

---

# Paperbase Alerting Service Sample

---

## Properties and testing of pulps

00001

PI: 20202260 JA: 0202

TI: Effect of desferrioxamine on brightness stability in the QPDP bleaching sequence of kraft-oxygen eucalyptus pulp

AU: Ruiz J

CI: 7th Brazilian Symposium on the chemistry of lignins and other wood components, Belo Horizonte, Brazil, 2-5 Sept. 2001, Poster presentations, pp 279-284 <Vicososa, Brazil: Federal University of Vicososa, 2001, 2 vols, 870 pp> (K)

CT: BLEACHED PULP/ BRIGHTNESS STABILITY/ CHELATING AGENT/ CONFERENCE/ DTPA/ EUCALYPTUS/ KRAFT PULP/

AB: Paper sheets from kraft-oxygen eucalyptus pulps bleached using a QPDP sequence were made and their optical properties studied after accelerated thermal reversion for 24h. The siderophore desferrioxamine (DFO) was applied in the chelation stage and it was found that this stage decreased the rate of reversion, and increased the brightness stability, resulting in post colour number of 1.19, 1.31 for DFO and diaminetriethylenepentaacetic (DTPA) and 1.43 for unchelated pulp. DFO has been found to have higher radical scavenger capacity than DTPA. DFO chelation before hydrogen peroxide bleaching resulted in improved pulp viscosity and brightness. A wide range of pH and temperature can be used, however, metal control with aminocarboxylate chelants is only efficient at pH ranging from slightly acid to neutral. (5 tab, 17 ref)

SO: B

00002

PI: 20202264 JA: 0202

TI: Anionic groups in different pulp fibres

AU: Fardim P

CI: 7th Brazilian Symposium on the chemistry of lignins and other wood components, Belo Horizonte, Brazil, 2-5 Sept. 2001, Poster presentations, pp 309-314 <Vicoso, Brazil: Federal University of Vicoso, 2001, 2 vols, 870 pp> (K)

CT: ADSORPTION/ ANIONIC COMPOUND/ CARBOXYL GROUP/ COLORIMETRY/ CONDUCTOMETRY/ CONFERENCE/ ION EXCHANGE/ METHYLENE BLUE/ POLYELECTROLYTE/ POTENTIOMETRY/ PULP/ SULPHONIC ACID/ TITRATION/ URONIC ACID/

AB: Commonly used methods for the quantification of total anionic groups were compared on a broad selection of pulps. Altogether 15 pulps were studied, with the main objective of comparing the methods with regard to obtained acid numbers, including their repeatability, applicability to different pulp types, as well as practical performance and convenience. Both conductometric titration with sodium hydroxide and methylene blue sorption gave very similar results on all pulps, and had good repeatability. The latter technique was especially appealing because of its simplicity. Polyelectrolyte adsorption with polybrene generally gave higher results, was less repeatable and very laborious. Uronic acids determined by enzymatic hydrolysis and high performance liquid chromatography (HPLC), represented only 20%-60% of the total anionic groups in the kraft pulps, while uronic acids analysed by acid methanolysis and gas chromatography (GC) usually represented 70%-100% of the anionic groups in mechanical pulps. (2 fig, 2 tab, 13 ref)

SO: B

00003

PI: 20202334 JA: 0202

TI: Solid state NMR studies on inhomogeneous structure of fibre wall in kraft pulp

AU: Liitia T; Maunu S L; Hortling B

JN: Holzforschung \$IS=0018-3830

CI: vol. 55, no. 5, 2001, pp 503-510 (C, K, S)

CT: CRYSTALLINITY/ FIBRE WALL/ HETEROGENEITY/ KRAFT PULP/ NUCLEAR MAGNETIC RESONANCE/ SPECTROSCOPY/ STRUCTURE/

AB: The inhomogeneous structure of kraft fibre was studied using solid state nuclear magnetic resonance (NMR) spectroscopy. Comparison was performed of primary fines, isolated from the original kraft pulp, and secondary fines, isolated after refining, with the corresponding long fibres. The kraft pulp was refined in stages and after each stage the secondary fines and long fibres were separated and the long fibres refined again. The crystallinity of cellulose was found to be lower in fines compared with the corresponding long fibres. When the fines fractions were compared, the cellulose crystallinity was seen to increase towards the inner parts of the fibre surface. A clear gradient was also observed in the amount of extractives, which was highest in the primary fines rich in ray cells. The contents of lignin, xylan and glucomannan were also higher in fines. The residual lignin isolated from the fines was slightly more condensed than residual lignin from long fibres. (8 fig, 4 tab, 32 ref)

