SURINAMESE TIMBER SPECIES

CHARACTERISTICS AND UTILIZATION

L.B. Comvalius

Recent information with brief descriptions
of the main Timber species of Suriname

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Front cover photo: Logyard at a site in Brokopondo.

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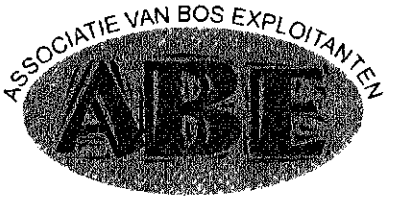
This book presents the results of research and studies on neotropical wood species of Suriname related to conservation and sustainable utilization of the mesophytic forest resources.
The selection of timber species in this book is however based on present and potential commercial value and on relative frequency while some lesser known / lesser used species have been included.



SURINAME

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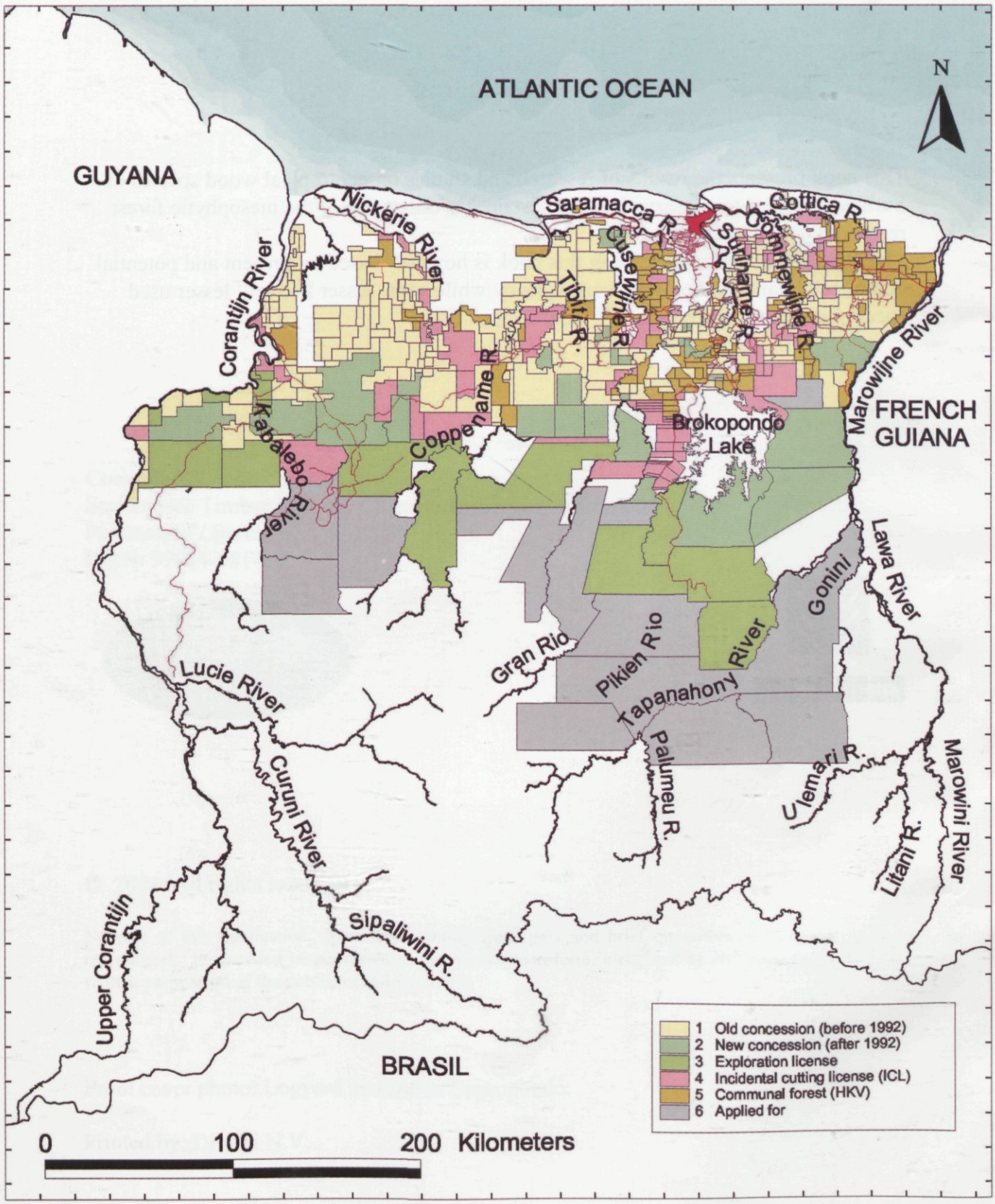

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Appendices

1. Introduction

The purpose of this publication attempts to bring concise technical information to enable optimum use of the Surinamese timber species. The information includes: botanical names, local and vernacular names, occurrence, species description, physical and mechanical characteristics, processing behaviour, natural durability, amenability to preservative treatment and principal end use.
The emphasis of the new book is on presenting all latest - Wood tests results of the past ten years in an integrative manner and similar style. The finalization has been a slow progress but I feel the results are now put in a proper perspective.
The list of species covered by this publication was compiled by L.B. Comvalius - Former Senior Wood Technologist at TNO-Delft, the Netherlands and CELOS - Department of Forestry and Wood Technology in collaboration with the Herbarium of the University of Suriname - AdeK.
The wood species selected are mainly found in the northern part of the country, where most of the forestry and woodprocessing activities are concentrated. Though this publication focuses primarily on Suriname, many of the listed species can also be encountered in the adjacent countries Guyana and French Guiana or even further afield. The three Guianas commonly share a majority of the timber producing genera (92) and all of the families (28) found in the Guianas (Boggan et al, 1992). Of the listed species 40 are being harvested frequently and also utilised while the others with acceptable technical properties are hardly being exploited or are lesser known. To facilitate understanding of the various headings in this publication, the reader is advised to read the Explanatory Notes.

Obviously such a new book cannot be edited without the help of others involved in the different research programmes. I would like to thank all who have contributed to this work either by scientific backstopping, reviewing manuscript, reviewing the botanical species names and for logistical support.

A special thanks to ABE (FOREST EXPLOITATION SOCIETY)
KKF (CHAMBER OF COMMERCE AND INDUSTRY)
STPO (SURINAME TRADE PROMOTION ORGANISATION) and the
TIMBER SECTOR in general.

Leon B. Comvalius
December 2001.

2. EXPLANATORY NOTES

a. **Scientific (botanical) names**
All scientific names presently adopted by botanists. The name of one or several authors who have described the species appears in full or abbreviated.

b. **Synonym**
Ocassionally common synonyms are listed.

c. **Surinamese name**
This is the vernacular name most commonly used in Suriname.

d. **Family**
Botanical family to which one or several species belong.

e. **Vernacular names**
The vernacular names used in Suriname and adjacent producing countries.

f. **International trade name**
The most commonly used name in international trade.

g. **Occurrence**
Recognised in Suriname (in exploitable volumes) and adjacent countries.

h. **Tree description**
The bole diameters of timber trees are measured at 1.30 m dbh or at 0.1 m above the highest buttress in the case of trees with buttresses higher than 1.30 m.

i. **Wood description**

* sapwood
  - colour in green condition and indication of differentation

* heartwood
  - colour in dry condition

* grain (general alignment of fibers)
  - straight
  - slightly and / or occasionally interlocked
  - highly and / or frequently interlocked

* texture (visual impression given by the relative sizes and arrangement of vessels)
  - coarse
  - medium
  - fine.

j. **Technological characteristics**

Technological properties in general correspond to within species are computed from several trees and from several test samples per tree. The statistical variability is not equal for all species and varies with the measured physical and mechanical characteristics of timber.

Physical properties

- Moisture content (MC)
- Green density

  This value corresponds to the average weight of wood in green (recently felled condition) and is expressed in g/cm^3.

- Air dry density at 12% MC

  These indicate the possible range or the average of the weight per volume at 12% MC and is also expressed in g/cm^3.

- Basic specific density

  The ratio of ovendry wood weight and volume in the green condition.

- Tangential shrinkage

  The dimensional variation in width of plain sawn (tangential) boards from green to ovendry conditions and expressed as percentages (%) of green dimensions.

- Radial shrinkage

  The dimensional variation in width of quarter sawn (radial) boards from green to ovendry conditions, expressed as percentages of green dimensions.

- Total volumetric shrinkage

  The dimensional variation in volume of wood from green state to ovendry conditions and expressed as a percentage of green dimensions. In most cases this value represents the sum of radial and tangential ($R_s + T_s$) shrinkage.

Mechanical properties

- Modulus of Rupture (MOR)

  The modulus of rupture (MOR) reflects the maximum load carrying capacity (N) of a member stressed in bending (bending strength) at 12% MC and is expressed in N/mm^2.

- Modulus of Elasticity (MOE)

  The modulus of elasticity (Young's modulus) reflects the resistance to deflection of a member stressed in bending at 12% MC and is expressed in N/mm^2.

- Maximum crushing strength (C_{max})

  The maximum crushing strength reflects the maximum load carrying capacity of a member stressed in compression parallel to the grain at 12% MC and is expressed in N/mm^2.

- Hardness

  The wood hardness reflects the resistance of the wood to identation of foreign objects in its mass and is expressed in N/mm^2.

Processing

- Sawing

  This process is evaluated in Suriname on band and gangsaws and the conditions expressed as *easy, normal, difficult, very difficult.*

- Drying

  Drying rate, checking and risk of distortion during natural and or artificial drying is noted. For some species tested at TNO or CELOS and other institute a drying schedule is given.

- Machining

  This may be qualified as *easy, good, difficult* or *very difficult* related to abrasive-ness, hardness and interlocked grain of the wood. In cases problems are experienced, *special* tools are recommended (stellite tipped cutters, high speed steel cutters or tungstene carbide inserted teeth).

- Gluing

  The selection of a glue type (*urea, phenolic*) depends on the final wood utilization. This may be an interior, outdoor or a combined application. Before gluing the correct moisture content, clean surfaces and uniform application of the glue has to be taken in account. The gluing classes here are noted as *normal, good, difficult or with care.*

- Nailing

  Most wood construction joints in the country are being nailed with metals. If the risk of splitting exists, preboring is recommended and the holding capacity of the wood noted as *poor, medium or good.*

Finishing

In cases where sanding, polishing, (varnishing and painting - three years tests) gives minor or acceptable results, it is rated as *poor* or *good.*

Veneering

Slicing and rotary peeling as common practice at veneering are technologically possible for almost every timber species if appropiate pre-heat treatment and accurate adjustment of the cutting conditions are used. In this publication some species with industrial possibilities are noted :

- *peeling* - soft or moderately hard species with cylindrical, defect-free boles and good drying behaviour of the veneer;
- *slicing* - of visual appearance with aesthetic qualities as colour, figure and texture.

Natural durability

The natural durability of species refers to heartwood only and the resistance against biological agents, particularly decay fungi, termites and marine borers is described. The natural durability for the different wood species is rated as *very good, good, moderate* or *poor.*

Treatability

The amenability to preservative treatment at TNO and CELOS was carried out with a semi-practical vacuum-pressure unit and the results rated as *poor, moderate, good or very good.*

End-use

The typical end uses of the species should not be considered exhaustive since the timber market is always fluctuating and can favour new applications for timbers. The publication indicates however the present typical end-use of the most listed species.

