Executive Summary

Crop Improvement

In the year 2012-13, 25 projects comprising of 133 trials were evaluated on jute and allied fibre crops at different AINP centres under crop improvement programme. Twelve projects for jute, eight for mesta, three for sunnhemp and one each for flax and ramie were evaluated which includes germplasm evaluation, national hybridization programme, IETs, AVT Is, AVT IIs and adaptive trials at different centres.

Four varieties *viz.,* JROM 1 (Pradip) of *tossa* jute, JRCM 2 (Partho) of white jute, JBM 81 (Shakti) of kenaf and SUIN 037 (Ankur) of sunnhemp have been recommended for release and notification by the Central Variety Release Committee meeting held on 28th – 29th June, 2012 at SKUAST-K, Srinagar.

Germplasm Evaluation

Fifty accessions each in *tossa* and white jute and 48 accessions in roselle were evaluated at different locations during the last crop season.

***C. capsularis*:** Average fibre yield (g/plant) over six locations was recorded to be 6.90±0.82 g/plant with a range of 5.00 (CIN-113) to 8.89 (CEX-03) g/plant. Three genotypes, CEX-03, CIN-069 and CEX-36 outperformed better check JRC 212 (8.11 g/plant).

***C. olitorius*:** Average fibre yield over the three locations was recorded to be 10.34±1.55 g/plant with a range of 7.63 to 13.28 g/plant. Only one genotype OEX-35 (13.28 g/plant) outperformed better check JRO 8432 (13.21 g/plant) for fibre yield.

***H. sabdariffa*:** Two accessions, AR-19 and AR-67 (14.86 g/plant) exceeded the fibre yield over the best check variety AMV 5 (14.81 g/plant).

National Hybridization Programme

***C. capsularis*:** Thirty F_2 progenies were evaluated at five locations. F_2 populations from Kalyani centre performed best with a mean of 9.84 g/plant. Population from cross combination (CIN-117 X CEX-048) performed best with a mean of 8.62 g/plant over locations.

Twenty five F_8 populations were evaluated at Kalyani centre. Population from cross combination (CIN–149× UPC–94) exhibited highest fibre yield (14.6 g/ plant).

***C. olitorius*:** Twelve F_7 populations grown at Kalyani centre exhibited higher fibre yield than mean (9.90 g/plant). Population from cross combinations (TJ-40 × JRO 524) and (CO-51 × OIJ-100/TAN/NY/018C) performed best (fibre yield 11.40 g/plant).

Yield Evaluation trials

***Tossa* jute (*C. olitorius*)**

IET: KRO-4 turned out to be the best performing entry and recorded 34.23 q/ha of fibre yield followed by KRO-5 (33.32 q/ha) and BCCO-6 (32.97 q/ha).

AVT I: Check variety JRO 8432 was found to be the best performer with fibre yield 28.83 q/ha followed by KRO-2 (27.66 q/ha) and JROK 7 (26.38 q/ha).
AVT II: JROG-1 turned out to be the best performing entry with 25.78 q/ha of average fibre yield closely followed by JRO 524 (24.90 q/ha).
Adaptive Trial: Test entry JROM-9-1 (Fibre yield 35.73 q/ha) surpassed best check JRO 8432 over five locations by 9.75% yield advantage.

White jute (*C. capsularis*)

IET: Test entry BCCC-2 was the best performer with fibre yield of 32.25 q/ha followed by NCJ-28-14 (29.54 q/ha), JRCJ-3 (29.36 q/ha) and JRCJ-4 (29.34 q/ha).
AVT I: Test entry NCJ-28-10 ranked first with fibre yield of 26.23 q/ha followed by NDJC-2011 (25.95 q/ha).
AVT II: Based on pool analysis over location and year mean (grand mean), test entry NCJ-28-1 (27.05 q/ha) was the best among all entries.
Adaptive Trial: Entry JRC-9057 with an average fibre yield of 30.38 q/ha outyielded national check JRC 698 by 6.06 % and JRC 2012 by 4.47% based on evaluation at 7 locations in four states (UP, Odisha, WB and Bihar)

Kenaf (*H. cannabinus*)