SO: B

00004

PI: 20202347 JA: 0202

TI: Measurement error in the determination of kappa number

AU: Botha A H; Gerischer G F R

JN: TAPPSA J. \$IS=1029-0109

CI: July 2000, pp 33-36 (C, P)

CT: ANALYSIS OF VARIANCE/ ERROR/ KAPPA NUMBER/ MEASUREMENT/ PULP TEST/ RELIABILITY/ TEST METHOD/

AB: Probably the most important single variable to be considered when optimising a kraft pulp mill is the level of Kappa number which should be aimed for. It has been shown that pulping below a Kappa number of 25-30 causes rapid degradation of soft-wood pulp strength. However, by increasing the Kappa number from 25-30 and from 30-35, strength properties for bleachable grades can be improved by around 25% for every 15 units increase in Kappa number. The reliability of Kappa number testing may be evaluated by error variance or by a control chart method. Factors influencing the accuracy of Kappa number determination of Kappa number include weighing error, incorrect reagent concentration, temperature and retention time. The NIR method is superior to the ISO method for the detection of small variations in Kappa. (3 fig, 9 tab)

SO: B

00005

PI: 20202422 JA: 0202

TI: A new spectrophotometer for brightness and colour measurement in pulp and paper

AU: Anon

JN: Wochenbl. Papierfabr. \$IS=0043-7131

CI: vol. 129, no. 18, end Sept. 2001, p. 1201 (C, K, P, S)

CT: BRIGHTNESS/ COLOUR MEASUREMENT/ MEASURING INSTRUMENT/ NEW EQUIPMENT/ OPTICAL MEASUREMENT/ SPECTROPHOTOMETER/

CN: Minolta

AB: Minolta's latest spectrophotometer, the CM-3630 featuring the Minolta Innovative Optical System and rapid calibration, was developed specifically for the pulp and paper industry. Using PaperControl software it measures brightness, opacity, fluorescence and colour, as well as whiteness and shading in accordance with ISO 2469 and 2470, as well as SCAN, DIN, TAPPI, CPPA and AFNOR standards. (1 fig) (Short article)

SO: B

00006

PI: 20202477 JA: 0202

TI: Factors that affect the whitening of Eucalyptus kraft pulping. Part 2: influence of pulping parameters

AU: Gomide J L

CI: 33rd pulp and paper annual congress, Sao Paulo, Brazil, 23-26 Oct. 2000, 9pp <Sao Paulo, Brazil: Associacao Brasileira Tecnica de Celulose e Papel, 2000> (K, P)

CT: ALKALI/ BRIGHTNESS/ CONFERENCE/ COOKING/ TEMPERATURE/ YIELD/

CN: Associacao Brasileira Tecnica de Celulose e Papel; Klabin Riocell

AB: Pulp yield and whiteness are two mutually opposing factors which must be balanced carefully during pulp making. A study was carried out on the effects of cooking temperature and residual alkali in pulp yield and whiteness of Eucalyptus pulping, in an effort to achieve this balance. The parameters determined were those about general cooking condition such as temperature, alkali percentage and cooking time, and the general whitening conditions of the various pulping stages. Low residual alkali and temperature yielded less white pulp which were more resistant to traction and deforma-

tion, as these conditions do not alter the fibres' interlocking capacity. These pulps also had a lesser energy demand during the refining process. The pulps made with high residual alkali had lower final viscosity and lower deformation energy but higher resistance to tear, due to the removal of the xylans. (4 fig, 9 tab, 17 ref)

SO: B

00007

PI: 20202479 JA: 0202

TI: Characteristics and bleachability of kraft/polysulphide pulps of eucalyptus and pine woods

AU: Salomao K G

CI: 33rd pulp and paper annual congress, Sao Paulo, Brazil, 23-26 Oct. 2000, 8pp <Sao Paulo, Brazil: Associacao Brasileira Tecnica de Celulose e Papel, 2000> (K, P)

