

"Secondary Fibers and Nonwood Pulping"

Edited by M. J. Kocurek, F. Hamilton and B. Leopold

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Figure and Table Credits

Subject Index

acidity in storage;
effect on fiber

adhesives;
animal glue, casein, rubber based, sodium silicate, starch dextrin, gum arabic, synthetic resin

availability;
bagasse, bamboo, cotton linters, flax, straw

bagasse;
availability, bleaching, chemical characteristics, chemical recovery, causticizing, conventional systems,

alum

arbitration

ash;

effect on pulp yield, percent of, value

ash content;

bagasse, bamboo, corn stalks, hemp, jute, kenaf, non-wood plant fibers, papyrus, reeds evaporator problems, fluidized bed, silica removal, current uses, depithing, importance, machines, methods, power requirements, dissolving pulp, economics, fibers, fuel value, future, handling, of bagasse, of wet pith, history, of technical development, of utilization, newsprint, mills in operation,

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processes, properties, pulping, chemical and semichemical, equipment, mechanical and chemimechanical, reconstituted panelboard, sugar cane separation process, types of board, storage methods, biological pretreatment, moist bulk storage, wet bulk storage, structure, transportation, vessel segments, washing and cleaning, worldwide pulp production, yield per hectare

bailing;
of reeds

bamboo;
availability, black liquor, causticizing, evaporation, silica removal, bleaching, chemical characteristics, chipping, cultural characteristics, clump-type bamboos, running bamboos, fibers, flowering, harvesting, occurrence, planting, pulping, strips as writing surface, structure

bast fibers

bentonite

biological effluent treatment

biological pretreatment of bagasse

black liquor

bleaching;
brightness reversion, for book, writing, tissue pulp, wood free, hypochlorite stage, 10-20% wood, CH stages, Hooker process, 20-30% wood, CEH stages, 40% wood, hydrosulfite/peroxide, for news pulp, brightness, consistency, temperature, time, color stripping, high brightness, yellow dyes

bleaching of pulp from;
bagasse, bamboo, cotton linters, flax, reeds, straw

board

brightness

Bureau of Labor Statistics

Caustic soda

Causticizing

celdecor - Pomilio process
bagasse
straw

Cellulose
bagasse
bamboo
corn stalks
hemp
jute
kenaf
calcium hypochlorite
caustic soda
detergents

non-wood plant fibers
papyrus
reeds
sabai grass
straw

Centrifugal cleaning
forward cleaners
arrangement of
dirt removal
high density
low consistency
reject fiber loss
reverse cleaners
Boi-Z type
consistencies
core bleed type
effect of pressure drop
efficiency of removal
theory
equipment arrangements
flow through type
flow splits
forward vs. reverse
inlet design
plugging of tips
RTL type
stickies removal
theoretical
water removal

Centrifuge

Cereal straw, see Straw

Chemical characteristics
bagasse
bamboo
papyrus
reeds,
straw

Chemical pulping
bagasse
bamboo
corn stalks
cotton linters
esparto
flax
hemp
kenaf
reeds
sabai grass
straw

Chemical recovery

Chemicals
fatty acids
flocculants
hydrogen peroxide

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kerosene
lime
magnesium sulfate
metasilicate
phloroglucinol
soda ash
sodium hydrosulfite
sodium hypochlorite
sodium peroxide
sodium phosphates
sodium silicate
sodium tripolyphosphate
sulfur dioxide
tetrasodium pyrophosphate
Chemimechanical pulping
 bagasse
 straw
Chipping of bamboo
Cleanness of product
Clump-type bamboos
Coatings on paper
 clay
 extruded
 latexes
 solvent
 trouble from
 wax
Consumption of secondary fiber
Contaminants
 news & old corrugated
 polyethylene removal
 removal processes
 UV coatings
 value of contaminated stock
 wet strength
Corn stalks
 characteristics
 economics
 pulping
Corrugated containers, use of
Corrugated medium furnish
Corrugating medium
 bagasse
 straw
Costs
Cotton liners
 availability
 characteristics
 papermaking
 pulping
Deflaking
Degradation of reeds
Deinking
 high grades
 news
 sludge
 Depithing of bagasse
 Detergents
 Dissolving pulp from bagasse