3. INDEX OF SPECIES NAMES

Listed according actual local roundwood production volume

		Scientific name(s)	Surinamese (vernacular) names *
01		*Dycorinia guianensis* **Amsh.**	basraloksi, 16
02		*Ruizterania albiflora* **(Warm.) Marcano-Berti**	eigron-gronfolo, 18
	a	*Qualea rosea* **Aublet**	bergigronfolo, 18
03		*Vochysia tomentosa* **(G. Mey.) DC.**	wanakwari / wetikwari, 20
	a	*Vochysia guianensis* **(Aubl.)**	wiswiskwari / redikwari, 20
	b	*Vochysia tetraphylla* **(G. Mey.) DC.**	watrakwari, 20
04		*Erisma uncinatum* **Warm.**	mawsikwari, 22
05		*Goupia glabra* **Aubl.**	kopi, 24
06		*Virola michelli* **Heckel**	eigron-babun, 26
07		*Virola surinamensis* **(Rolander) Warb.**	babun, 28
08		*Carapa guianensis* **Aubl.**	krapa, 30
	a	*Carapa procera* **A.DC.**	30
09		*Tetragastris altissima* **(Aubl.) Swart**	redisali, 32
	a	*Tetragastris panamensis* **(Engl.) Kuntze**	32
10		*Simarouba amara* **Aubl.**	sumaruba,34
11		*Eperua falcata* **Aubl.**	walaba, 36
12		*Eperua grandiflora* **(Aubl.) Benth.** ssp. *Grandiflora*	babunwalaba, 38
	a	*Eperua schomburgkiana* **Benth.**	38
13		*Eperua rubiginosa* **Miq.**	jeturiwalaba, 40
14		*Couratari guianensis* **Aubl.**	ingipipa, 42
	a	*Couratari gloriosa* **Sandw.**	42
	b	*Couratari multiflora* **(J.E. Smith) Eyma**	42
15		*Eschweilera coriacea* **(A.DC.) Mori**	manbarklaki, 44
	a	*Eschweilera pedicellata* **(Rich.) Mori**	bergimanbarklaki, 44
	b	*Lecythis corrugata* **(Poit.)** ssp. *Corrugata*	eigron-umabarklaki, 44
	c	*Lecythis idatimon* **Aubl.**	bergi-umabarklaki, 44
	d	*Eschweilera decolorans* **Sandw.**	kwateri, 44
16		*Eschweilera subglandulosa* **(Steud. Ex Berg) Miers**	eigron-manbarklaki, 46
	a	*Eschweilera sagotiana* **Miers**	46
17		*Humiria balsamifera* **(Aubl.) St. Hill** var. *balsamifera*	meri / blakaberi, 48
18		*Parkia nitida* **Miq.**	agrobigi, 50
19		*Parkia pendula* **(Willd.) Benth. ex Walpers**	kwatakama,52
20		*Vouacapoua americana* **Aubl.**	broinati, 54
21		*Andira inermis* **(Wright) DC.**	redikabisi, 56
	a	*Andira surinamensis* **(Bondt) Splitg. Ex Amshoff**	56
22		*Vateira guianensis* **Aubl.**	gerikabisi, 58
	a	*Vateira paraensis* **Ducke**	58

		Scientific name(s)	Surinamese (vernacular) names *
23		*Sterculia pruriens* **(Aubl.) Schum.** var. *pruriens*	okro-udu, 60
24		*Ocotea rubra* **Mez**	wana, 62
25		*Ocotea glomerata* **(Nees) Mez**	pisi, 64
	a	*Ocotea floribunda* **(Swartz) Mez**	64
	b	*Ocotea oblonga* **(Meissn.) Mez**	64
	c	*Ocotea guianensis* **Aubl.**	64
	d	*Ocotea canaliculata* **(Rich.) Mez**	64
26		*Licaria canella* **(Meissn.) Kosterm.**	kanerati / kaner-udu,66
27		*Protium decandrum* **(Aubl.) March.**	tingimoni / kurokai, 68
	a	*Protium tenuifolium* **Engl.**	68
	b	*Protium polybotryum* **(Turcz.) Engl.** ssp. *polybotryum*	68
	c	*Protium heptaphyllum* **(Aubl.) March.** ssp. *heptaphyllum*	68
28		*Diplotropis purpurea* **(Rich.) Amsh.**	blakakabisi, 70
29		*Jacaranda copaia* **(Aubl.) D. Don**	gubaya, 72
30		*Hymenaea courbaril* **L.** var. *courbaril*	loksi, 74
	a	*Hymenaea oblongifolia* **Huber**	74
31		*Cedrela odorata* **L.**	sedre, 76
32		*Loxopterygium sagotti* **J.D. Hook**	snek' udu, 78
33		*Anacardium giganteum* **Hancock ex. Engl.**	busikasyu, 80
		Anacardium spruceanum **Benth. ex Engl.**	80
34		*Eriotheca crassa* **(Uitt.) A. Robyns**	busikatun, 82
	a	*Bombax spectabile* **Ulbrich**	busimaumau, 82
35		*Parahancornia fasciculata* **(Poir.) Benoist ex Pichon**	dukali, 84
	a	*Brosimum parinarioides* **Ducke** ssp. *parinarioides*	84
36		*Parinari camprestris* **Aubl.**	redifungu, 86
	a	*Parinari rodolphii* **Huber**	86
37		*Schefflera decaphylla* **(Seem.) Harms**	morototo, 88
38		*Schefflera morototoni* **(Aubl.) Maguire, Steyerm. & Frodin**	kasaba-udu, 90
39		*Tabebuia serratifolia* **(Vahl) Nicholson**	grinati, 92
40		*Tabebuia insignis* **(Miq.) Sandw.** var. *monophylla* **Sandw.**	swampupanta, 94
	a	*Tabebuia capitata* **(Bureau & Schum.) Sandw.**	makagrin, 94
41		*Platonia insignis* **Mart.**	pakuli, 96
42		*Mora excelsa* **Benth.**	mora, 98
43		*Mora gonggrijpii* **(Kleinh.) Sandw.**	morabukeya, 100
44		*Symphonia globulifera* **L.f.**	mataki, 102
45		*Moronobea coccinea* **Aubl.**	manni, 104
46		*Micropholis guyanensis* **(A.DC.) Pierre** ssp. *guyanensis*	wetilo-udu / blakalo-udu, 106

		Scientific name(s)	Surinamese (vernacular) names *
47		*Peltogyne venosa* **(Vahl) Benth.**	popo-ati, 108
	a	*Peltogyne paniculata* **Benth.**	108
48		*Licania laxiflora* **Fritsch**	kwepi, 110
	a	*Licania majuscula* **Sagot**	fungu, 110
	b	*Licania heteromorpha* **Benth.** var. *heteromorpha*	anawra, 110
49		*Manilkara bidentata* **(A.DC.) Chev.**	bortri, 112
50		*Sclerolobium guianense* **Benth.**	gedu, 114
	a	*Sclerolobium micropetalum* **Ducke**	114
	b	*Sclerolobium albiflorum* **(A.DC.) Chev.**	114
	c	*Sclerolobium melinonii* **Harms**	114
	d	*Tachigali paniculata* **Aubl.** var. *paniculata*	114
51		*Brosimum guianense* **Huber**	letr'udu, 116
	a	*Piratinera sp.*	116
52		*Brosimum paraënse* **Huber**	satèn-udu, 118
53		*Cedrelinga cateniformis* **Ducke**	donsedre, 120
54		*Lecythis zabucajo* **Aubl.**	kwatapatu, 122
55		*Lecythis confertiflora* **(A.C. Smith) Mori**	wetilo-abi, 124
	a	*Lecythis pisonis* **Camb.**	124
56		*Catostemma fragrans* **Benth.**	barmani, 126
57		*Laetia procera* **(Poepp.) Eichl.**	kaiman-udu, 128
58		*Inga alba* **(Swartz) Willd.**	rediprokoni, 130
59		*Balizia pedicellaris* **(DC.) Barneby & Grimes**	tamarenprokoni, 132
60		*Hydrochorea corymbosa* **(Rich.) Barneby & Grimes**	busitamaren, 134
	a	*Pithecellobium sp.*	134
61		*Aspidosperma cruentum* **Woodson**	kromantikopi, 136
	a	*Aspidosperma album* **(Vahl) Benoist ex Pichon**	136
	b	*Aspidosperma helstonei* **van Donselaar**	136
62		*Swartzia benthamiana* **Miq.** var. *benthamiana*	bergibebe, 138
63		*Bocoa prouacensis* **Aubl.**	isri-ati, 140
64		*Pouteria cuspidata* **(A.DC.) Baehni** ssp. *robusta* **(Mart & Eichl.) Pennington**	pintobortri, 142
	a	*Pouteria eugeniifolia* **(Pierre) Baehni**	142
	b	*Pouteria cladantha* **Sandw.**	142
65		*Pouteria guianensis* **Aubl.**	yamboka, 144
66		*Sacoglottis guianensis* **Benth.**	bofru-udu, 146
67		*Xylopia aromatica* **(Baill.) Mart**	pegrekupisi, 148
	a	*Xylopia sp.*	148
68		*Terminalia dichotoma* **G. Meyer**	busi-amandra, 150
	a	*Terminalia lucida* **Hoffmanns. ex Mart.**	150
69		*Terminalia amazonia* **(J.F. Gmelin) Exell**	krabasi-udu, 152
70		*Platymiscium trinitatis* **Benth.** var. *durum* **Ducke**	kunatepi, 154
	a	*Platymiscium ulei* **Harms**	154

		Scientific name(s)	Surinamese (vernacular) names *
71		*Hymenolobium flavum* **Kleinh.**	makakabisi, 156
72		*Hura crepitans* **L.**	possentri, 158
73		*Abarema jupunba* **(Willd.) Britton & Killip**	sopo-udu, 160
74		*Antonia ovata* **Pohl**	lika-udu, 162
75		*Bagassa guianensis* **Aubl.**	kaw-udu, 164
76		*Chrysophyllum pomiferum* **(Eyma) Penn.**	dyubortri, 166
	a	*Pouteria sp.*	166
77		*Dimorphandra conjugata* **(Splitg.) Sandw.**	dakama, 168
	a	*Dimorphandra polyandra* **Benoist**	168
78		*Dipteryx odorata* **(Aubl.) Willd.**	tonka, 170
		Dipteryx puncatata **(Blake) Amsh.**	170
79		*Pterocarpus rohrii* **Vahl**	eigron-bebe, 172
80		*Trattinickia rhoifolia* **Willd.**	tingimoni, 174
	a	*Trattinickia demerarae* **Sandw.**	174
	b	*Protium sp.*	174
81		*Triplaris weigeltiana* **(Rich.) Kuntze**	mira-udu, 176
82		*Ormosia coccinea* **(Aubl.) B.D. Jackson**	kokriki, 178
83		*Ormosia coutinhoi* **Ducke**	neku-udu, 180
	a	*Alexa wachenheimii* **Benoist**	180
	b	*Poecilanthe hostmannii* **(Benth.) Amsh.**	180
84		*Calophyllum longifolium* **Willd.**	kurali, 182
	a	*Calophyllum brasiliense* **Camb.**	182
85		*Clathrotropis brachypetala* **(Tul.) Kleinh.** var. *brachypetala*	arumata, 184
	a	*Clathrotropis brachypetala* **(Tul.) Kleinh.** var. *ferruginea* **Yakovlev**	184
86		*Hyeronima alchorneoides* **Allemão** var. *alchorneoides*	suradanni, 186
87		*Talisia squarrosa* **Radlk.**	makakrapa, 188
	a	*Talisia esculenta* **Radlk.**	188
88		*Iryanthera lancifolia* **Ducke**	srebebe, 190
	a	*Iryanthera sagotiana* **(Benth.) Warb.**	brudu-udu, 190
89		*Caryocar glabrum* **(Aubl.) Pers.** ssp. *glabrum*	sawari, 192
	a	*Caryocar nuciferum* **L.**	192
	b	*Caryocar microcarpum* **Ducke**	192
90		*Pinus caribaea* **Morelet** var. *hondurensis*	pinus, 194

		Scientific name(s)	Surinamese (vernacular) names *
91		*Bertholletia excelsa* **Humboldt & Bonplant**	inginoto, 196
92		*Copaifera guianensis* **Aublet**	upru-udu, 198
	a	*Copaifera duckei* **Dwyer**	198
	b	*Copaifera reticulata* **Ducke**	198
93		*Parkia pendula* **Benth. ex Walp.**	kwatakama, 200
94		*Buchenavia capitata* **(Vahl) Eichl.**	gindja-udu, 202
	a	*Buchenavia fanshawei* **Exell & Maguire**	202
95		*Newtonia suaveolens* **(Miq.) Brenan**	pikinmisiki, 204
96		*Fagara pentendra* **Aublet**	pritiyari, 206
	a	*Zanthoxylum flavum* **Vahl**	206
97		*Aniba cf. rosaeodora* **Ducke**	rosu-udu, 208
	a	*Aniba duckei* **Kosterm.**	208
	b	*Aniba parviflora* **Mez**	208
98		*Pouteria ptychandra* **Eyma**	kimboto, 210
99		*Lueheopsis flavescens* **(Uitt) Burret**	katun-udu, 212
	a	*Lueheopsis rugosa* **(Pulle) Burret**	212
100		*Inga leiocalycina* **Benth.**	swietbonki, 214
	a	*Inga capitata* **Desv.**	214

* According to the latest Surinamese orthography.