CT: BLEACHABILITY/ CONFERENCE/ EUCALYPTUS/ KRAFT PULP/ PINUS ELLIOTTII/ PINUS TAEDA/ PULP PROPERTIES/

CN: Associacao Brasileira Tecnica de Celulose e Papel; Cenibra

AB: Kraft and kraft-polysulphide (PS) pulps of Eucalyptus spp. and mixtures of Pinus elliotti and Pinus taeda were produced at kappa 16-17 for the first and 26-27 for the second, alongside a pulp of conventional kappa produced for comparative purposes. The addition of PS in the kraft pulping process of Eucalyptus and Pinus wood chips was found to improve pulp yield, especially in Pinus. However, regarding improving bleachability, it had no effect on the Eucalyptus pulp and little effect on the pulp of Pinus. The use of 9 g/litre of PS during the cooking process resulted in a yield gain of 2.2% for Eucalyptus pulp and a 4.2% for Pinus pulp. The kraft-PS Pinus pulp showed a greater final viscosity than the conventional kraft pulp. (5 tab, 23 ref)

SO: B

00008

PI: 20202814 JA: 0202

TI: On-line de-watering measurement: a new parameter for wet-end control

AU: Olsson B

JN: Pap. Technol. \$IS=0306-252X

CI: vol. 42, no. 10, Dec. 2001, pp 41-45 (C, K, P, S)

CT: AUTOMATIC TESTING/ DRAINAGE/ FORMING/ MEASURING INSTRUMENT/ NEW EQUIPMENT/ ONLINE MEASUREMENT/ WET END/

AB: It is difficult to predict the final outcome of the combined effect of wet end additives on dewatering. There is no theory of dewatering and neither TAPPI nor SCAN have a standard measurement procedure. Dewatering rate is most commonly measured by the freeness Schopper-Riegler test. A laboratory analyser, the DFS 03 from BTG-MUTEK measures drainage filtration under reference conditions or conditions of special shear. Information on dewatering can also be obtained from the forming section vacuum pressure although it is difficult to interpret. In sheet forming, filtration occurs when a sharp demarcation exists between suspended fibres and fines and the forming mat. The dewatering resistance can be expressed as an empirical equation as a function of consistency, basis weight and dewatering pressure. This formula can be used to obtain information about the drainage properties of the pulp. The DRA-500 drainage rate analyser automatically measures drainage rate using the Schopper-Riegler principle. A sample is extracted from the headbox and passed into a formation chamber which

replicates the fabric. The time taken for the water to drain is measured. A measurement can be made every 1.5min enabling more accurate control of the dosing of chemicals. (9 fig, 7 ref)  
SO: B

00009

PI: 20203091 JA: 0202

TI: The new fibre analyser FiberLab

AU: Anon

JN: Wochenbl. Papierfabr. \$IS=0043-7131

CI: vol. 129, no. 20, end Oct. 2001, pp 1363-1364 (C, K, P, S)

CT: ANALYSER/ FIBRE ANALYSIS/ IMAGE ANALYSIS/ NEW EQUIPMENT/ PULP TEST/

CN: Metso Automation

AB: Metso Automation's FiberLab analyser automatically determines the properties of fibre samples including their dimensions, cell wall thickness and volume index. Results are shown on a computer screen. The system allows paper mills and researchers to analyse large samples to obtain accurate statistical data. Rapid analysis allows the analyser to be used during pulp and paper processing to determine if refining or fibre mix conditions need to be modified. (3 fig)

SO: B

00010

PI: 20203146 JA: 0202

TI: Free radical mediated cellulose degradation during high-consistency ozone bleaching conditions: reaction patterns in fibers and free radical chemistry

AU: Johansson E E

CI: TRITA-KKE Report 0001, Stockholm, Sweden: Royal Institute of Technology, 2000, 87pp (S)

CT: ALCOHOL/ CELLULOSE DEGRADATION/ CELLULOSE STRUCTURE/ CRYSTALLINITY/ DELIGNIFICATION/ ETHYLENE GLYCOL/ FIBRE/ FIBRIL/ FREE RADICAL/ KRAFT PULP/ OZONE BLEACHING/ TCF BLEACHING/ TOTAL CHLORINE FREE BLEACHING/

CN: Royal Institute of Technology

AB: Free radical mechanisms involved in cellulose degradation in general and the selectivity of high consistency ozone bleaching in particular are examined. Experiments are based on the cellulose degradation observed for cotton linters, and the cellulose degradation and delignification observed for oxygen bleached kraft pulp under the same conditions. The role of free radical reactions in cellulose degradation was studied by varying the amount of ferrous ions added to the cotton linters system and the ozone charge, while the role of ethylene glycol in pulp bleaching was studied by varying the amount of ethylene glycol added to the oxygen bleached kraft pulp system, the ozone charge and the pH. A new method of explaining free radical cellulose degradation during ozonation is being developed and is presented. Cellulose degradation is fully described by free radical chain reactions, and the mechanism is explained by the crystallinity of cellulose and the heterogeneous nature of the free radical chemistry that evolve from ozone in this system. Ethylene glycol improves the selectivity during ozone bleaching of oxygen bleached kraft pulp, as it carries part of the free radical chain

reactions acting during ozone bleaching.