IET: Check variety AMC 108 (33.38 q/ha) was found to be the best performer among all entries. Test entries JRK-2011-3 (31.29 q/ha) and JRK-2011-2 (31.23 q/ha) outyielded another check variety HC 583 (30.88 q/ha).
AVT I: Test entry JBMP-2 (26.81 q/ha) performed better than both the check varieties AMC 108 (25.19 q/ha) and HC 583 (24.60 q/ha).
AVT II: Five entries namely JBM-G-4 (27.39 q/ha), JBM-G-5 (26.69 q/ha), JBM-G-2 (26.54 q/ha), JBM-G-1 (25.80 q/ha) and JBM-G-3 (25.01 q/ha) out yielded better check variety HC 583 (24.56 q/ha).
Adaptive Trial: Test entry JRKM-9-1 with an average fibre yield of 30.22 q/ha outyielded best check variety AMC 108 by 13.61% based on two locations trials in West Bengal.

Roselle (*H. sabdariffa)*

IET: AHS-230 turned out to be the best performing entry and recorded 29.95 q/ha of fibre yield compared to superior check HS 4288 (27.24 q/ha).
AVT I: Test entry JBRP-01 was found to be the best performer with 27.74 q/ha followed by AHS-216 which recorded 25.84 q/ha of fibre yield.
AVT II: CRIJAF R-2 was found to be the best performer with 25.89 q/ha mean yield, followed by CRIJAF R-5 and CRIJAF R-8 which recorded fibre yield of 25.81 q/ha and 25.51 q/ha, respectively.

Sunnhemp (*C. juncea)*

IET: Test entry SUIN-3 (12.16 q/ha) identified as the best performer over both the check varieties SH 4 (11.13 q/ha) and K 12 Yellow (11.07 q/ha).
AVT I: Two test entries SUIN-63 (9.17 q/ha) and SUIN-62 (8.96 q/ha) performed better than best checks SUIN-53 (8.94 q/ha).
AVT II: Entry JRJ-610 (9.51 q/ha) performed better than the best check SH 4 (9.00 q/ha) followed by test entry JRJ-611 (8.91 q/ha) and check K 12 Yellow (8.76 q/ha)

Flax (*L. usitatissimum*)

AVT II: Test entry JRF-2 exhibited maximum plant height (126.4 cm) followed by JRF-1 (126.2 cm) while JRF-2 was best performer for fibre yield (14.2 q/ha).

Ramie (*B. nivea*)

Adaptive Trial: The entry R-1411 exhibited maximum dry fibre yield (17.16 q/ha/year), green weight (600.22 q/ha/year) and stick (cane) weight (317.87 q/ha/year).

Crop Production

In the year 2012-13, total 17 research projects comprising of 56 trials were evaluated on jute and allied fibre crops at different AINP centres under crop production programme. The new *C. olitorius* genotype JROM-9-1 recorded significantly higher fibre yield over check varieties at Barrackpore, Kalyani and Kendrapara and maximum fibre yield was obtained with fertilizer dose of 100 kg N: 21.8 Kg P: 41.7 kg K/ha. However, the new *C. capsularis* genotypes (JRC 9057) under adaptive trial recorded any significant increase in fibre yield over the check variety at both Coochbehar and Nagaon centres. Fibre yield of capsularis genotypes increased significantly upto 80 kg N + 17.5 kg P + 33.3 kg K/ha level at Coochbehar and upto 100 kg N: 21.8 Kg P: 41.7 kg K/ha level at Nagaon centre, respectively.

Among the two roselle genotypes under adaptive trial, AHS 161 recorded significantly higher plant height, basal diameter and fibre yield over the check varieties HS 4288 and AMV 5 at Amadalavalasa centre only and the fibre yield of AHS 161 increased significantly up to fertilizer dose of NPK @ 80 : 17.5 : 33.3 kg/ha level. The new kenaf genotype JRKM-9-1 under adaptive trial recorded significantly higher basal diameter and fibre yield over the check varieties AMC 108 and HC 583 at Kendrapara.