Economics
Effluent treatment
 biological secondary
 closed systems
 deinking plants
 effluent characteristics
 reverse osmosis
 sedimentation
 sludge disposal
 spray irrigation
 waste corrugated systems
 wet air oxidation
Energy
 requirements for
 deinking at two consistencies
 deinking plant process steps
 pulp production
 savings
 corrugated grades
 from incineration
 from reuse in paper/board
 newsprint deinking
 printing/writing grades
 tissue grades
Equipment
 asphalt dispersion
 baling
 centrifugal cleaners
 forward
 high density
 reverse
 centrifuge
 curved, sloping screen
 deckers
 deflakers
 depithing
 drum pulper
 extraction plates
 flotation - dissolved air
 flotation - occlude air
 horizontal pulper
 hydropulper
 pulpers, high & low consistency
 pulping
 raggers
 recovery
 rotary digesters,

"Secondary Fibers and Nonwood Pulping"

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- rotocell
- screw presses
- secondary pulper
- sidehill washers
- single-shaft mixer
- storage
- twin-belt presses
- vacuum filters,
- vacuum washers
- washing and cleaning
- water extractors
- Esparto
 - characteristics
 - harvesting
 - occurrence
 - papermaking
 - pulping
- Evaporation
- Fatty acids
- Fermentation in bagasse
- Fiber fractionation
- Fiber preparation
- Fibers
 - bagasse
 - bamboo
 - corn stalks
 - esparto
 - flax
 - jute
 - kenaf
 - non-wood plants
 - papyrus
 - reeds
 - sabai grass
 - straw
- Fillers
 - bentonite
 - clay
 - diatomaceous earth
- Filters,
- Flax
 - availability
 - bleaching
 - characteristics
 - papermaking
 - pulping
- Flexographic or aniline
- Flotation - deinking
 - ash removal
 - brightness
 - capacity - world
 - chemical formulas
 - groundwood content
- screen vibratory
- wood free
- consistency
- cost
- effluent
- equipment
- air injectors
- denver cells
- escher-Wyss cells
- Swemack cells
- Voith cells
- flow diagram
- history
- ink particle size
- labor required
- pulp process for feed
- rejects
 - composition
 - dewatering
 - strength of pulp
 - surfactants - non ionic
 - temperature effect - ink removal
 - theory
 - flake flotation
 - flotation agents
 - washing vs flotation
 - water hardness
 - water required
 - yield
- Fluidized bed
- Florescent printed paper
- Fuel value of bagasse
- Future of non-wood plants fibers
- General Services/Administration
- Geographic distribution of bamboos
- Gilsonite
- Grades and grading of secondary fiber
- Grass, see Sabai grass
- Groundwood (mechanical pulp)
 - bleaching
 - per cent of,
 - treatment of,
- Handling
 - bagasse
 - bamboo
 - reeds
 - wet pith
- Hard water
- Hardiness of bamboo
- Harvesting
 - bamboo
 - esparto

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papyrus
reed
Hemp
 common
 manila
Ink
 amount of
 composition of
 flexographic
 letterpress offset
 newsprint
 rotogravure
 special
 foodboard
 general
 laser
 ledger
 magazine
 news-offset
 removal of
 Xerox
Inspection
Insulation from secondary fiber

Jute
 characteristics
 occurrence
 papermaking
 pulping

Kenaf
 chemical pulps
 fibers
 harvesting
 mechanical pulps
 occurrence
 structure
Kerosene
Kraft pulping
 bagasse
 bamboo
 kenaf
 reeds

Lignin
 bagasse
 bamboo
 corn stalks
 esparto
 hemp
 jute
 kenaf
 non-wood plant fibers
 papyrus
 pulping
 Hydrapulper
 Hydrogen peroxide

Importance of depithing bagasse
 reeds
 sabai grass
 straw
Lime process
Lime-soda process
Linseed oil