SO: B

00011

PI: 20203880 JA: 0203

TI: Management and automatic treatment of test results in order to increase efficiency

AU: Delzotto B

JN: Ind. Carta \$IS=0019-7548

CI: vol. 39, no. 4, June 2001, pp 89-93 (C, K, S)

CT: DATA MANAGEMENT/ DATA PROCESSING/ INFORMATION SYSTEM/ TEST METHOD/ TESTING/

AB: Qualitative analysis regarding pulp and paper is carried out online or in the laboratory. By installing an automatic system to manage data and carry out testing, companies can reduce costs while maximising efficiency. A data management system allows data to be stored in one central database and the data are analysed using a standard procedure. Companies which conform to ISO 9000 can eliminate errors and reduce the need for manual operation. Paper producing companies can adopt a data management system by one of three methods: by producing their own software; by applying a general software and by using a specific software. Paper mills previously used their own systems, but today many companies use a specific software offering greater advantages including more focused training and better team support. TMI has over 70y experience in production and supplying equipment to test paper methods and have recently produced a Tet Link System, which is a software with a Windows interface and controls the workflow. The advantage of using a specific software supplier, such as TMI is that the data has been supplied specific to the clients needs and a company can minimise errors and increase profitability.

SO: B

00012

PI: 20204061 JA: 0203

TI: Determination of sodium, potassium, calcium and chloride ions in wood pulp suspension using ion-selective electrodes

AU: Vazquez M

JN: Electroanal. \$=

CI: vol. 13, no. 13, 2001, pp 1119-1124 (P)

CT: CALCIUM/ CHLORIDE/ ELECTROCHEMISTRY/ POTASSIUM/ PULP PROPERTIES/ SODIUM/

AB: Ion-selective electrodes (ISEs) have been developed as an analytical tool for the determination of sodium, potassium, calcium and chloride ions in wood pulp suspensions. Solvent polymeric membranes for sodium, potassium and calcium were based on neutral ionophores together with potassium tetrakis(4-chlorophenyl) borate (KTpCIPB) as an ion exchanger and bis(butylpentyl)adipate (BBPA) and o-nitrophenyloctylether (o-NPOE) as non-polar and polar plasticisers. The electrodes were tested in potentiometric measurements on pulps with known concentrations of metal ions and the results compared with those from commercially available ISEs and from inductively coupled atomic emission spectroscopy (ICP-AES). The results show that measurements based on ISEs are accurate and reproducible. (3 fig, 7 tab, 14 ref)

SO: B

00013

PI: 20204086 JA: 0203

TI: Modification of pulp properties by cellulase treatment and application of cellulase to wastepaper deinking and mechanical pulp refining

AU: Nakamura H

CI: 2001 (68th) Pulp and paper research conference, Tokyo, Japan, 18-19 June 2001, pp 2-5, <Tokyo, Japan: Japan TAPPI, 2001, 180pp> (P)

CT: CELLULASE/ CONFERENCE/ DEINKING/ ENZYME/ PULP PROPERTIES/ STRENGTH PROPERTIES/ WATER RETENTION/

CN: Japan TAPPI

AB: Cellulase offers many benefits in pulp and paper applications, but where there is too much enzyme addition or in the case of some cellulase blends, a loss of strength is possible. With low levels of EGII-enriched cellulase (SCE3), it appears that the water retention properties of pulp fibres can be improved. The deinking effect of various cellulase components were evaluated, and EGII proved more effective than CBH. SCE3 offered good deinking when assessed and the best results were achieved with low enzyme concentrations. There was little or no effect on properties such as strength. CBH-enriched cellulases including NCE2 and NCE3 achieved significant energy reductions in the secondary stage of the thermomechanical pulping (TMP) process. (3 fig, 1 tab, 4 ref)

SO: B

00014

PI: 20204089 JA: 0203

TI: Effects of fiber hornification in recycling on bonding potential at interfiber crossings: confocal laser-scanning microscopy

AU: Somwang K; Enomae T; Onabe F

CI: 2001 (68th) Pulp and paper research conference, Tokyo, Japan, 18-19 June 2001, pp 16-21, <Tokyo, Japan: Japan TAPPI, 2001, 180pp> (P)