4. Vernacular species names of Suriname *

4. Vernacular species names of Suriname *

species names	spec. nr.	species names	spec. nr.	species names	spec. nr.
Basraloksi	01	Zwampupanta	40	Kurali	84
Eigron-gronfolo	02	Makagrin	a	Arumata	85
Bergigronfolo	a	Pakuli	41	Suradanni	86
Wanakwari / Wetikwari	03	Mora	42	Makakrapa	87
Wiswiskwari / Redikwari	a	Morabukeya	43	Srebebe	88
Watrakwari	b	Mataki	44	Sawari	89
Mawsikwari	04	Manni	45	Pinus / Pisping	90
Kopi	05	Wetilo-udu	46	Inginoto	91
Eigron-babun	06	Blakalo-udu	a	Upru-udu	92
Babun	07	Popo-ati	47	Kwatakama	93
Krapa	08	Kwepi	48	Gindja-udu	94
Redisali	09	Fungu	a	Pikinmisiki	95
Sumaruba	10	Anawra	b	Pritiyari	96
Walaba	11	Bortri	49	Rosu-udu	97
Babunwalaba	12	Gedu	50	Kimboto	98
Jeturiwalaba	13	Letr'udu	51	Katun-udu	99
Ingipipa	14	Saten-udu	52	Swietbonki	100
Manbarklaki	15	Donsedre	53		
Bergimanbarklaki	a	Kwatapatu	54		
Eigron-umabarklaki	b	Wetilo-abi	55		
Bergi-umabarklaki	c	Barmani	56		
Kwateri	d	Kaiman-udu	57		
Eigron-manbarklaki	16	Rediprokoni	58		
Meri / Blakaberi	17	Tamarenprokoni	59		
Agrobigi	18	Busitamaren	60		
Kwatakama	19	Kromantikopi	61		
Broinati	20	Bergibebe	62		
Redikabisi	21	Isri-ati	63		
Gerikabisi	22	Pintobortri	64		
Okro-udu	23	Yamboka	65		
Wana	24	Bofru-udu	66		
Pisi	25	Pegrekupisi	67		
Kanerati / Kaner-udu	26	Busi-amandra	68		
Tingimoni / Kurokai	27	Krabasi-udu	69		
Blakakabisi	28	Kunatepi	70		
Gubaya	29	Makakabisi	71		
Loksi	30	Possentri	72		
Sedre	31	Sopo-udu	73		
Snek-udu	32	Lika-udu	74		
Busikasyu	33	Kaw-udu	75		
Busikatun	34	Dyubortri	76		
Busimaumau	a	Dakama	77		
Dukali	35	Tonka	78		
Mapa	a	Eigron-bebe	79		
Redifungu	36	Tingimoni	80		
Morototo	37	Mira-udu	81		
Kasaba-udu	38	Kokriki	82		
Grinati	39	Neku-udu	83		

* According to the latest Surinamese orthography.

5. WOOD DESCRIPTION BY SPECIES

Wood description by species

1. Dycorinia guianensis **Amsh.** - basraloksi

Synonym : Dicorynia paraënsis **Bentham**

Family : Leguminosae (Papilionoidae)

Vernacular names

Suriname	: Basralokus
Guyana	: Barkarouballi
French Guiana	: Angélique / Angélique batárd
Brazil	: Angelica / Tapaiuna

International trade name : Angélique

Occurrence : Suriname, Guianas, Brazil

Tree description

Bole lenght	: bole 20 - 25 m, tree height 30 - 45 m
Diameter	: 0.60 - 0.90 m
Log shape	: straight, cylindrical bole; low, thick buttressed base

Wood description

Sapwood	: distinct, grayish or brownish white
Heartwood	: reddisch brown to reddish or yellowish brown
Grain	: straight, occasionally interlocked
Texture	: medium, uniform

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	1.08
Air dry density at 12% MC	(g/cm^3)	:	0.72 - 0.74
Basic specific gravity		:	0.69
Tot. tangential shrinkage	(%)	:	8.2
Tot. radial shrinkage	(%)	:	4.6
Tot. volumetric shrinkage	(%)	:	14.0

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	120
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	15100
Crushing strenght at 12% MC	(N/mm^2)	:	61

Processing

Sawing	: stellite-tipped blade required; presence of silica; blunting effect; moderate
Drying	: difficult, with risk of checking and distortion British schedule - F
Machining	: good, at times special tools needed
Gluing	: good
Nailing	: tends to split; pre-boring recommended
Finishing	: good
Veneering	: slices well (decorative topping)

Natural durability

Decay fungi	: good to very good
Termites	: fair
Marine borers	: good to very good

Treatability (heartwood) : poor

End uses : interior and exterior joinery, naval construction, millwork, flooring, panelling, furniture, crossties.

2. *Ruizterania albiflora* (Warm.) M. Berti - cigron-gronfolo
a. *Qualea rosea* Aublet - bergigronfolo

Synonym (2) : Qualea albiflora **Warm.**

Family : Vochysiaceae

Vernacular names

Suriname : Gronfulu / Gronfolo / Meniridan
Guyana : Yakopi / Manau / Muneridan
French Guiana : Grignon fou / Kouali / Gonfolo gris / Gonfolo rose
Brazil : Mandioqueira / Quaruba
Venezuela : Florècillo

International trade name : Mandio (2, 2a)

Occurrence : Suriname, Guianas, Venezuela, Brazil

Tree description

Bole lenght : bole 20 - 25 m; tree height 30 - 60 m
Diameter : 0.60 - 1.00 m
Log shape : straight bole, light to heavily buttressed trees

Wood description

Sapwood : yellowish, gray to cream coloured (*Q. albiflora*); pale yellowish to light brown (*Q. rosea*)
Heartwood : gray to light red brown (*Q. albiflora*); pink to red brown, occasionally olive brown (*Q. rosea*)
Grain : often slightly to moderately interlocked
Texture : medium to decidedly coarse

Technological characteristics

Physical properties (2, 2a)			*R. albiflora*	*Q. rosea*
Green density	(g/cm^3)	:	0.96	1.26
Air dry density at 12% MC	(g/cm^3)	:	0.65	0.63
Basic specific gravity		:	0.54	0.60
Tot. tangential shrinkage	(%)	:	4.3	7.9
Tot. radial shrinkage	(%)	:	2.3	4.6
Tot. volumetric shrinkage	(%)	:	7.1	12.3
Mechanical properties (2, 2a)				
Bending strenght at 12% MC	(N/mm^2)	:	70	67
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	13514	15171
Crushing strenght at 12% MC	(N/mm^2)	:	60	52

Processing

Sawing	: moderately difficult to saw, particularly when roey grain is present; small silica quantities; blunting effect: rather quickly
Drying	: moderately difficult to air-season and kiln drying, some warping and slight checking British schedule - D
Machining	: moderate to difficult to work
Gluing	: satisfactorily
Nailing	: good
Finishing	: good
Veneering	: peels well

Natural durability

Decay fungi	: moderate
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : rather well

End uses : interior and exterior joinery, millwork, flooring, furniture, veneer and plywood.

3. Vochysia tomentosa	**(G. Meyer) A.DC**	- wanakwari / wetikwari
a. Vochysia guianensis	**(Aubl.) Stafleu**	- wiswiskwari / redikwari
b. Vochysia tetraphylla	**(G. Mey.) A.DC**	- watrakwari

Synonym (3) : Cucullaria excelsa **Wahl.**

Family : Vochysiaceae

Vernacular names

Suriname : Kwari's

Guyana : Iteballi, Hilliteballi (*V. surinamensis*)

French Guiana : Grignon fou, Papakaie kouali (*V. tetraphylla*), Wana kouali (*V. tetraphylla*)

Brazil : Quaruba

Venezuela : Lacre montanera

International trade name : Iteballi, Kwari, Quaruba, Yemeri (3, 3a, 3b)

Occurrence : Suriname, Guianas, Brazil, Venezuela, Columbia, Peru

Tree description

Bole lenght : bole 15 - 25 m; (*V. tetraphylla*) 10 m; tree height 25 - 40 m

Diameter : 0.30 - 0.50 m (*V. guianensis*); 0.30 - 1.0 m (*V. tetraphylla*); 0.35 - 1.50 m (*V. tomentosa*)

Log shape : straight, cylindrical and slender; basally swollen (*V. guianensis*); buttressed (*V. tomentosa*); tapered and bent (*V. tetraphylla*)

Wood description

Sapwood : distinct, pale greyish brown or red greyish (*V. tomentosa*); yellowish white to greyish white (*V. guianensis*); light yellowish to greyish white, not sharply distinct (*V. tetraphylla*)

Heartwood : light brownish red or roze red (*V. tomentosa*); pale pink brown to golden brown (*V. guianensis*); light to roze brown (*V. tetraphylla*)

Grain : generally straight or slightly to strong interlocked

Texture : coarse to moderately

Technological characteristics

Physical properties (3, 3a, 3b)			*V. tomentosa*	*V. guianensis*	*V. tetraphylla*
Green density	(g/cm^3)	:	0.87	1.05	0.98
Air dry density at 12% MC	(g/cm^3)	:	0.45	0.63	0.62
Basic specific gravity		:	0.36	0.42	0.48
Tot. tangential shrinkage	(%)	:	2.8	8.3	8.3
Tot. radial shrinkage	(%)	:	2.3	2.4	2.4
Tot. volumetric shrinkage	(%)	:	16.2	14.3	11.2

Mechanical properties (3, 3a, 3b)			*V. tomentosa*	*V. guianensis*	*V. tetraphylla*
Bending strenght at 12% MC	(N/mm^2)	:	64	95	78
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	8238	9925	9709
Crushing strenght at 12% MC	(N/mm^2)	:	34	47	43

Processing

Sawing	: easy, raised grains and woolly surfaces; blunting effect: slight
Drying	: slowly and difficult; US kiln schedule T2 - D4 for 25-38 mm and T2 - D3 for 50 mm stock
Machining	: easy with sharp cutting tools
Gluing	: good
Nailing	: good
Finishing	: good
Veneering	: peels well

Natural durability

Decay fungi	: poor
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : moderate to good

End uses : interior joinery, light carpentry, furniture, utility plywood.

4. Erisma uncinatum Warm. - mawsikwari

Family : Vochysiaceae

Vernacular names

Suriname	: Singrikwari / Felikwari
Guyana	: Pramaye
French Guiana	: Jaboty
Brazil	: Jaboti / Quarubarana

International trade name : Jaboti

Occurrence : Suriname, Guianas, Brazil

Tree description

Bole lenght	: bole 15 - 20 m; tree height 25 - 60 m
Diameter	: 0.60 - 0.80 m
Log shape	: straight, cylindrical bole

Wood description

Sapwood	: distinct; light greyish brown
Heartwood	: reddish to purplish brown
Grain	: straight
Texture	: medium

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	1.10
Air dry density at 12% MC	(g/cm^3)	:	0.61
Basic specific gravity		:	0.48
Tot. tangential shrinkage	(%)	:	7.7
Tot. radial shrinkage	(%)	:	3.3
Tot. volumetric shrinkage	(%)	:	12.5

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	80
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	13729
Crushing strenght at 12% MC	(N/mm^2)	:	42

Processing

Sawing	: easy; blunting effect: slight
Drying	: fast, slight cupping
Machining	: easy
Gluing	: good
Nailing	: good
Finishing	: good
Veneering	: peels well

Natural durability

Decay fungi	: poor
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : good

End uses : interior and exterior joinery, millwork, plywood, veneer.

5. *Goupia glabra* **Aublet** - kopi

Synonym(s) : Goupia tomentosa **Aubl.** / Goupia paraensis **Hub.**

Family : Celastraceae

Vernacular names

Suriname	: Kopie / Goupi
Guyana	: Kabukalli / Goupi
French Guiana	: Goupi
Brazil	: Cupiuba / Cachaceiro
Venezuela	: Congrio blanco / Panaguero

International trade name : Cupiuba, Kabukalli, Kopi

Occurrence : Suriname, Guianas, Brazil to Peru

Tree description

Bole lenght	: bole 12 - 20 m; tree height 20 - 40 m
Diameter	: 0.80 - 1.20 m
Log shape	: moderately straight; base buttressed or sometimes swollen

Wood description

Sapwood	: distinct, yellowish brown or beige
Heartwood	: reddish brown to orange brown
Grain	: straight to interlocked
Texture	: moderately fine to coarse

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	1.17
Air dry density at 12% MC	(g/cm^3)	:	0.83
Basic specific gravity		:	0.78
Tot. tangential shrinkage	(%)	:	8.7
Tot. radial shrinkage	(%)	:	5.0
Tot. volumetric shrinkage	(%)	:	14.2

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	120
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	14400
Crushing strenght at 12% MC	(N/mm^2)	:	57

Processing

Sawing	: easy; blunting effect: moderate
Drying	: slow and difficult; checking and casehardening US kiln schedule T7 - B3
Machining	: moderately difficult, presence of interlocked grain
Gluing	: not satisfactory
Nailing	: difficult; pre-boring recommended to avoid splitting
Finishing	: smoothly, but filler required
Veneering	: easy to slice

Natural durability

Decay fungi	: good
Termites	: good
Marine borers	: poor

Treatability (heartwood) : poor

End uses : interior and exterior joinery, framing, flooring, stairs, bridge decking, sleepers, plywood.