The targeted yield of jute fibre (4.0 t/ha) was achieved with (+) 3.05% yield deviation in Kalyani centre only but targeted yield of rice grain could not be achieved in both Kalyani and Bahraich centres. However, higher fibre and grain yield of rice were obtained with the treatment where fertilizer was applied as per soil test values and targeted yield equations. The highest N, P and K uptake was recorded with 100% NPK on ST-TY+ organic manure. Application of fertilizers on ST-TY basis significantly increased the nutrient uptake over RDF. Under integrated nutrient management based on initial soil test values and targeted yield equation in acidic soils showed that targeted yield of jute fibre was achieved in both the centres with ±10% yield deviations. However, targeted yield of rice could not be achieved at any centre. Highest grain yield of rice was found in the treatment where fertilizers applied on the basis of soil test and targeted yield. Application of 150% NPK on ST-TY with and without FYM and lime recorded low grain yield of rice at both the centre of Coochbehar and Kendrapara. Targeted yield (3.5 t/ha) of mesta fibre could not be achieved with ±10% yield deviations. However, significantly higher yield of mesta fibre was obtained under the treatments where fertilizers were applied on soil test value and targeted yield basis over RDF. Highest fibre yield of mesta (2.65 t/ha) was recorded at Amdalavalsa centre under 150% NPK on ST-TY +50% LR treatment followed by 150% NPK on ST-TY +50% LR +FYM.

The results of weed control experiments revealed that that application of butachlor 5G @ 1.5 kg or pretilachlor @ 1.0 kg /ha (in case of assured irrigation) gave better weed control in jute and may be recommended for south Bengal condition while application of butachlor 50% EC @ 1.0 - 1.5 kg a.i. /ha (within 24 hrs of rain or irrigation) followed by one hand weeding may be recommended for north Bengal region as it gave higher fibre yield of jute along with better weed control. Similarly, pre-emergence application of butachlor 50% EC @ 1.5 kg a.i./ha under rainfed or irrigated condition or pretilachlor 50% EC @ 1.0 kg a.i./ha with irrigation followed by one hand weeding may be recommended for weed management

in Nagaon region. At Kendrapara and Bahraich, the highest fibre yield of jute and better weed control were observed with application of quizalofop ethyl @ 60 g/ha at 15 DAE + one hand weeding at 15-20 days after herbicide application and this may be recommended for both the regions. In mesta, post emergence application of of quizalofop ethyl @ 60 g/ha at 15 DAE followed by one hand weeding at 15-20 days after herbicide application recorded better weed control at Aduthurai, while pre-emergence application of butachlor 50 EC @ 1.5 kg /ha or butachlor 5G @ 1.5 kg /ha followed by one hand weeding showed better performance and may be recommended.

At Kalyani, sowing of jute seed crop between 7th and 21st August with 45 cm x 15 cm spacing and topping at 45 DAS was suitable for higher seed yield. Sowing of seed jute on 15th June with 60 cm x 15 cm and topping on 45 DAS recorded significantly higher seed yield of the crop at Bahraich. At Kendrapara, maximum jute seed yield (4.8 q/ha) was achieved when the crop was grown with a spacing of 45 cm x 15 cm and topping was done at 45 DAS. At Nagaon, sowing of jute seed crop with a spacing of 45 cm x 10 cm or 45 cm x 15 cm and topping at 45 DAS recorded significantly higher seed yield and yield attributing characters of the crop while at Rahuri, maximum seed yield of jute was observed when crop was sown on 7th July with a spacing of 60cm x 15 cm and topping was done at 45 DAS.

The results of drought management experiment revealed that maximum fibre yield of jute was observed with T_6 treatment (sowing time 30th March to 3rd week of April with one irrigation + 80 kg N+18 kg P+33 kg K/ha + bunding all around plot) at Kalyani and Kendrapara while in mesta, rainfed sowing along with NPK @ 60:13:25 kg/ha + S @ 30 kg/ha recorded highest fibre yield of roselle.

Newly developed talc based microbial formulation of CRIJAF for retting performed very well in various AINP centres located at different agro-climatic regions. Jute & mesta retting was completed in 8 to 13 days and 14 to 21 days respectively with and without microbial formulation and there was reduction in retting period by 5 to 9 days when jute and mesta was treated with microbial formulation along with improvement in fibre quality compared to control. The strength of treated fibre ranged between 26.9 to 30.6 g/tex compared to 22.6 to 28.4 g/tex recorded in control.