CT: CONFERENCE/ CONFOCAL MICROSCOPY/ HANDSHEET/ HARDWOOD/ HORNIFICATION/ KRAFT PULP/ MECHANICAL PROPERTIES/ RECYCLED PAPER/ TESTING/

CN: Japan TAPPI

AB: Confocal laser scanning microscope (CLSM) was applied to evaluate the effects of lines and hornification of hardwood bleached kraft pulp (HBKP) fibres due to recycling treatment on the bonding potential at interfibre crossings and the effect on the mechanical properties of recycled paper. The recycling process was simulated using heat treatment on handsheets consisting of hardwood bleached kraft pulp (HBKP). The CLSM micrographs showed that insufficient interfibre contacts were provided in the recycled handsheets as the recycled fibres demonstrated poor conformability and reswelling capacity. The hornification effect on reswelling in the wet state affected conformability during wet web forming at each stage of the recycling process. As no significant reduction in fines content was noticed during the recycling process, the increase in unbonded areas of recycled handsheets could depend upon the reduction in reswelling capacity or the conformability of rewetted, recycled HBKP fibres. This was demonstrated by the large increase in light scattering coefficient and reduction in tensile index of the recycled handsheets. At the same time, there appeared to be no major difference in fines

content among post-R0 to R4 slurries. The increase in unbonded areas of interfibre crossings was shown to be a main factor in the strength reduction of the recycled handsheets. (10 fig, 14 ref)

SO: B

00015

PI: 20204090 JA: 0203

TI: Changes in fiber characteristics and handsheet properties of Eucalyptus globulus kraft pulps

AU: Kawana J

CI: 2001 (68th) Pulp and paper research conference, Tokyo, Japan, 18-19 June 2001, pp 22-27, <Tokyo, Japan: Japan TAPPI, 2001, 180pp> (P)

CT: CONFERENCE/ EUCALYPTUS GLOBULUS/ HANDSHEET/ RECYCLING/ SAMPLE/ STRENGTH PROPERTIES/ WATER RETENTION/

CN: Japan TAPPI

AB: Variations in pulp fibre and handsheet properties during recycling were monitored using 33 samples of 9y old Australian Eucalyptus globulus trees. Samples were refined for 7,500 rev. in a PFI mill and the recycling process comprised wetting, defibration, dewatering and drying up to five cycles for each pulp sample. Restraint drying was achieved in a forced air circulation oven at 80 deg C for 24h. Following the first recycling process, the strength of handsheets produced from the Eucalyptus trees, including the tensile index, was reduced, although there were significant differences in strength property variations in all the trees. Fibre morphological characteristics and water retention value had a major effect on handsheet tensile strength reduction during recycling. Shrinkage configuration of the fibre wall during recycling appeared to be the cause of the decrease in fibre wall thickness. The anticipated tensile index corresponded to fibre wall thickness of refined pulp when calculating tensile index at extended recycling using non linear regression analysis for each pulp. (8 fig, 5 ref)

SO: B

00016

PI: 20204095 JA: 0203

TI: Flocculation and rheological properties of pulp suspensions

AU: Tatsumi D

CI: 2001 (68th) Pulp and paper research conference, Tokyo, Japan, 18-19 June 2001, pp 46-49, <Tokyo, Japan: Japan TAPPI, 2001, 180pp> (P)

CT: CCD CAMERA/ CONFERENCE/ FOURIER TRANSFORM/ PULP PROPERTIES/ RHEOLOGICAL PROPERTIES/ SUSPENSION/ TESTING/

CN: Japan TAPPI

AB: The rheological properties of pulp fibre suspensions were monitored across a broad range of fibre concentrations using a high speed charge coupled device (CCD) camera to observe the structure of the flowing suspension in the low concentration range focusing on the flow properties relating to the structural change of the suspensions. The power spectral patterns of the suspensions were determined using the two-dimensional fast Fourier transform method. The radius of gyration of the flocks in the suspensions can be determined from the power spectral patterns based on the Guinier approximation. Classified as pseudo equilibrium moduli, the dynamic storage moduli  $G'$  were independent of the angular frequency in the high concentration range. A power law

correlation occurred between the pseudo-equilibrium moduli  $G_e$  and the volume concentrations of the suspensions. Individual fibre characteristics were dependent on factor A, which altered with the beating degree. The exponent was independent of the degree of beating, reflecting the properties of all suspensions. (6 fig, tab, 4 ref)

SO: B

00017

PI: 20204616 JA: 0203

TI: Study of physical modifications of cellulose fibres from softwood after repeated cycles of drying and rewetting