6. *Virola michelli* Heckel - eigron-babun

Synonym(s) : Virola melinonii **(Benoist) A.G. Smith** / Virola sebifera **Aublet**

Family : Myristicaceae

Vernacular names

Suriname : Pintri
Guyana : Dalli / Hill dalli
French Guiana : Bouchi mouloumba / Yayamadou
Brazil : Becuiba / Ucuúba / Virola

International trade name : Baboen, Virola

Occurrence : Suriname, Guianas, Brazil

Tree description

Bole lenght : bole 16 - 20 m; tree height 30 - 35 m
Diameter : 0.50 - 0.90 m
Log shape : usually straight and cylindrical; tree with low buttresses

Wood description

Sapwood : not distinct, cream coloured
Heartwood : beige to pale brown
Grain : straight
Texture : medium

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	0.65 - 0.80
Air dry density at 12% MC	(g/cm^3)	:	0.56
Basic specific gravity		:	0.48
Tot. tangential shrinkage	(%)	:	9.4
Tot. radial shrinkage	(%)	:	5.5
Tot. volumetric shrinkage	(%)	:	16.4

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	78
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	10068
Crushing strenght at 12% MC	(N/mm^2)	:	40

Processing

Sawing	: easy; blunting effect: very slight
Drying	: moderately difficult; risk of distortion and checking US kiln schedule T3 - C2 for 25-38 mm and T3 - C1 for 50 mm stock
Machining	: easy
Gluing	: good
Nailing	: good
Finishing	: good
Veneering	: peels well

Natural durability

Decay fungi	: poor
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : good

End uses : interior joinery, moulding, light carpentry, plywood, particle - and fibreboard, boxes and crates.

7. *Virola surinamensis* (Rolander) Warb. - babun

Family : Myristicaceae

Vernacular names

Suriname	: Moonba / Warus
Guyana	: Baboonwood / Swamp dalli / Irikwa
French Guiana	: Guingamadou / Mouloumba
Brazil	: Bicuhyba / Ucuúba / Virola
Venezuela	: Cuajo / Otivo / Virola

International trade name : Baboen, Virola

Occurrence : Suriname, Guianas, Brazil to Peru, Central America

Tree description

Bole lenght	: bole 16 - 20 m; tree height 30 - 35 m
Diameter	: 0.60 - 0.90 m
Log shape	: straight and cylindrical; tree base with spreading plank buttresses

Wood description

Sapwood	: not distinct
Heartwood	: light to pale brown, darkening on exposure to air from pinkish to deep reddish brown or golden brown
Grain	: straight
Texture	: medium

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	0.65 - 0.95
Air dry density at 12% MC	(g/cm^3)	:	0.40 - 0.60
Basic specific gravity		:	0.38
Tot. tangential shrinkage	(%)	:	9.6
Tot. radial shrinkage	(%)	:	6.1
Tot. volumetric shrinkage	(%)	:	15.3

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	64
Modulus of elasticity at 12% MC	(N/mm^2)	:	8740
Crushing strenght at 12% MC	(N/mm^2)	:	35

Processing

Sawing	: easy; blunting effect: slight
Drying	: moderately difficult; risk of distortion and checking US kiln schedule T3 - C2 for 25-38 mm and T3 - C1 for 50 mm stock
Machining	: easy
Gluing	: good
Nailing	: good
Finishing	: good
Veneering	: peels well

Natural durability

Decay fungi	: poor
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : good

End uses : interior joinery, moulding, boxes and crates, particle - and fibreboard, plywood.

8. Carapa guianensis Aublet - krapa
a. Carapa procera * A. DC.

Family : Meliaceae

Vernacular names

Suriname	: Redi krapa (*C. guianensis*) / Krapa (*C. procera*)*
Guyana	: Crabwood / Karaba
French Guiana	: Carapa / Carapa rouge
Brazil	: Andiroba / Carapa
Venezuela	: Carapa / Masabalo

International trade name : Andiroba, Crabwood (8, 8a)

Occurrence : Suriname, Guianas, Brazil, Venezuela, Colombia, Central America

Tree description

Bole lenght	: bole 10 - 15 m; tree height 20 - 30 m
Diameter	: 0.50 - 1.00 m
Log shape	: more or less straight bole and cylindrical; tree base swollen or buttressed

Wood description

Sapwood	: not clearly distinct, pinkish and greyish red brown or pale brown
Heartwood	: varying in colour, pale pink, red brown to dark brown streaked with black
Grain	: straight, sometimes more or less interlocked
Texture	: from coarse to fine, mostly medium

Technological characteristics

Physical properties (8, 8a)			*C. guianensis*	*C. procera*
Green density	(g/cm^3)	:	0.96	0.83
Air dry density at 12% MC	(g/cm^3)	:	0.66	0.62
Basic specific gravity		:	0.59	0.56
Tot. tangential shrinkage	(%)	:	7.7	7.6
Tot. radial shrinkage	(%)	:	4.8	3.1
Tot. volumetric shrinkage	(%)	:	10.4	12.9

Mechanical properties (8, 8a)			*C. guianensis*	*C. procera*
Bending strenght at 12% MC	(N/mm^2)	:	110	108
Modulus of elasticity at 12% MC	(N/mm^2)	:	14354	11800
Crushing strenght at 12% MC	(N/mm^2)	:	59	58

Processing

Sawing	: easy; blunting effect: very slight to slight
Drying	: moderately difficult, risk of checking and collapse US kiln schedule T3 - C2 for 25-38 mm and T3 - C1 for 50 mm stock
Machining	: easy to difficult, ocassionally interlocked grain
Gluing	: good
Nailing	: good, tends to split on end grain
Finishing	: good
Veneering	: peels and slices well

Natural durability

Decay fungi	: poor to moderate
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : poor

End uses : interior and exterior joinery, carpentry, furniture, decorative veneer, laminated beams.

* small to medium sized tree, occasional in high and marsh forest.

9. Tetragastris altissima (Aubl.) Swart - redisali
a. Tetragastris panamensis * (Engl.) O.K.

Family : Burseraceae

Vernacular names

Suriname : Sali
Guyana : Haiawaballi / Asau
French Guiana : Encens rouge / Sali
Brazil : Almesclao / Breu manga

International trade name : Sali (9, 9a)

Occurrence : Suriname, Guianas, Brazil, Colombia, Central America

Tree description

Bole lenght : bole 10 - 15 m; tree height 25 - 30 m
Diameter : 0.50 - 0.80 m
Log shape : moderately good form with a few buttresses or rootspurs

Wood description

Sapwood : distinct, yellowish brown to pinkish gray
Heartwood : orange brown to red brown
Grain : moderately straight, sometimes interlocked or irregular
Texture : rather fine

Technological characteristics

Physical properties (9, 9a)			*T. altissima*	*T. panamensis*
Green density	(g/cm^3)	:	1.10	0.98
Air dry density at 12% MC	(g/cm^3)	:	0.85	0.93
Basic specific gravity		:	0.72	0.74
Tot. tangential shrinkage	(%)	:	7.1	9.4
Tot. radial shrinkage	(%)	:	4.4	5.7
Tot. volumetric shrinkage	(%)	:	13.6	14.9
Mechanical properties				
Bending strenght at 12% MC	(N/mm^2)	:	139	178
Modulus of elasticity at 12% MC	(N/mm^2)	:	13500	18130
Crushing strenght at 12% MC	(N/mm^2)	:	66	91

Processing

Sawing	: difficult; blunting effect: moderate to high due to sil content
Drying	: moderately difficult; slow drying, risk of checking ar splitting
Machining	: more or less difficult; special tools recommended
Gluing	: good
Nailing	: poor, pre-boring recommended
Finishing	: good

Natural durability

Decay fungi	: good
Termites	: moderate
Marine borers	: fair

Treatability (heartwood) : poor

End uses : interior and exterior joinery, flooring, panelling, furniture, cabinets.

* occasional in heigh dryland forest.

10. Simarouba amara **Aublet** - sumaruba

Synonym : Quassia simarouba **L.f.**

Family : Simaroubaceae

Vernacular names

Suriname	: Simarupa / Adonichi
Guyana	: Aku / Guashi / Simarupa
French Guiana	: Acaju blanc / Simaruba
Brazil	: Marupa / Parahyba / Caixeta
Venezuela	: Cedro blanco / Simarouba

International trade name : Marupa, Simaruba

Occurrence : Suriname, Guianas, Brazil, Central America

Tree description

Bole lenght	: bole 15 - 20 m; tree high 30 - 40 m
Diameter	: 0.70 - 0.90 m
Log shape	: straight, cylindrical and tapering: tree base with root-spurs

Wood description

Sapwood	: not distinct, yellowish white
Heartwood	: light yellow with oily streaks
Grain	: usually straight
Texture	: medium to coarse

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	0.64
Air dry density at 12% MC	(g/cm^3)	:	0.43
Basic specific gravity		:	0.38
Tot. tangential shrinkage	(%)	:	5.2
Tot. radial shrinkage	(%)	:	2.5
Tot. volumetric shrinkage	(%)	:	8.3

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	65
Modulus of elasticity at 12% MC	(N/mm^2)	:	8500
Crushing strenght at 12% MC	(N/mm^2)	:	34

Processing

Sawing	: easy; blunting effect: slight
Drying	: easy
Machining	: easy
Gluing	: good
Nailing	: moderate to good
Finishing	: good
Veneering	: slices and peels well

Natural durability

Decay fungi	: poor
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : good

End uses : interior joinery, light furniture, panelling, packaging, crates, toys, musical instruments.

11. Eperua falcata Aublet - walaba

Family : Leguminosae (Caesalpinioideae)

Vernacular names

Suriname	: Bijlhout / Awapa
Guyana	: Soft Wallaba / White Wallaba / Parewe
French Guiana	: Wapa / Bioudou / Bois sabre / Pangapanga
Brazil	: Apa / Apazeiro / Espadeiro
Venezuela	: Bucare / Palo machete / Tabaco

International trade name : Wallaba

Occurrence : Suriname, Guianas, Brazil, Venezuela

Tree description

Bole lenght	: bole 12 - 15 m; tree height 24 - 30 m
Diameter	: 0.60 - 1.00 m *
Log shape	: straight, cylindrical; tree base with small or large buttresses

Wood description

Sapwood	: distinct, white greyish to light yellowish brown
Heartwood	: light to dark red brown, dark streaks with resin and oily exudations
Grain	: typically straight
Texture	: medium to coarse

Technological characteristics

Physical properties

Green density	(g/cm^3)	: 1.20
Air dry density at 12% MC	(g/cm^3)	: 0.89
Basic specific gravity		: 0.79
Tot. tangential shrinkage	(%)	: 6.9
Tot. radial shrinkage	(%)	: 3.6
Tot. volumetric shrinkage	(%)	: 10.0

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	139
Modulus of elasticity at 12% MC	(N/mm^2)	:	14700
Crushing strenght at 12% MC	(N/mm^2)	:	71

Processing

Sawing	: difficult; resin tends to clog saw teeth; blunting effect: moderate
Drying	: difficult and slow; tends to warp and split; air seasoning prior to kiln drying is recommended US kiln schedule T2 - C2 for 25-38 mm and T2 - C1 for 50 mm stock
Machining	: fairly if pre-dried
Gluing	: good
Nailing	: tendency to split; pre-boring necessary
Finishing	: sanding and filling after drying recommended
Veneering	: not suitable

Natural durability

Decay fungi	: good
Termites	: good
Marine borers	: fair

Treatability (heartwood) : poor

End uses : interior and exterior joinery, heavy dry construction, industrial flooring, posts and poles, shingles.

* trees of large diameter commonly with heart rot.

12. Eperua grandiflora (Aubl.) Benth. - babunwalaba
ssp. grandiflora
a. Eperua schomburgkiana Benth.

Family : Leguminosae (Caesalpinioideae)

Vernacular names

Suriname	: Bijlhout / Walaba
Guyana	: Ituriri walaba
French Guiana	: Wapa / Wapa courbaril / Wapa montagne
Brazil	: Apa / Apazeiro / Muirapiranga
Venezuela	: Tabaco / Uapa

International trade name : Wallaba

Occurrence : Suriname, Guianas, Brazil, Venezuela

Tree description

Bole lenght	: bole 15 - 20 m; tree height 25 - 35 m
Diameter	: 0.40 - 0.70
Log shape	: straight, cylindrical, tree base swollen or light buttressed

Wood description

Sapwood	: distinct, white greyish to pinkish
Heartwood	: light reddish brown with dark streaks
Grain	: straight
Texture	: medium

Technological characteristics

Physical properties (12)			*E. grandiflora*
Green density	(g/cm^3)	:	1.10
Air dry density at 12% MC	(g/cm^3)	:	0.93
Basic specific gravity		:	0.79
Tot. tangential shrinkage	(%)	:	7.2
Tot. radial shrinkage	(%)	:	2.6
Tot. volumetric shrinkage	(%)	:	12.4

Mechanical properties (12)			*E. grandiflora*
Bending strenght at 12% MC	(N/mm^2)	:	145
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	16800
Crushing strenght at 12% MC	(N/mm^2)	:	77

Processing

Sawing	: difficult; high resin content and internal stresses; blunting effect: moderate
Drying	: difficult and slow US kiln schedule T2 - C2 for 25-38 mm and T2 - C1 i 50 mm stock
Machining	: fairly if pre-dried
Gluing	: good
Nailing	: tendency to split; pre-boring recommended
Finishing	: sanding and filling recommended
Veneering	: not suitable

Natural durability

Decay fungi	: moderate to good
Termites	: moderate
Marine borers	: poor

Treatability (heartwood) : poor

End uses : interior and exterior joinery, heavy dry construction, industrial flooring, posts and poles, shingles.