Strip cropping of jute with green gram (9:9) particularly with Pant Mung 5 cultivar recorded higher system productivity, net return and B:C ratio at Barrackpore, Kalyani, Bahraich and Kendrapara centres.

The mesta variety MT 150 recorded maximum dry biomass and the dry matter increased significantly upto 160 kg N/ha level at Bamra, Odisha.

The sowing of mesta crop on 15th May with spacing of 60 cm x 10 cm and topping at 45 DAS was found suitable for seed production of mesta at Aduthurai. Sowing on 6th August with a spacing of 45 cm x 10 cm and topping at 45 DAS recorded significantly higher seed yield of mesta at Amadalavalasa.

Higher seed yield of sunnhemp was achieved at Pratapgarh when the crop was sown up to 6th August with a spacing of 30 cm x 10 cm and topping was done at 30 DAS. At Rahuri, sowing of seed crop of sunnhemp on 22nd July with spacing of 30 cm x 10 cm or 30 cm x 20 cm and topping at 30 DAS recorded significantly higher seed yield. Maximum seed yield of sunnhemp was observed at Aduthurai when the crop was sown on 15th May with 45 cm x 10 cm spacing and topping at 45 DAS.

The results of INM experiment revealed that the recommended fertilizer dose of ramie at Barrackpore may be increased from 30:6.6:12.5 (NPK, kg/ha) to 45:10:19 (NPK, kg/ha),

25% of which can be substituted by FYM or ramie compost without sacrificing the fibre yield of the crop.

Higher productivity of sisal may be achieved through application of N, P and K @ 60:13:50 kg/ha along with sisal waste @ 20 t/ha at Bamra, Odisha or through combined application of NPK @ 60:13:50 (kg/ha) and poultry manure @ 4 t/ha at Amadalavalasa, Andhra Pradesh.

Optimum sowing time of flax at Coochbehar ranged from 9th Novemeber to 19th November while at Pratapgarh, sowing of flax on 30th October with 15 cm row-row spacing recorded significantly higher fibre yield of the crop.

Crop Protection

During 2012-13, nine projects comprising of 37 trials were conducted in jute and allied fibre crops at different AINP centres under crop protection programme. Survey and surveillance of insect pests and diseases of jute, mesta and ramie were carried out in different centres. In jute semilooper, Bihar hairy caterpillar, yellow mite and stem weevil were the most common insect pests whereas in case of mesta, infestation of jassid, aphid, whitefly, mealybug and semilooper prevalent. Infestation of indigo caterpillar (11.36%) and grey weevil (23.84%) was specific to Nagaon and Barrackpore respectively. The yellow mite infestation was more consistent across the centres with maximum infestation of 10.12, 16.40, 38.36 and 115.39 mite population/cm^2 leaf area on second unfolded leaf at Coochbehar, Katihar, Nagaon and Barrackpore respectively coinciding at 40 DAS to 75 DAS during last week of May to Mid-June. Maximum infestation of Bihar hairy caterpillar was noticed at Barrackpore (60.40%) followed by Nagaon (44.38%) and Katihar (16.40 %) occurred at 75 DAS to 103 DAS during July.

Jute semilooper infestation was observed at Katihar, Coochbehar, Nagaon and Barrackpore. The period of semilooper infestation was from first week of June to second fortnight of July with maximum 60%, 11.00%, 42.36% and 88.80% plant damage respectively from 65 DAS to 119 DAS. Stem weevil infestation was noticed in all the centres except Coochbehar and Bahraich. At Katihar, Nagaon and Barrackpore the maximum stem weevil infestation was from second fortnight of June to first week of July with 8.80%, 18.62% and 49.00% plant damage at 55 DAS to 102 DAS.

The infestation of mealybug at Nagaon and Barrackpore was from second week of June to first week of August with 2.86% and 15.00% plant damage respectively during 80 DAS to 105 DAS. Its infestation was very mild at Katihar. In general, yellow mite, indigo caterpillar and stem weevil were more prevalent during the early crop growth period whereas Bihar hairy caterpillar, semilooper and mealybug were active during the later part of the crop period.