AU: Navarrete Fuentes L; Turrado Saucedo J; Melo Sanhueza R

JN: Celul. Pap. (Chile) \$IS=0716-2308

CI: vol. 14, no. 2, June 1998, pp 6-12 (C, K, P, S)

CT: BLEACHED PULP/ CELLULOSE FIBRE/ DRYING/ FIBRE PROPERTIES/ KRAFT PULP/ PINUS RADIATA/ PULP PROPERTIES/ RECLAIMED FIBRE/ RECYCLED PULP/ RECYCLING/ REFINING/ SOFTWOOD PULP/ UNBLEACHED PULP/

AB: When pulp is converted into paper the drying process alters the pulp fibres by hardening their outer layers. With every pulping cycle the fibres lose some of their physical and chemical properties, which in turn lowers the quality of the paper. A laboratory study was carried out to measure the deterioration of Pinus radiata pulp fibres after repeated pulping cycles using two refining processes. The objective was to investigate the possibility of improving over-recycled fibres by adding virgin fibres or sodium hydroxide, or, by modifying the temperature of the paper process. (4 fig, 5 tab, 12 ref)

SO: B

00018

PI: 20204621 JA: 0203

TI: Optical brighteners in newsprint manufacture

AU: Rohringer P

JN: Celul. Pap. (Chile) \$IS=0716-2308

CI: vol. 14, no. 5, Dec. 1998, pp 4-6, 8-10 (C, K, P, S)

CT: BRIGHTNESS/ CHEMITHERMOMECHANICAL PULP/ CTMP/ DEINKED PULP/ FLUORESCENCE/ KRAFT PULP/ MIXTURE/ NEWSPRINT/ OPTICAL BRIGHTENER/ THERMOMECHANICAL PULP/ TMP/ WHITENESS/

AB: Apart from the thermomechanical pulp and paper plants, the majority of manufacturers of newsprint employ conventional additives to improve optical brightness (OBs). Now uncoated paper made from thermomechanical fibres can also benefit from OBs, which have been highly significant to improve the whiteness of newsprinting paper. A observational study of the background colour of over 100 newspapers published worldwide showed that those made from paper improved with OBs had a much greater whiteness than those that did not. (9 fig)

SO: B

00019

PI: 20204706 JA: 0203

TI: Determination and classification of contaminants in recycled pulps by screening techniques

AU: Sithole B; Filion D; Fletcher S

JN: Prog. Pap. Recycling \$IS=1061-1452

CI: vol. 8, no. 1, Nov. 1998, pp 34-44 (C, K, P, S)

CT: COMPARISON/ CONTAMINANT/ COUNTING/ DEINKED PULP/ IMAGE ANALYSIS/ RECYCLED PULP/ SCREENING/ STICKIES/ TEST METHOD/

AB: The performance of a Somerville screen and a Pulmac MasterScreen was compared for the concentration of contaminants in recycled pulps. A round-robin study of measurements of contaminants in deinked pulps (DIP) was performed by five laboratories. The Pulmac MasterScreen instrument handles larger pulp samples faster than a Somerville screen and automatically collects the rejects onto a filter paper. Measurement and classification of the contaminants is laborious, but repeatability is good. Determination of the contaminants by visual observation under a stereo microscope with low magnification enables their classification into four groups - stickies, hot melts, plastics, and others. The study showed that it is important to use the same instrument with the same screen sizes to facilitate comparison between different laboratories. (5 fig, 9 tab, 25 ref)

SO: B

00020

PI: 20204718 JA: 0203

TI: Fiber length measurement by image processing

AU: Ikiz Y

JN: Text. Res. J. \$IS=0040-5175

CI: vol. 71, no. 10, Oct. 2001, pp 905-910 (S)

CT: ALGORITHM/ FIBRE LENGTH/ IMAGE ANALYSIS/ METHOD/ OPTICAL MEASUREMENT/

AB: Opportunities exist for improvements in the calibration of current cotton fibre evaluation methods, as well as for the development of superior cotton fibre length distribution evaluation technology in general. The accuracy and precision of novel image processing applications was compared with the existing methods of HVI, AFIS, and hand measurements. Some preferred system parameters for these two possible applications of the technology are also proposed. Image processing can measure fibre length more accurately and more precisely than hand measurement with high-resolution images. It may become the next fibre length measurement method, depending on the development of an instrument to provide adequate sample preparation. There are many opportunities to improve results, and technological advancements are the main driving force of image processing applications. (5 fig, 1 tab, 5 ref)

SO: B