13. Eperua rubiginosa Miq. - jeturiwalaba

Family : Leguminosae (Caesalpinioideae)

Vernacular names

Suriname	: Bijlhout / Walaba / Pallewi
Guyana	: Watapa / Watafa
French Guiana	: Wapa / Bioudou / Wapa rivière
Brazil	: Apa / Apazeiro / Espadeira
Venezuela	: Tabaco / Uapa

International trade name : Wallaba

Occurrence : Suriname, Guianas, Brazil, Venezuela

Tree description

Bole lenght	: bole 15 - 20 m: tree height 25 - 30 m
Diameter	: 0.30 - 0.90 m
Log shape	: straight, cylindrical; tree base with root spurs or buttresses

Wood description

Sapwood	: distinct, white greyish to pinkish
Heartwood	: light reddish brown with dark streaks
Grain	: straight
Texture	: medium

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	1.10
Air dry density at 12% MC	(g/cm^3)	:	0.86
Basic specific gravity		:	0.73
Tot. tangential shrinkage	(%)	:	6.5
Tot. radial shrinkage	(%)	:	2.4
Tot. volumetric shrinkage	(%)	:	10.3

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	132
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	14400
Crushing strenght at 12% MC	(N/mm^2)	:	75

Processing

Sawing	: difficult; high resin content and internal stress; blunting effect: moderate
Drying	: difficult and slow US kiln schedule T2 - C2 for 25-38 mm and T2 - C1 for 50 mm stock
Machining	: fairly if pre-dried
Gluing	: good
Nailing	: tendency to split; pre-boring recommended
Finishing	: sanding and filling recommended
Veneering	: not suitable

Natural durability

Decay fungi	: good
Termites	: moderate
Marine borers	: poor

Treatability (heartwood) : poor

End uses : interior and exterior joinery, heavy dry construction, industrial flooring, posts and poles, shingles.

14. Couratari guianensis Aublet - ingipipa
a. Couratari gloriosa Sandw.
b. Couratari multiflora (J.E. Smith) Eyma

Synonym (14) : Couratari pulchra **Sandw.**

Family : Lecythidaceae

Vernacular names

Suriname	: Kaliu ulemaliti
Guyana	: Fine leaf wadara / Marimari (*C. multiflora*), Wadara (*C. guianensis, C. gloriosa*)
French Guiana	: Couatari / Inguipipa
Brazil	: Imbirema / Tauari (*C. guianensis*)
Venezuela	: Cachimbo / Tabari / Tampipio

International trade name : Tauari (14, 14a, 14b)

Occurrence : Suriname, Guianas, Brazil, Venezuela, Colombia, Central America

Tree description

Bole lenght	: bole 15 - 30 m: tree height 30 - 40 m
Diameter	: 0.60 - 1.20 m
Log shape	: straight, cylindrical; tree base with some high and straight buttresses

Wood description

Sapwood	: not distinct, yellowish white
Heartwood	: cream white to light beige or yellowish brown to greyish brown
Grain	: straight or uniformly interlocked
Texture	: medium to coarse

Technological characteristics

Physical properties (14, 14b)			*C. guianensis*	*C. multiflora*
Green density	(g/cm^3)	:	1.10	0.86
Air dry density at 12% MC	(g/cm^3)	:	0.62	0.73
Basic specific gravity		:	0.53	0.56
Tot. tangential shrinkage	(%)	:	7.3	7.0
Tot. radial shrinkage	(%)	:	4.1	3.4
Tot. volumetric shrinkage	(%)	:	12.0	11.5

Mechanical properties (14, 14b)			*C. guianensis*	*C. multiflora*
Bending strenght at 12% MC	(N/mm^2)	:	96	107
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	11900	15300
Crushing strenght at 12% MC	(N/mm^2)	:	51	62

Processing

Sawing : easy; blunting effect: moderate to high (silica content 0.8%); stellite tipped blade recommended

Drying : easy

Machining : easy with tungsten carbide tipped tools

Gluing : good

Nailing : moderate holding

Finishing : good

Veneering : after pre-steaming, peels and slices easy

Natural durability

Decay fungi : poor

Termites : poor

Marine borers : poor

Treatability (heartwood) : good

End uses : interior and exterior joinery, flooring, furniture, moulding, boxes and crates, toys.

15. Eschweilera coriacea **(A.DC.) Mori**	- manbarklaki
a. Eschweilera pedicellata **(Rich.) Mori**	- bergimanbarklaki
b. Lecythis corrugata **(Poit.) var. *corrugata***	- eigron-umanbarklaki
c. Lecythis idatimon **(Aubl.)**	- bergi-umanbarklaki
d. Eschweilera decolorans **Sandw.**	- kwateri

Synonyms (15, 15a, 15b, 15c) : Eschweilera odora **(Poeppig) Miers,**
Eschweilera longipes **(Poit.) Miers,**
Eschweilera corrugata **(Poit.) Miers,**
Eschweilera amara **(Aubl.) Nied.**

Family : Lecythidaceae

Vernacular names

Suriname : Manbarklak / Umanbarklak / Barklak

Guyana : Fine-leaf kakaralli (*E. wachenheimii*)
Fine-smooth leaf kakaralli (*E. parviflora*)
Kwateri / Kwatru (*E. decolorans*)

French Guiana : Baakalaka / Balibon / Kouanda

Brazil : Matá-matá branco (*E. odora*) / Jarâna

Venezuela : Montanero / Coco de mono

International trade name : Smoot-leaf kakaralli (15, 15d)

Occurrence : Suriname, Guianas, Brazil, Venezuela, Colombia, Central America

Tree description

Bole lenght : bole 12 - 18 m; tree height 20 - 35 m

Diameter : 0.40 - 0.60 m

Log shape : moderately straight; tree base swollen or buttressed

Wood description

Sapwood : not sharply distinct

Heartwood : greyish brown to reddish brown, sometimes with black streaks

Grain : typically straight

Texture : fine to medium

Technological characteristics

Physical properties (15, 15b)			*E. coriacea*	*L. corrugata*
Green density	(g/cm^3)	:	1.20	1.10
Air dry density at 12% MC	(g/cm^3)	:	1.00	0.87
Basic specific gravity		:	0.86	0.84
Tot. tangential shrinkage	(%)	:	11.1	10.2
Tot. radial shrinkage	(%)	:	6.4	5.6
Tot. volumetric shrinkage	(%)	:	15.9	14.8

Mechanical properties (15, 15b)			*E. coriacea*	*L. corrugata*
Bending strenght at 12% MC	(N/mm^2)	:	170	140
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	18600	18200
Crushing strenght at 12% MC	(N/mm^2)	:	67	61

Processing

Sawing	: difficult, power required; blunting effect: high due to silica
Drying	: moderately difficult to air-season; risk of warping, checking and casehardening
Machining	: difficult; stellite tipped blade necessary
Gluing	: difficult
Nailing	: pre-boring necessary
Finishing	: good

Natural durability

Decay fungi	: good to very good
Termites	: good
Marine borers	: good to very good

Treatability (heartwood) : poor

End uses : heavy constructions, shipbuilding, industrial flooring, sleepers, pole and posts, marine constructions.

16. Eschweilera subglandulosa (Steud. ex Berg) Miers - eigron-manbarklaki
a. Eschweilera sagotiana Miers

Family : Lecythidaceae

Vernacular names

Suriname	: Hoogland barklak / Manbarklak / Kwateri
Guyana	: Black kakaralli (*E. subglandulosa*) / Common black kakaralli (*E. pedicellata*) / Kwateri (*E. sagotiana*)
French Guiana	: Baakalaka / Balibon / Maho / Mahou
Brazil	: Matá-matá / Matámatá preto

International trade name : Black kakaralli (16, 16a, 16b)

Occurrence : Suriname, Guianas, Brazil

Tree description

Bole lenght	: bole 12 - 18 m; tree height 15 - 40 m
Diameter	: 0.40 - 0.75 m
Log shape	: straight; tree base buttressed or straight

Wood description

Sapwood	: not sharply distinct, pinkish brown
Heartwood	: brown to dark brown
Grain	: straight
Texture	: fine to medium

Technological characteristics

Physical properties (16)			*E. subglandulosa*
Green density	(g/cm^3)	:	1.25
Air dry density at 12% MC	(g/cm^3)	:	1.05
Basic specific gravity		:	0.87
Tot. tangential shrinkage	(%)	:	10.3
Tot. radial shrinkage	(%)	:	5.8
Tot. volumetric shrinkage	(%)	:	16.2

Mechanical properties (16)			*E. subglandulosa*
Bending strenght at 12% MC	(N/mm^2)	:	180
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	21630
Crushing strenght at 12% MC	(N/mm^2)	:	76

Processing

Sawing	: difficult, power required; blunting effect: high due to silica
Drying	: moderately difficult to air season
Machining	: difficult; stellite tipped blade necessary
Gluing	: difficult
Nailing	: pre-boring necessary
Finishing	: good
Veneering	: not suitable

Natural durability

Decay fungi	: good to very good
Termites	: good
Marine borers	: good to very good

Treatability (heartwood) : poor

End uses : heavy comstructions, shipbuilding, industrial flooring, sleepers, pole and posts, marine constructions.

17. Humiria balsamifera (Aubl.) A.St. Hil. var. *balsamifera* - meri

Synonym : Humiria floribunda **Mart.**

Family : Humiriaceae

Vernacular names

Suriname	: Swit'meri / Blakaberi / Basra botri
Guyana	: Bastard bulletwood / Meri / Tauroniro
French Guiana	: Bois rouge / Houmiri
Brazil	: Umiri / Couramira / Turanira
Venezuela	: Nina

International trade name : Chanul

Occurrence : Suriname, Guianas, Brazil, Venezuela, Colombia, Peru, Ecuador

Tree description

Bole lenght	: bole 15 - 20 m; tree height 25 -40 m
Diameter	: 0.50 - 1.20 m
Log shape	: straight, cylindrical; tree base swollen

Wood description

Sapwood	: not sharply distinct, greyish brown
Heartwood	: dark red brown or purplish red brown
Grain	: straight to interlocked
Texture	: medium

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	1.10
Air dry density at 12% MC	(g/cm^3)	:	0.90
Basic specific gravity		:	0.80
Tot. tangential shrinkage	(%)	:	9.0
Tot. radial shrinkage	(%)	:	5.5
Tot. volumetric shrinkage	(%)	:	16.8

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	166
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	18500
Crushing strenght at 12% MC	(N/mm^2)	:	86

Processing

Sawing	: difficult, power required; blunting effect: moderate
Drying	: moderately difficult; risk of distortion, checking and casehardening
Machining	: difficult, presence of highly interlocked grain
Gluing	: good
Nailing	: good
Finishing	: good
Veneering	: slices with special care

Natural durability

Decay fungi	: moderate to good
Termites	: moderate
Marine borers	: poor

Treatability (heartwood) : poor

End uses : heavy constructions, industrial flooring, parquet, furniture.

18. Parkia nitida Miq. - agrobigi

Synonym(s) : Parkia sylvatica **Pulle** /
Abarema claviflora **(Spruce) Kleinh.**

Family : Leguminosae (Mimosoideae)

Vernacular names
Suriname : Ajoeuva / Tontawha
Guyana : Black manariballi / Uya
French Guiana : Dodomissinga / Acacia mâle
Brazil : Arapary branco

International trade name : Faveira bengué

Occurrence : Suriname, Guianas, Brazil to Peru

Tree description
Bole lenght : bole 10 -15 m; tree height 15 - 25 m
Diameter : 0.50 - 0.75 m
Log shape : straight, cylindrical; tree base buttressed

Wood description
Sapwood : not distinct, light yellowish brown
Heartwood : reddish brown to light brown
Grain : straight to interlocked
Texture : fine to medium

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	1.09
Air dry density at 12% MC	(g/cm^3)	:	0.40
Basic specific gravity		:	0.38
Tot. tangential shrinkage	(%)	:	6.7
Tot. radial shrinkage	(%)	:	2.0
Tot. volumetric shrinkage	(%)	:	9.8

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	68
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	8042
Crushing strenght at 12% MC	(N/mm^2)	:	26

Processing

Sawing	: easy; blunting effect: very slight
Drying	: fast, slight cupping and casehardening
Machining	: easy
Gluing	: good
Nailing	: good
Finishing	: good
Veneering	: peels well

Natural durability

Decay fungi	: poor
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : good

End uses : interior joinery, moulding, light carpentry, boxes and crates, plywood.