Machines, see equipment
Magnesium sulfate
Market wood pulp
Material characteristics
 bagasse
 bamboo
 corn stalks
 cotton linters
 esparto
 flax
 jute
 kenaf
 papyrus
 reed
 sabai grass
Materials in secondary fiber and ink
 acrylic latex
 butyl rubber
 casein
 cellulose acetate butyrate
 cellulose nitrate
 clay
 cyclized rubber
 ethyl cellulose
 glue
 polyimide
 polyethylene
 polyisobutylene
 polypropylene
 polyvinyl acetate
 polyvinyl chloride
 polyvinilidene chloride
 protein
 saran
 starch
 styrene butadiene
 varnish
 vinyl copolymers
 wax
Mechanical pulping
 bagasse
 bamboo

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- kenaf
- Mechano-chemical pulping, see
 - Chemimechanical pulping
- Methods of deinking
- Mill testing of secondary fiber
- Moist bulk storage of bagasse
- Municipal solid waste
 - composition
 - dry system
- Newsprint
 - bagasse
 - kenaf
 - mills in operation
- Newsprint waste, use of
- Non-wood plant fibers (major species indexed under their common names)
 - ash content
 - availability worldwide
 - chemical properties
 - criteria for economical use
 - dimensions
 - furnishes for various grades
 - future of
 - history of use for paper
 - papermaking properties
 - photomicrographs of
 - pulping
 - capacities by region
 - processes
 - production
 - strength vs freeness
 - types used for papermaking
 - yield from various plants
- Occurrence
 - bamboo
 - esparto
 - jute
 - kenaf
 - reeds
 - sabai grass
- Outthrows
- Panelboard, see reconstituted panelboard
- Paper (Index under specific grades)
- Paper produced by deinking
- Paper stock Institute of America
- Paperboard
 - bagasse
 - non-wood plant furnishes
 - reeds
 - straw
- Papermaking
 - cotton linters
- wet system
- National Center for Resource Recovery
- National Council of Paper Industry for Air & Stream Improvement
- Neutral sulfite pulping
 - bagasse
 - reeds
 - straw
 - esparto
 - flax
 - history
 - jute
 - kenaf
 - non-wood plant fibers
 - papyrus
 - reeds
 - sabai grass
 - straw
- Papyrus
 - characteristics
 - chemical composition
 - fibers
 - history
 - papermaking
 - pith
 - pulping
- Pentosans
 - bagasse
 - bamboo
 - corn stalks
 - hemp
 - jute
 - non-wood plant fibers
 - reeds
 - sabai grass
 - straw
- Peroxides
- Phosphates
- Pith
 - bagasse
 - papyrus
- Plant fibers (Major species indexed under their common names)
- Power requirement in depithing
- Preparation for pulping
 - reeds
 - straw
- Printing paper
 - cotton linters
 - esparto
 - flax
 - kenaf
 - reeds

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straw
Processes,
Procurement
bagasse
bamboo
corn stalks
cotton linters
esparto
flax
hemp
history
jute
kenaf
low consistency
tridyne rotor
continuous
corrosion
deflaker
drum pulper
equipment operation
extraction plates
fillers, effect
horizontal pulper
material handling
pulp quality
raggers
secondary pulper
temperature pulping
time of pulping
Vokes rotor
water reuse
heat and chemical recovery
washing

Quality Control of
paper stock
pulp

Raw material characteristics, see Material characteristics
Reconstituted panelboard from bagasse
sugar cane separation process
types of board
Records to keep
Recovery, see chemical recovery
Reeds
bailing
bleaching
chemical characteristics
degradation and losses
harvesting
material characteristics
occurrence
paper and board

papyrus
processes for non-wood plants
reeds
sabai grass
straw
Pulping/cooking
agitation
batch
batch vs continuous
before cooking
chemicals
consistency
high vs low consistency
preparation for pulping
pulping
recovery
Rejections of secondary fiber
Resins
Rind of bagasse
Rosin
Rotogravure inks
Running bamboos

Sabai grass
characteristics
occurrence
papermaking
pulping
Samples for testing
Screening
coarse, pressure
slot size
slotted pressure
Secondary fiber
paper stock (waste paper)
ash
availability
baling of
burning of
consumption of
corrugated containers
definitions of
demurrage charges
economics
export
flow diagram
future uses
grades
bleached sulfate
book
coated book
colored ledger
computer printout
corrugated containers

