		Clay and silt	Tossa;	40	20	20	Liming
		OM: medium/low	JRO-524				as above
		pH: mainly acidic	JRO-7835				
			TJ-40				
8.	Midnapore	Alluvium transpor-	White;	45	20	20	Liming
		ted buried late-	as above				as aboive
		rite areas	zone 7				
		Clay and silt					
		OM: medium					
		pH: generally acidic					
9.	North West	Grey alluvium with	Tossa;	40	20	20	Liming
	Bihar	poor and very	as above				
	U.P.	laterain	zone 7				
		OM: medium	White;	45	20	20	Liming
		pH: generally	as above				as above
		acidic	zone 7				
Liming at 250-500 kg/ha and application of 10 t/ha organic material with mineral fertilizers based on soil analysis ensure a profitable return.							

In addition to the 10 kg/ha of well decomposed cow-dung before sowing, fertilizer N should be applied in two topdressings, half after the second weeding (30 days after sowing) and the remainder 5-6 weeks after sowing. Alternatively, 25 kg/ha urea in solution may be sprayed on the foliage at a crop age of 35-60 days (but not when rain or high wind is likely or in scorching sun) according to the schedule below:

N foliar spray					
Urea kg/ha	**Water t/ha**	**Strength of spary solution**	**No.of sprays**	**Interval between sprys**	**Sprayer type**
12.50	90	14 %	2	15 days	Ultra-low volume
8.33	85	10 %	3	10 days	Ordinary knapsack
6.25	210	3 %	4	7 days	Hand

Further reading

GHOSH, T.: Handbook on Jute. FAO Plant Production and Protection Paper 51, Rome, Italy (1983)

JOSHI, R.M.; KHATIWADA, M.K.: Agricultural Handbook Nepal. Agri. Publication Series, Kathmandu, Nepal (1986)

KARIM, Z. et al: Fertilizer Recommendation Guide, Soil Publication No. 32. The Bangladesh Agricultural Research Council, Dhaka, Bangladesh (1989)

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