19. Parkia pendula (Willd.) Benth. ex Walpers - kwatakama

Synonym : Inga pendula **Willd.** / Mimosa pendula **Poir**

Family : Legumimosae (Mimosoideae)

Vernacular names

Suriname : Ipana
Guyana : Ipanai / Hipanai
French Guiana : Kouatakaman / Mâle bois macaque
Brazil : Fava bolota

International trade name : Faveira bolota

Occurrence : Suriname, Guianas, Brazil

Tree description

Bole lenght : bole 10 - 18 m; tree height 15 -25 m
Diameter : 0.40 - 0.70 m
Log shape : straight, cylindrical; tree base with rootspurs

Wood description

Sapwood : distinct, greyish white
Heartwood : bright redbrown darkening to light brown
Grain : straight
Texture : medium

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	1.10
Air dry density at 12% MC	(g/cm^3)	:	0.55
Basic specific gravity		:	0.51
Tot. tangential shrinkage	(%)	:	7.2
Tot. radial shrinkage	(%)	:	2.5
Tot. volumetric shrinkage	(%)	:	10.5

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	112
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	10000
Crushing strenght at 12% MC	(N/mm^2)	:	45

Processing

Sawing	: easy; blunting effect: slight
Drying	: fast, slight cupping and casehardening
Machining	: easy to difficult
Gluing	: good
Nailing	: good
Finishing	: good
Veneering	: peels well

Natural durability

Decay fungi	: poor
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : good

End uses : interior joinery, moulding, light carpentry, boxes and crates, plywood.

20. Vouacapoua americana Aublet - broinati

Synonym : Andira aubletii **Benth.**

Family : Legumimosae (Caesalpinioïdeae)

Vernacular names

Suriname	: Bruinhart
Guyana	: Brownheart / Sarebebeballi / Partridge wood
French Guiana	: Wacapou
Brazil	: Acapu

International trade name : Wacapou

Occurrence : Suriname, Guianas, Brazil

Tree description

Bole lenght	: bole 15 - 18 m; tree height 25 - 30 m
Diameter	: 0.40 - 0.85 m
Log shape	: straight, more or less fluted trunk and small buttresses

Wood description

Sapwood	: distinct, yellowish cream
Heartwood	: dark brown or reddish brown
Grain	: straight, sometimes slight wavy or roey
Texture	: coarse

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	1.10
Air dry density at 12% MC	(g/cm^3)	:	0.91
Basic specific gravity		:	0.82
Tot. tangential shrinkage	(%)	:	6.9
Tot. radial shrinkage	(%)	:	4.9
Tot. volumetric shrinkage	(%)	:	13.5

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	208
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	16080
Crushing strenght at 12% MC	(N/mm^2)	:	83

Processing

Sawing	: difficult, power required; blunting effect: moderate
Drying	: moderately difficult; slow and careful US kiln schedule T7 - B3 for 25-38 mm stock
Machining	: difficult; special tools recommended
Gluing	: with special precautions
Nailing	: pre-boring necessary
Finishing	: good
Veneering	: slices well

Natural durability

Decay fungi	: very good
Termites	: good
Marine borers	: variable
Treatability (heartwood)	: poor
End uses	: joinery, flooring, cabinet work, furniture, stairs, decorative trim, sleepers, post and poles, marine constructions.

21. Andira inermis (Wright) DC. - redikabisi
a. Andira surinamensis * (Bondt) Splitg. ex Amshoff

Synonym (21a) : Andira coriacea **Pulle**

Family : Leguminosae (Papilionoideae)

Vernacular names

Suriname	: Rode Kabbes / Barakaro
Guyana	: Bat seed / Wild Olive / Koraro
French Guiana	: Saint Martin rouge / Angelin
Brazil	: Angelim vermelho / Andira jerena / Acapurana
Venezuela	: Chigo / Pilon

International trade name : Angelin

Occurrence : Suriname, Guianas, Brazil, Central America

Tree description

Bole lenght	: bole 12 - 20 m; tree height 30 - 35 m
Diameter	: 0.60 - 1.20 m
Log shape	: straight, either cylindrical or slightly irregular; tree base unbuttressed

Wood description

Sapwood	: distinct, pale brown to greyish yellow
Heartwood	: pink brown to red brown with pale veins
Grain	: straight or interlocked
Texture	: coarse

Technological characteristics

Physical properties (21)		*A. inermis*
Green density	(g/cm^3)	: 1.18
Air dry density at 12% MC	(g/cm^3)	: 0.80 - 0.88
Basic specific gravity		: 0.78
Tot. tangential shrinkage	(%)	: 9.4
Tot. radial shrinkage	(%)	: 4.8
Tot. volumetric shrinkage	(%)	: 12.6

Mechanical properties (21)		*A. inermis*
Bending strenght at 12% MC	(N/mm^2)	: 144
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	: 18200
Crushing strenght at 12% MC	(N/mm^2)	: 75

Processing

Sawing	: difficult, power required; blunting effect: moderate
Drying	: easy, little degrade US kiln schedule T3 - D2 for 25-38 mm stock
Machining	: moderately difficult; at times special tools recommended
Gluing	: with precautions
Nailing	: pre-boring necessary; tends to split
Finishing	: good; special care required
Veneering	: good

Natural durability

Decay fungi	: good
Termites	: moderate
Marine borers	: poor

Treatability (heartwood) : poor

End uses : interior and exterior joinery, carpentry, cabinets, turnery, flooring, sleepers, marine constructions.

* occasional in high dryland forest

22. Vatairea guianensis **Aublet** - gerikabisi
a. Vatairea paraensis **Ducke**

Synonym (22) : Vatairea surinamensis **Kleinh.**

Family : Leguminosae (Papilionoideae)

Vernacular names

Suriname : Gele Kabbes / Arisuru
Guyana : Arisauro / Arakaka / Yaksaru
French Guiana : Inkassa / Yonko
Brazil : Angelim / Angelim amargosa / Faveira amarela / Aracuy
Venezuela : Amargoso

International trade name : Arisauro

Occurrence : Suriname, Guianas, Brazil, Central America

Tree description

Bole lenght : bole 15 - 20 m; tree height 20 - 35 m
Diameter : 0.30 - 0.90 m
Log shape : straight cylindrical; tree base with low root spurs or narrow high buttresses

Wood description

Sapwood : distinct, whitish-greyish or brownish yellow
Heartwood : yellow but becomes orange brown to dark brown on exposure; oily appearance
Grain : straight to strongly interlocked
Texture : coarse to very coarse

Technological characteristics

Physical properties (22, 22a)			*V. guianensis*	*V. paraensis*
Green density	(g/cm^3)	:	1.09	1.07
Air dry density at 12% MC	(g/cm^3)	:	0.83	0.74
Basic specific gravity		:	0.74	0.55
Tot. tangential shrinkage	(%)	:	9.3	7.4
Tot. radial shrinkage	(%)	:	5.7	3.4
Tot. volumetric shrinkage	(%)	:	16.0	8.6

Mechanical properties (22, 22a)			*V. guianensis*	*V. paraensis*
Bending strenght at 12% MC	(N/mm^2)	:	146	101
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	17940	12357
Crushing strenght at 12% MC	(N/mm^2)	:	87	48

Processing

Sawing	: easy; blunting effect: slight
Drying	: moderate; slight risk of distortion
Machining	: easy to moderate; plains poor
Gluing	: good
Nailing	: good
Finishing	: good
Veneering	: good

Natural durability

Decay fungi	: moderate to good
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : poor

End uses : interior and exterior joinery, general carpentry, furniture, sleepers.

23. *Sterculia pruriens* (Aubl.) Schumann var. *pruriens* - okro-udu

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Synonym : Ivira pruriens **Aublet**

Family : Sterculiaceae

Vernacular names

Suriname : Kobe
Guyana : Smooth-leaf maho / Yahu
French Guiana : Kobe / Ivira / Tourou
Brazil : Chica brava / Enviveira
Venezuela : Chica / Majagua

International trade name : Kobe

Occurrence : Suriname, Guianas, Brazil, Venezuela, Central America

Tree description

Bole lenght : bole 18 - 20; tree height 30 m, sometimes till 40 m
Diameter : 0.30 - 0.90 m
Log shape : straight, cylindrical; tree base with low buttresses

Wood description

Sapwood : not sharply distinct, yellowish brown or dirty greyish white
Heartwood : light reddish brown or ochre beige
Grain : usually straight
Texture : medium to coarse

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	0.94
Air dry density at 12% MC	(g/cm^3)	:	0.64
Basic specific gravity		:	0.50
Tot. tangential shrinkage	(%)	:	10.0
Tot. radial shrinkage	(%)	:	4.7
Tot. volumetric shrinkage	(%)	:	15.4

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	108
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	12750
Crushing strenght at 12% MC	(N/mm^2)	:	52

Processing

Sawing	: easy; blunting effect: slight
Drying	: slow and with care; distortion more or less high US kiln schedule T2 - D4 for 25-38 mm and T2 - D3 for 50 mm stock
Machining	: easy but with woolly surface
Gluing	: good
Nailing (holding of nails)	: good
Finishing	: filler required
Veneering	: peels well

Natural durability

Decay fungi	: poor
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : good

End uses : interior joinery, plywood, light carpentry, particle board, boxes and crates, interior trim, paper pulp.

24. Ocotea rubra Mez. - wana

Synonym : Nectandra rubra **(Mez.) Allen**

Family : Lauraceae

Vernacular names

Suriname	: Wane / Teteroma
Guyana	: Determa / Teteruma / Wanu
French Guiana	: Grignon franc
Brazil	: Louro vermelho / Louro camela / Canela

International trade name : Determa, Louro vermelho, Wana

Occurrence : Suriname, Guianas, Brazil

Tree description

Bole lenght	: bole 15 - 25 m; tree height 25 -50 m
Diameter	: 0.50 - 1.50 m
Log shape	: cylindrical, tapered bole; tree base sometimes with thick buttresses

Wood description

Sapwood	: distinct, not always sharply, dirty yellow to greyish brown
Heartwood	: pinkish red to reddish brown
Grain	: generally straight, sometimes irregular or highly interlocked
Texture	: medium to coarse

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	0.98
Air dry density at 12% MC	(g/cm^3)	:	0.66
Basic specific gravity		:	0.56
Tot. tangential shrinkage	(%)	:	8.7
Tot. radial shrinkage	(%)	:	4.0
Tot. volumetric shrinkage	(%)	:	13.2

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	102
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	11600
Crushing strenght at 12% MC	(N/mm^2)	:	49

Processing

Sawing	: easy; blunting effect: very slight
Drying	: very difficult, slow and carefully US kiln schedule T6 - D2 for 25-38 mm and T3 - D1 50 mm stock
Machining	: easy
Gluing	: with special care
Nailing	: medium to good
Finishing	: good; filler recommended
Veneering	: peels and slices well

Natural durability

Decay fungi	: good to very good
Termites	: moderate
Marine borers	: good

Treatability (heartwood) : poor

End uses : exterior and interior joinery, cabinetwork, carpentry, moulding, panelling, glued laminated beams, plywood.

25. Ocotea glomerata **(Nees) Mez** - pisi
a. Ocotea floribunda **(Swartz) Mez**
b. Ocotea oblonga **(Meissn.) Mez**
c. Ocotea guianensis **Aublet**
d. Ocotea canaliculata **(L.C. Rich.) Mez**

Synonym (25a) : Ocotea wachenheimii **Benoist**

Family : Lauraceae

Vernacular names

Suriname : Harde, zwarte pisi (*O. glomerata*) / zachte, witte pisi, wanapisi (*O. oblonga*) / Yorojoro pisi (*O. guianensis*)

Guyana : Dolly pear (*O. glomerata*) / Hard kereti (*O. wachenheimii*) / Soft kereti (*O. oblonga, O. wachenheimii*) / White silverballi (*O. canaliculata*)

French Guiana : Cedre gris / Cedre noir / Licano apici (*O. glomerata*) / Tingui apici (*O. wachenheimii*) / Weti apici (*O. oblonga*)

Brazil : Louro

Venezuela : Laurel

International trade name : Canelo, Kereti, White Silverballi

Occurrence : Suriname, Guianas, Brazil, Venezuela, Columbia, Central America

Tree description

Bole lenght : bole 15 - 18 m; tree height 20 - 30 m

Diameter : 0.50 - 0.70 m; up to 1.20 m (*O. canaliculata*)

Log shape : straight, cylindrical; slightly crooked and unbuttressed (*O. wachenheimii*) or buttressed to 0.50 m (*O. oblonga*); buttressed to 1.50 m (*O. glomerata*); usually buttressed (*O. canaliculata*)

Wood description

Sapwood : more or less distinct, pinkish grey to pale yellow

Heartwood : whitish beige (*O. canaliculata*); slightly orange ashen maroon beige (*O. glomerata*); pale brown (*O. wachenheimii*)

Grain : straight or slightly interlocked

Texture : fine to medium

Technological characteristics

Physical properties (25, 25b)			*O. glomerata*	*O. oblonga*
Green density	(g/cm^3)	:	0.90	0.90
Air dry density at 12% MC	(g/cm^3)	:	0.65	0.44
Basic specific gravity		:	0.57	0.35
Tot. tangential shrinkage	(%)	:	7.8	9.1
Tot. radial shrinkage	(%)	:	4.4	3.8
Tot. volumetric shrinkage	(%)	:	12.2	13.2

Mechanical properties (25, 25b)			*O. glomerata*	*O. oblonga*
Bending strenght at 12% MC	(N/mm^2)	:	105	72
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	11571	9169
Crushing strenght at 12% MC	(N/mm^2)	:	60	38

Processing

Sawing	: easy; blunting effect: very slight
Drying	: air-seasoning with care; risk of distortion: more or less high; risk of checking: very slight
Machining	: easy
Gluing	: good
Nailing	: good
Finishing	: good
Veneering	: peels well

Natural durability

Decay fungi	: poor to moderate
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : poor to good

End uses : interior joinery, light carpentry, furniture, moulding, boxes and crates, plywood, decorative fittings.