For the first time in jute, *Helicoverpa armigera* was recorded to damage *tossa* jute in two locations of North-24 Parganas causing defoliation and cutting of terminal part of the stem with 33% infestation in the month of May-June 2012. Indian red admiral caterpillar and Chinese rose beetle were recorded on ramie in Assam.

In mesta, maximum infestation of jassid, aphid, whitefly and mealybug was 3.54%, 22.84%, 3.28% and 3.18% respectively during the July whereas the semilooper damage peaked (4.90%) in October at Amadalavalasa.

Stem rot, root rot, anthracnose and mosaic diseases were common in jute whereas foot and stem rot, leaf spot and phytoplasma diseases were most common in mesta. The incidence of

leaf mosaic of white jute was very specific at Katihar and Bahraich with 6.50% and 77.00% incidence respectively. Seedling blight incidence was restricted to Nagaon (3.20%). Maximum incidence of anthracnose was after 100 DAS in August to the extent of 29.3% and 38.00% at Nagaon and Bahraich respectively. The stem rot incidence increased during the later part with maximum incidence of 8.00%, 8.93% and 11.70% at Nagaon, Coochbehar and Katihar respectively. Severity of root rot was maximum at Nagaon (18.40%) and Katihar (16.10%). In mesta, foot and stem rot was most prevalent disease, the incidence was maximum (31.00%) in August at Amadalavalasa.

In the screening of olitorious germplasms against root knot nematode, two lines (OIJ 012 and OIJ 08) were highly resistant at Bahraich. Nine lines (OIJ 013, OIJ 201, OIN 1062, OEX 34, OIJ 025, OIJ 201, OIJ 911, OIJ 971, and OIJ 1001) were moderately resistant at Coochbehar and Kendrapara.

Among the *tossa* jute (*C. olitorius*) germplasms, the accessions, OIN 730, OIJ 013, OIJ 201 and OIN 882 were least susceptible to yellow mite while 9 lines namely OIN 648, OIN 700, OIN 730, OIN 762, OIN 939, OIN 1000, OIN 1018, OIN 1060 and OEX 35 were completely free from stem weevil infestation. The germplasm with relatively less susceptibility to Bihar hairy caterpillar were OIN 702 and OIJ 059. In Nagaon, the *white* jute germplasms, CIN 330, CIN 301, CIJ 156 and CIJ 143 were least infested with yellow mite. Three lines CIN 498, CIN 494 and CIN 075 were resistant to stem weevil.

The tossa jute accessions, OIN 590 and OIN 1001 were resistant to both stem rot and root rot with less than 1% disease incidence at Kendrapara, In case of white jute, the root rot and stem rot tolerant lines were CIJ 067 and CIN 494.

Among the roselle germplasms, two lines i.e. AR 19 and AS 80-7 were resistant and another 7 lines was moderately resistant in reaction against mealybug. Two moderately susceptible lines against foot and stem rot were AS-80-19 and AS 81-5.

On the basis of disease incidence in the elite germplasms across the centres, OIN 270 line was least susceptible to stem rot (11.49%). Other lines with less susceptibility were OEX 027, OIN 853 and OIN 651. The relative incidence of the disease at Sorbhog (hot spot for disease incidence among the centres) indicated OIN 853, OIN 154 and OEX 027 to be less susceptible to stem rot.

Effect of crop management on stem rot control at Barrackpore indicated that incidence of stem rot was significantly less (5.8%) in 30th March sown crop with 30:60:60 NPK dose. Fibre yield was significantly higher (31.1q/ha) in 30th March sown crop than 15th March sown crop (25.7 q/ha). At Coochbehar early sowing (13thApril), with 60:30:30 NPK and integrated management (seed treatment with *Trichoderma viride* @ 10g/kg seed + butachlor @ 2 kg a.i/ha as pre-emergence + spraying of carbendazim @ 0.1% + spraying of endosulfan @ 0.15%) reduced disease incidence and increased the fibre yield to maximum extent.