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corrugated cuttings
envelope cuttings
fluorescent poster
groundwood shavings
low quality (mixed papers)
manifold colored ledger
mixed paper
news
office waste
pulp substitutes
specialty
wet strength
white ledger
grading of
inspection of
invoicing for
labeling bales
incineration
industrial
office waste
regional
yields
definition
effect of
ash
bleaching
coatings
grade
groundwood content
ink
moisture
solubles
washing
processes
batch pulper flow diagram
cold
corrugated
deinking
flotation
ash removal
flow diagrams
washing
ash removal
washing and flotation
washing vs flotation
deinking news
garden States
SW Forest, Publisher Paper
Ontario Paper
general
homasote
hot
asphalt dispersion
medium from corrugated clippings
moisture content
outthrows
paper stock
post-consumer waster
pricing of
prohibitive materials
rejection of
sampling
sources of
standards & practices
statistics on reclamation
storage
strength
supply of
testing of
uses
historical & forecast
municipal solid waste
fibreclaim
flakt dry system
plastic coated (polyethylene)
polysolve process
telephone books
ultrasonic
wax removal
wet strength
pulp
ash
contaminant problems
contaminants lists
costs
deinked news
dirt
economics
effect of paper/board machines
linerboard
medium
newsprint
printing/writing
twin-wire tissue
medium-corrugating
molded products
refings
stickies
technical characteristics comparison
variability
Yankee dryer
Sedimentation
Shrinkage
Sidehill washers
Silica removal in recovery
bagasse
bamboo
straw

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Silicate use of
Sludge reutilization
Soaking
Soaps, use of
Soda ash
Soda pulping
 bagasse
 corn stalks
 flax
 hemp
 kenaf
 papyrus
 reeds
 sabai grass
 straw
Sodium hydrofulfite
Sodium hypochlorite
Sodium peroxide
Sodium phosphates use of,
Solid waste management
Solubles
 fibers
 future
 history
 paper and board
 procurement
 pulp production worldwide
 pulping processes
 Celdecor-Pomilio
 lime and lime soda
 mechano-chemical
 recovery
 causticizing
 silica removal
 storage
 structure
 yield per unit area per year
Structure
 bagasse
 bamboo
 corn stalks
 esparto
flax
 hemp
 jute
 kenaf
 papyrus
 reeds
 sabai grass
 straw
TAPPI
 CA reports
 monographs
Solvents use of
Sorting secondary fiber
 classification
 economical considerations
 equipment
 firms sorting
 methods
Sources of secondary fiber
Stickies
 chemical composition
 size classification
Storage
 bagasse
 bamboo
 reeds
 straw
Straw
 availability
 bleaching
 chemical properties
 fiber preparation
 secondary fiber pulping committee
 test methods
 useful method tests
Technology development
Telephone directories, use of
Testing for
 ash contents
 deinking
 pressure sensitive tape
 recyclability of paper stock
 splicing tape
Tetrasodium pyrophosphate
Tissue - use of secondary fiber
Transportation
 bagasse
 bamboo
 costs
 reeds
Treatment of wastes
T'Sai Lun
Two-stage depithing
Two-stage pulping
 bagasse
 bamboo
US Department of Energy - guidelines for
 secondary fiber use
Utilization
 bagasse
 history
 straw
Vessel segments

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Virgin chemical pulps, effect of availability & price

Washing

cocurrent
countercurrent
low, medium & high consistency
dilution factor,
discharge consistency - effect on efficiency
equipment comparison
economics
equipments operating information
curved sloping screen
deckers, gravity
number of stages
screw press
sidehill screen,
vacuum filter
hot loop
inclined screw extractor
ink removal
particle size & ink dispersion
process control
washing vs flotation
braking length

Yield of pulp

Yield per unit area per year
bagasse
non-wood plants

brightness
bulk
burst
fiber loss
freeness
pulp strength
tear strength
water use
washing vs thickening

Washing and cleaning

bagasse
cotton linters

Water

consumption of
hard
white

Waxed apers

Wet bulk storage of bagasse

Wet pith handling

Wet strength

Worldwide pulp production

bagasse
non-wood plants