26. Licaria canella (Meissn.) Kosterm. - kanerati

Synonym(s)	: Acrolidium canella **Meissner** / Licaria cayennensis **(Meissn.) Kosterm.**
Family	: Lauraceae
Vernacular names	
Suriname	: Kaneelhart / Kaneelpisi / Wajaaka / Kaner-udu
Guyana	: Brown silverballi / Kamarai / Tiniari / Wabaima
French Guiana	: Bois canelle / Cedre canelle
Brazil	: Preciosa / Louro chumbo
International trade name	: Brown silverballi, Kaneelhart
Occurrence	: Suriname, Guianas, Brazil
Tree description	
Bole lenght	: bole 15 - 20 m; tree height 20 - 40 m
Diameter	: 0.35 - 0.75 m
Log shape	: cylindrical; tree base buttressed or swollen
Wood description	
Sapwood	: not clearly distinct, light yellowish brown (fragrant odor)
Heartwood	: orange or brown yellow, darkening to dark coffee brown with red or violet tinge on exposure
Grain	: straight to slightly interlocked
Texture	: fine to medium

Technological characteristics

Physical properties			
Green density	(g/cm^3)	:	1.35
Air dry density at 12% MC	(g/cm^3)	:	1.15
Basic specific gravity		:	1.00
Tot. tangential shrinkage	(%)	:	7.8
Tot. radial shrinkage	(%)	:	5.4
Tot. volumetric shrinkage	(%)	:	12.5
Mechanical properties			
Bending strenght at 12% MC	(N/mm^2)	:	210
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	28000
Crushing strenght at 12% MC	(N/mm^2)	:	120

Processing

Sawing	: difficult, power required; blunting effect: moderate
Drying	: easy to moderately difficult
Machining	: rather difficult
Gluing	: with special care
Nailing	: pre-boring necessary
Finishing	: good

Natural durability

Decay fungi	: very good
Termites	: good
Marine borers	: moderate

Treatability (heartwood) : poor

End uses : heavy constructions, dry and wet, turnery, flooring, musical instruments.

27. Protium decandrum **(Aubl.) Marchand** - tingimoni / kurokai / ulu
a. Protium tenuifolium **Engl.**
b. Protium polybotryum **(Turcz.) Engl.**
ssp. polybotryum
c. Protium heptaphyllum **(Aubl.) Marchand**
ssp. heptaphyllum

Synonym(s) (27a) : Protium neglectum **Swart.**

Family : Burseraceae

Vernacular names

Suriname : Grootbladige tingimoni (*P. neglectum*) / Rode bast tingimoni (*P. polybotryum*) / Kleinbladige tingimoni (*P. heptahyllum*)
Guyana : Common kurokai / Kurokai / Maruwa (*P. decandrum*)
French Guiana : Encens gris / Tinguimoni
Brazil : Breu branco / Almecegueira / Incenso (*P. heptaphyllum*)
Venezuela : Curacai / Tacamahaco

International trade name : Kurokai

Occurrence : Suriname, Guianas, Brazil, Central America

Tree description

Bole lenght : bole 15 -20 m; tree height 15 -30 m
Diameter : 0.35 - 0.75 m
Log shape : straight, sometimes fluted; tree base with flat buttresses

Wood description

Sapwood : not clearly distinct, pale buff to pinkish
Heartwood : brown or reddish brown with irregularly spaced darker brown streaks
Grain : straight to very irregular and interlocked
Texture : rather fine to fairly coarse

Technological characteristics

Physical properties (27, 27c)			*P. decandrum*	*P. heptaphyllum*
Green density	(g/cm^3)	:	0.90	0.98
Air dry density at 12% MC	(g/cm^3)	:	0.64	0.72
Basic specific gravity		:	0.53	0.60
Tot. tangential shrinkage	(%)	:	5.8	6.8
Tot. radial shrinkage	(%)	:	3.5	4.2
Tot. volumetric shrinkage	(%)	:	9.4	10.7

Mechanical properties (27, 27c)			*P. decandrum*	*P. heptaphyllum*
Bending strenght at 12% MC	(N/mm^2)	:	108	110
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	12836	12890
Crushing strenght at 12% MC	(N/mm^2)	:	61	59

Processing

Sawing	: rather difficult, power required, resin may clog sawteeth; blunting effect: moderate
Drying	: moderately difficult, risk of distortion and checking
Machining	: easy
Gluing	: variable, special care recommended
Nailing	: pre-boring necessary
Finishing	: filler required
Veneering	: peels well

Natural durability

Decay fungi	: poor
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : poor

End uses : interior joinery, framing, light carpentry, furniture, veneer.

28. Diplotropis purpurea (Rich.) Amshoff - blakakabisi *

Synonym(s) : Diplotropis guianensis **Benth.** / Diplotropis leptophylla **Kleinh.** / Bowdichia guianensis **Ducke**

Family : Leguminosae (Papilionoideae)

Vernacular names

Suriname	: Zwarte kabbes / Kiabici udu
Guyana	: Tatabu / Ogoru / Konatopo
French Guiana	: Saint Martin gris / Coeurs dehors / Baaka kiabici
Brazil	: Sucupira / Sapupira / Acapurana
Venezuela	: Congrio / Aji / Zapan negro

International trade name : Sucupira

Occurrence : Suriname, Guianas, Brazil, Venezuela, Columbia, Peru

Tree description

Bole lenght	: bole 18 - 20 m; tree height up to 40 m
Diameter	: 0.40 - 0.65 m
Log shape	: straight, cylindrical; tree base with root spurs

Wood description

Sapwood	: distinct, whitish or yellowish cream
Heartwood	: chocolate brown to reddish brown
Grain	: straight to slightly interlocked
Texture	: medium to coarse

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	1.20
Air dry density at 12% MC	(g/cm^3)	:	0.93
Basic specific gravity		:	0.82
Tot. tangential shrinkage	(%)	:	7.1
Tot. radial shrinkage	(%)	:	4.5
Tot. volumetric shrinkage	(%)	:	12.2

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	148
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	19240
Crushing strenght at 12% MC	(N/mm^2)	:	85

Processing

Sawing	: difficult, power required
Drying	: slow drying; air drying prior to kiln drying US kiln schedule T7 - B3 for 25 - 38 mm stock
Machining	: very difficult
Gluing	: with special care
Nailing	: pre-boring necessary
Finishing	: filler recommended
Veneering	: slices well (decorative veneer)

Natural durability

Decay fungi	: very good
Termites	: very good
Marine borers	: poor

Treatability (heartwood) : poor

End uses : exterior and interior joinery, flooring, stairs, turnery, tool handles, furniture, heavy constructions (wet and dry).

* low frequency in high dryland forest.

29. Jacaranda copaia (Aubl.) D. Don - gubaya

Synonym(s) : Bignonia copaia **Aublet** / Jacaranda procera **(Willd.) Spreng.**

Family : Bignoniaceae

Vernacular names

Suriname	: Gabaja / Yaefi
Guyana	: Futui / Aku / Kopaia / Phootee
French Guiana	: Copaya / Coupaya / Bois pian / Yachimanbo
Brazil	: Caroba / Marupa falso / Para-para
Venezuela	: Abey / Cupay / Gobaya

International trade name : Gobaja, Para-para

Occurrence : Suriname, Guianas, Brazil, Venezuela, Columbia, Ecuador, Bolivia, Argentina, Central America

Tree description

Bole lenght	: bole 15 - 20 m; tree height 20 - 30 m
Diameter	: 0.30 - 1.00 m
Log shape	: cylindrical, more or less straight; tree base swollen or with root spurs

Wood description

Sapwood	: not distinct, light yellowish white
Heartwood	: yellowish white or pinkish white
Grain	: straight
Texture	: medium to coarse

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	1.05
Air dry density at 12% MC	(g/cm^3)	:	0.42
Basic specific gravity		:	0.35
Tot. tangential shrinkage	(%)	:	8.2
Tot. radial shrinkage	(%)	:	5.5
Tot. volumetric shrinkage	(%)	:	14.3

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	59
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	9040
Crushing strenght at 12% MC	(N/mm^2)	:	32

Processing

Sawing	: easy, high internal stress, risk of splitting; blunting effect: slight
Drying	: easy and fast
Machining	: easy; sharp cutters recommended to avoid woolliness
Gluing	: good
Nailing	: poor
Finishing	: good
Veneering	: slices and peels well

Natural durability

Decay fungi	: poor
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : good

End uses : interior joinery, moulding, blockboard, boxes and crates, matches, toys, cheap furniture.

30. Hymenaea courbaril **L.** - loksi
var. ***courbaril***
a. Hymenaea oblongifolia **Huber**

Synonym (30) : Hymenaea davisii **Sandw.**

Family : Leguminosae (Ceasalpinioideae)

Vernacular names

Suriname	: Lokus / Rode lokus
Guyana	: Locust / Kawanari / Moire / Stinking toe
French Guiana	: Courbaril / Loka
Brazil	: Jatoba / Copal / Copinol / Jatai
Venezuela	: Jatahy / Algarrobo

International trade name : Courbaril, Jatoba

Occurrence : Suriname, Guianas, Brazil, Venezuela, Columbia, Central America

Tree description

Bole lenght	: bole 18 - 24 m; tree height 30 - 45 m
Diameter	: 0.50 - 1.50 m
Log shape	: straight, cylindrical; tree base swollen or buttressed

Wood description

Sapwood	: distinct, whitish to cream white
Heartwood	: orange brown with dark veins or light brown to purplish brown
Grain	: generally straight, sometimes interlocked
Texture	: fine to moderately coarse

Technological characteristics

Physical properties (30)		*H. courbaril*
Green density	(g/cm^3)	: 1.10
Air dry density at 12% MC	(g/cm^3)	: 0.87
Basic specific gravity		: 0.77
Tot. tangential shrinkage	(%)	: 8.5
Tot. radial shrinkage	(%)	: 4.4
Tot. volumetric shrinkage	(%)	: 12.6

Mechanical properties (30)		*H. courbaril*
Bending strenght at 12% MC	(N/mm^2)	: 173
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	: 19800
Crushing strenght at 12% MC	(N/mm^2)	: 98

Processing

Sawing : difficult, power required; blunting effect: moderate

Drying : slow drying recommended; difficult to air season US kiln schedule T3 - C2 for 25-38 mm and T3 - C1 for 50 mm stock

Machining : special tools recommended

Gluing : good in dry and interior condition

Nailing : pre-boring necessary

Finishing : good

Veneering : slices well; peeling difficult due to hardness

Natural durability

Decay fungi : moderate to very good

Termites : very good

Marine borers : moderate

Treatability (heartwood) : poor

End uses : exterior and interior joinery, marine constructions, high grade furniture and cabinet work, flooring, stairs, decorative veneer and fittings, turnery, arched articles.

31. Cedrela odorata L. - sedre

Family : Meliaceae

Vernacular names

Suriname	: Ceder / Kujalhi
Guyana	: Red Cedar * / Akuyari / Kurana
French Guiana	: Cedro / Cedrat / Cèdre rouge / Cedre acajou
Brazil	: Cedro / Cedro vermelho
Venezuela	: Cedro amargo / Cedro amarillo

International trade name : Cedro

Occurrence : Suriname, Guianas, Brazil, Venezuela, Central America

Tree description

Bole lenght	: bole 15 - 20 m; tree height 25 - 40 m
Diameter	: 0.50 - 1.50 m
Log shape	: straight, cylindrical; tree base buttressed

Wood description

Sapwood	: distinct, yellowish white or light pinkish brown
Heartwood	: pinkish yellow brown to red brown or brown red
Grain	: straight, sometimes interlocked
Texture	: fine and uniform to rather coarse and uneven

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	0.79
Air dry density at 12% MC	(g/cm^3)	:	0.45
Basic specific gravity		:	0.38
Tot. tangential shrinkage	(%)	:	6.3
Tot. radial shrinkage	(%)	:	4.2
Tot. volumetric shrinkage	(%)	:	10.2

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	68
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	6900
Crushing strenght at 12% MC	(N/mm^2)	:	42

Processing

Sawing	: easy, little woolliness; blunting effect: slight to very slight
Drying	: rapid, without distortion; risk of collapse; US kiln schedule T10 - D4S for 25-38 mm and T8 - D3S for 50 mm stock
Machining	: easy
Gluing	: good
Nailing	: good
Finishing	: good, filler recommended
Veneering	: peels well

Natural durability

Decay fungi	: moderate to good
Termites	: good
Marine borers	: moderate

Treatability (heartwood) : poor

End uses : exterior and interior joinery, furniture, decorative veneer, plywood, cigar boxes, decorative fittings, musical instruments.