For disease free seed production of jute at Barrackpore sowing in mid-August recorded the least seed infection by *M. phaseolina* (1.9%). Spraying of 0.1% carbendazim at pod setting as well as pod maturation stage reduced the seed infection by 30-35% and seed discolouration by 4-24%. Maximum seed yield of 13.0 q/ha was obtained in mid-August sown crop. At Bahraich mid-June sown crop performed better in respect of seed infection, discolouration as well as seed yield. Application of carbendazim reduced seed infection, discolouration and improved the seed yield. Similarly at Katihar also mid-June sown crop as well as application of fungicide performed better.

In ecofriendly management of major pests and diseases of jute, the treatment consisting of NPK @ 60:30:30+ seed treatment with carbendazim @ 2 g/kg + dicofol 18.5 EC @ 0.45% at 45 DAS and profenophos 50 EC @ 0.1% at 65 DAS favoured the plant height, reduced the insect pests and diseases and maximized the yield. At Coochbehar, biofertilizer, biocontrol agent and biopesticides based organic production system performed at par with inorganic based treatments with highest B:C ratio.

The effect of sowing time and insecticides on insect pests of jute indicated that at Barrackpore initially till 37 DAS, the crop sown on 15th April harbored significantly more mite than the later sown crop. However after 45 DAS the mite infestation in the late sown crop was significantly more than the early sown crop. Similar trend was observed in Coochbehar, Katihar and Kendrapara also. At Barrackpore, the fibre yield of earlier sown (15th April) crop with foliar spray of abamectin 1.8 EC (0.0015%) at 30 DAS and 45 DAS resulted in significantly higher fibre yield (35.89q/ha). At Nagaon the treatment effect on mite was non-significant.

The foliar spray of profenophos 50 EC @ 0.10% at 77 DAS and 87 DAS was most effective on semilooper and Bihar hairy caterpillar with significantly less plant damage. The fibre yield of early sown crop (21st April) was more (22.50q/ha) than the late sown crop (20.67 q/ha). Similar trend was also observed at Kendrapara and Katihar. At Coochbehar significantly less mite infestation and more fibre yield of jute was recorded in fenazaquin 10 EC (0.015%) treatment. At Kendrapara also the crop protected with fenazaquin and profenophos reduced mite and semilooper infestation significantly with maximum yield (31.4 q/ha). At Katihar the best treatment against the sucking and lepidopteran pests with maximum fibre yield (27.14 q/ha) was abamectin 1.8 EC (0.015%) followed by lamda cyhalothrin 5 EC (0.003%).

In AVT-I, KRO 2 (*C.olitorius*) and JRC J-2 (*C.capsularis*) were least infested with mite and stem weevil respectively. NOJ 27-4046 and JROK 1002 were best against stem and root rot resistance among the AVT-II entries of *C. olitorius*. The capsularis jute (AVT-II) entries, UBC 1 and NCJ 28-1 were significantly less infested with stem weevil and semilooper respectively. The AVT-I roselle entry, JBRP 02 was superior in terms of foot and stem rot disease resistance.

Fibre Quality

Fibre quality (2010-11)

Kenaf

IET: Fibre samples of all the entries from Amadalavalasa were placed in M_4 grade except JRMK-9-4.

AVT-I: Fairly good strength was observed at Amadalavalasa except JBM-84 all the entries were in M_4 grade.

AVT-II: High root contents and maximum defects (%) present in all the fibre samples. Fibre grade varied from M_3 to M_4 at Amadalavalasa.

Roselle

IET: At Amadalavalasa, all fibre samples contained high % of hard root and defects except JRRM-9-1

AVT-I: Fibre strength was average but all the samples were very fine at Amadalavalasa centre and graded in between M_3 to M_4.

AVT-II: Fibre strength ranged from average to weak but were very fine in nature. Grade varied from M_3 to M_4 at Amadalavalasa.

Sunnhemp

IET: Entry SUIN-77 had better fibre tenacity than other entries at Barrackpore centre.

Fibre quality (2011-12)

***Tossa* jute**

IET: All fibre samples fair average to average in tenacity value except BCCO-5, but very fine in nature at Coochbehar centre.

AVT-I: The entire fibre samples were graded in between TD_4 to TD_5 at Coochbehar and TD_5 to TD_6 at Rahuri centre. All the samples were fine in nature except JROK-1002 (very fine).

AVT-II: Fibre samples of Coochbehar were graded in between TD_4 to TD_5. All the fibre samples showed very fine in nature except JRO 524. Rahuri samples were graded in between TD_4 to TD_6.

White jute

IET: Tenacity values of all the fibre samples were weak, but the samples of Kalyani and Bahraich centre were fine except BCCC-1 from Bahraich.

AVT-I: The samples of Coochbehar centre were graded from W_5 to W_6 at Coochbehar but all samples were of grade W_5 at Bahraich centre

White jute

AVT-II: Among the fibre samples from Coochbehar except KJC-11 all were graded W_4 which ranged from W_5 to W_6 at Bahraich. Tenacity values were within average to weak group but very fine in nature.

Roselle

IET: Tenacity of all the samples were weak but finer in quality and grade varied from M_3 to M_4 at Coochbehar. Fibre quality of Aduthurai centre could not be estimated due to barky fibre.

AVT-I: Grades of all the samples were M_3 at Barrackpore. All samples were average in tenacity, but very fine in nature. Grade for all the samples received from Coochbehar was M_4. Fibre quality of Rahuri and Aduthurai could not be estimated due to its barkiness.

AVT-II: Grades of all the samples received from Barrackpore and Coochbehar were M_3 to M_4. Fibre quality of Rahuri and Aduthurai could not be estimated due to its barkiness.

Kenaf

IET: Fibre samples of Barrackpore were placed in M_3 grade, Rahuri M_3 to M_4 grade and Aduthurai M_3 to M_5 grade.

AVT-I: Samples from Barrackpore were of M_3 grades. Fibre samples of Coochbehar and Rahuri were of M_4 grade. Samples of Aduthurai could be not analysed due to barky fibre.

AVT-II: Fibre samples of Barrackpore were placed in M_2 to M_3 grade and Coochbehar in M_4 grade. Fibre samples of Rahuri and Aduthurai were barky in nature.

Fibre quality (2012-13)

***Tossa* jute**

IET: The entire samples of Kalyani varied from TD_4 to TD_6 grade. Samples were fine in nature.

AVT-I: Fibre samples of Kendrapara, Kalyani and Barrackpore ranged from TD_4 to TD_5 grade whereas samples of Rahuri placed in between TD_5 to TD_6 grade.

AVT-II: At Rahuri and Kendrapara fibre samples were weak in nature and placed in TD_5 to TD_6 grade. The entire samples of Kalyani and Barrackpore were placed in TD_4 grade except BCCO-2.

White jute

IET: Fibre samples of Rahuri were placed in W_5 grade except test entry BCCC-2. Fibres were very fine in nature.

AVT-I: Fibre grades of Rahuri ranged between W_5 to W_6, Kalyani W_4 to W_6 and Barrackpore W_4 to W_5. Tenacity values were in weak group. All the entries were very fine in nature.

AVT-II: Fibre samples of Kendrapara and Barrackpore were placed in W_4 to W_5 grade whereas samples of Kalyani centre graded in between W_4 to W_6.

Roselle

AVT-I: Fibre samples of Kendrapara and Barrackpore centres were graded in between M_3 to M_4.

AVT-II: Fibre strength for all the fibre samples of Kendrapara and Barrackpore were average to weak in nature and graded in between M_3 to M_4.

Kenaf

IET: At Rahuri strength value showed fairly good for all the entries. Fineness ranged from very fine to fine and graded in between M_3 to M_4.

AVT-I: Fibre grades were of M_4 grade except JBMP-3 entry at Rahuri and M-3 at Kendrapara.

AVT-II: Fibre samples of Rahuri were graded in between M_4 to M_5 with tenacity average to weak group but very fine in nature. Samples of fibre graded within M_3 to M_4 received from Kendrapara.

Sunnhemp

IET: None of the entries showed better tenacity than check at both Barrackpore and Kalyani centre.

AVT-I: All the entries at Barrackpore showed weak tenacity except SUIN-67 whereas very weak tenacity observed at Kayani centre.

AVT-II: All the entries showed very weak tenacity value at both Barrackpore and Kalyani centre.