* different from Western Red Cedar (*Thuja plicata*) and Eastern Red Cedar (*Juniperus virginiana*) both North American soft wood species.

32. *Loxopterygium sagotti* J.D. Hook - snek-udu *

Family : Anacardiaceae

Vernacular names

Suriname	: Slangenhout / Hububali / Snakewood
Guyana	: Hububalli / Aupar / Kwipari
French Guiana	: Pialli / Koél pialli
Venezuela	: Onotillo / Ormata

International trade name : Hububalli, Slangenhout

Occurrence : Suriname, Guianas, Venezuela

Tree description

Bole lenght	: bole 15 - 20 m; tree height 30 - 35 m
Diameter	: 0.35 - 0.90 m
Log shape	: fairly straight; tree base with large low buttresses

Wood description

Sapwood	: not sharply distinct, pale yellow or light greyish brown
Heartwood	: light brown to red brown, attractively figured with narrow to wide darker stripes and streaks
Grain	: straight, sometimes interlocked or wavy
Texture	: medium

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	0.94
Air dry density at 12% MC	(g/cm^3)	:	0.65
Basic specific gravity		:	0.56
Tot. tangential shrinkage	(%)	:	7.2
Tot. radial shrinkage	(%)	:	3.4
Tot. volumetric shrinkage	(%)	:	11.1

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	94
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	12060
Crushing strenght at 12% MC	(N/mm^2)	:	51

Processing

Sawing	: easy; blunting effect: slight
Drying	: moderately difficult; risk of distortion and checking moderate
Machining	: sometimes difficult if interlocked grain occures
Gluing	: care required
Nailing	: good
Finishing	: good but oily gum may cause problems in varnishing
Veneering	: slices and peels good

Natural durability

Decay fungi	: moderate to good
Termites	: moderate
Marine borers	: poor

Treatability (heartwood) : poor

End uses : carpentry, cabinet work, furnitures, flooring, joinery, turnery, interior trim.

* occasional in high dryland and savannahforest, and not the same "Snake wood" of Guyana, which is *Brosimum guianense* **(Aubl.) Huber.**

33. Anacardium giganteum **Hancock ex Engl.** - busikasyu
a. Anacardium spruceanum **Benth. ex Engl.**

Family : Anacardiaceae

Vernacular names
Suriname : Boskasju / Ajawa
Guyana : Cashew / Espavel
French Guiana : Bouchi cajou / Caschou
Brazil : Caju açu / Cajui / Caju da mata
Venezuela : Caracoli

International trade name : Espave

Occurrence : Suriname, Guianas, Brazil, Venezuela, Central America

Tree description
Bole lenght : bole 10 - 20 m; tree height 20 - 30 m
Diameter : 0.90 - 1.80 m
Log shape : fairly straight; tree base swollen

Wood description
Sapwood : distinct, greyish white with pinkish tinge
Heartwood : russet brown with a golden or reddish cast
Grain : irregular and interlocked
Texture : medium to coarse

Technological characteristics

Physical properties (33)			*A. giganteum*
Green density	(g/cm^3)	:	0.83
Air dry density at 12% MC	(g/cm^3)	:	0.52
Basic specific gravity		:	0.43
Tot. tangential shrinkage	(%)	:	5.2
Tot. radial shrinkage	(%)	:	2.7
Tot. volumetric shrinkage	(%)	:	8.6

Mechanical properties (33)			
Bending strenght at 12% MC	(N/mm^2)	:	76
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	8900
Crushing strenght at 12% MC	(N/mm^2)	:	38

Processing

Sawing	: easy; blunting effect: slight
Drying	: moderately difficult, tends to warp and check US kiln schedule T6 - D2 for 25-38 mm and T3 - D1 for 50 mm stock
Machining	: poor, due to chipped grain and fuzzy surfaces
Gluing	: good
Nailing	: good
Finishing	: good, filler required
Veneering	: slices and peels well

Natural durability

Decay fungi	: poor to moderate
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : moderate

End uses : interior and exterior joinery, cheep furniture, veneer and plywood, boxes and crates, pulp wood.

34. Eriotheca crassa (Uitt.) A. Robyns - busikatun
a. Bombax spectabile Ulbrich - busimaumau

Synonym (34) : Bombax crassum **Uitt.**

Family : Bombacaceae

Vernacular names

Suriname	: Jacomini / Boskatoen (34), Mowmow (34a)
Guyana	: Kamakuti
French Guiana	: Yankomini / Coton odou / Mahot coton
Brazil	: Paineira
Venezuela	: Saquisaqui

International trade name : Yankomini

Occurrence : Suriname, Guianas, Brazil, Venezuela

Tree description

Bole lenght	: bole 10 - 15 m; tree height 20 - 25 m
Diameter	: 0.70 - 1.10 m
Log shape	: straight, cylindrical: tree base with low buttresses

Wood description

Sapwood	: indistinct
Heartwood	: grey yellowish
Grain	: straight, sometimes interlocked
Texture	: medium to coarse

Technological characteristics

Physical properties (34)			*E. crassa*
Green density	(g/cm^3)	:	0.82
Air dry density at 12% MC	(g/cm^3)	:	0.48
Basic specific gravity		:	0.36
Tot. tangential shrinkage	(%)	:	2.5
Tot. radial shrinkage	(%)	:	1.3
Tot. volumetric shrinkage	(%)	:	4.0

Mechanical properties (34)			*E. crassa*
Bending strenght at 12% MC	(N/mm^2)	:	78
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	8810
Crushing strenght at 12% MC	(N/mm^2)	:	42

Processing

Sawing	: easy; blunting effect: slight
Drying	: easy, but with care
Machining	: good
Gluing	: good
Nailing	: good
Finishing	: good
Veneering	: peels and slices well

Natural durability

Decay fungi	: poor to moderate
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : moderate

End uses : interior joinery, light carpentry, boxes and crates, interior trim, pulpwood.

35. Parahancornia fasciculata (Poir.) Benoist ex Pichon - dukali
a. Brosimum parinarioides Ducke ssp. *parinarioides*

Synonym (35) : Parahancornia amapa **Ducke**

Family : Apocynaceae

Vernacular names

Suriname	: Amapa / Sokosoko
Guyana	: Amapa / Dukali
French Guiana	: Dokali / Mapa
Brazil	: A mapá / Amapá amargoso

International trade name : Amapa

Occurrence : Suriname, Guianas, Brazil

Tree description

Bole lenght	: bole 18 - 20 m: tree height 20 - 30 m
Diameter	: 0.30 - 0.50 m
Log shape	: straight, cylindrical and slender

Wood description

Sapwood	: not distinct
Heartwood	: light beige to light brown yellowish
Grain	: straight
Texture	: fine

Technological characteristics

Physical properties (35)			*P. fasciculata*
Green density	(g/cm^3)	:	0.80
Air dry density at 12% MC	(g/cm^3)	:	0.53
Basic specific gravity		:	0.43
Tot. tangential shrinkage	(%)	:	7.7
Tot. radial shrinkage	(%)	:	4.2
Tot. volumetric shrinkage	(%)	:	11.5

Mechanical properties (35)			*P. fasciculata*
Bending strenght at 12% MC	(N/mm^2)	:	87
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	10600
Crushing strenght at 12% MC	(N/mm^2)	:	44

Processing

Sawing	: easy; blunting effect: slight
Drying	: easy, slight risk of distortion
Machining	: easy
Gluing	: good
Nailing	: moderate
Finishing	: good
Veneering	: peels well

Natural durability

Decay fungi	: poor
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : moderate

End uses : interior joinery, light furniture, moulding, wain scoting, toys, packing material.

36. Parinari camprestris Aublet - redifungu
a. Parinari rodolphii Huber

Family : Chrysobalanaceae

Vernacular names

Suriname	: Vonkhout / Koebesini / Behoerada / Rode Fungu / Echte Fungu
Guyana	: Burada / Candlewood / Kupisini / Makarai / Wamuku
French Guiana	: Gaulette blanc / Fongouti koko
Brazil	: Rarinari / Pajura / Farinha
Venezuela	: Guaray / Merecurillo / Tostado

International trade name : Burada

Occurrence : Suriname, Guianas, Brazil, Venezuela, Columbia, Peru

Tree description

Bole lenght	: bole 10 -15 m; tree height 20 -40 m
Diameter	: 0.45 - 1.00 m
Log shape	: cylindrical; tree base with low and thick buttresses

Wood description

Sapwood	: not clearly distinct
Heartwood	: yellowish pink-brown or greyish yellow brown
Grain	: straight, sometimes slightly interlocked
Texture	: fine

Technological characteristics

Physical properties (36)			*P. camprestis*
Green density	(g/cm^3)	:	1.10
Air dry density at 12% MC	(g/cm^3)	:	0.84
Basic specific gravity		:	0.77
Tot. tangential shrinkage	(%)	:	10.3
Tot. radial shrinkage	(%)	:	6.4
Tot. volumetric shrinkage	(%)	:	17

Mechanical properties (36)			*P. camprestis*
Bending strenght at 12% MC	(N/mm^2)	:	152
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	16100
Crushing strenght at 12% MC	(N/mm^2)	:	82

Processing

Sawing	: difficult, power required; blunting effect: high due to silica content
Drying	: easy to air season and prior to kiln drying recommended; risk of distortion: moderate; risk of checking: slight US kiln schedule T2 - C2 for 25-38 mm stock
Machining	: difficult, stellite or carbide tipped tools recommended
Gluing	: difficult
Nailing	: pre-boring necessary
Finishing	: moderate

Natural durability

Decay fungi	: moderate
Termites	: good
Marine borers	: good

Treatability (heartwood) : good

End uses : marine construction (submerged), heavy construction, sleepers (treated), flooring.

37. Schefflera decaphylla (Seemans) Harms - morototo *

Synonym : Schefflera paraënsis **Huber ex Ducke**

Family : Araliaceae

Vernacular names

Suriname : Kasavehout / Kasaba udu
Guyana : Blunt leaf Karohoro / Karohoro
French Guiana : La Saint Jean / Tobitoutou
Brazil : Morototo

International trade name : Morototo

Occurrence : Suriname, Guianas, Tropical South America

Tree description

Bole lenght : bole 20 - 25 m: tree height 30 m
Diameter : 0.50 - 1.00 m
Log shape : straight, cylindrical; base with root spurs or swollen

Wood description

Sapwood : not distinct
Heartwood : greyish white to yellowish brown
Grain : straight
Texture : medium to fine

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	0.70 - 0.90
Air dry density at 12% MC	(g/cm^3)	:	0.50
Basic specific gravity		:	0.45
Tot. tangential shrinkage	(%)	:	9.6
Tot. radial shrinkage	(%)	:	6.4
Tot. volumetric shrinkage	(%)	:	16.5

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	66
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	8400
Crushing strenght at 12% MC	(N/mm^2)	:	40

Processing

Sawing	: easy; blunting effect: very slight
Drying	: easy; risk of distortion more or less high; risk of blue stain attack
Machining	: easy, but with woolly surface
Gluing	: good
Nailing	: good
Finishing	: good
Veneering	: peels well

Natural durability

Decay fungi	: poor
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : good

End uses : interior joinery, plywood, matches, boxes and crates, light carpentry, moulding, toys, blackboard, particle board.

* available in limited quantities.

38. *Schefflera morototoni* (Aubl.) Maguire, Steyerm. & Frodin - kasaba-udu

Synonym : Didymopanax morototoni **Aublet**

Family : Araliaceae .

Vernacular names

Suriname	: Kasavehout / Morototo
Guyana	: Karo horo / Morototo / Pointed leaf Karohoro / Puna
French Guiana	: Tobitoutou / La Saint Jean
Brazil	: Mandioqueira / Mandiocai / Morototo / Matatauba
Venezuela	: Cafetero / Orumo-macho / Sunsun

International trade name : Morototo

Occurrence : Suriname, Guianas, Central and Tropical South America

Tree description

Bole lenght / tree height	: bole 15 -20 m; tree height 20 - 35 m
Diameter	: 0.35 - 1.00 m
Log shape	: straight, cylindrical; base swollen

Wood description

Sapwood	: not distinct
Heartwood	: pale brownish
Grain	: straight
Texture	: medium to rather fine

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	0.75
Air dry density at 12% MC	(g/cm^3)	:	0.59
Basic specific gravity		:	0.49
Tot. tangential shrinkage	(%)	:	9.7
Tot. radial shrinkage	(%)	:	6.2
Tot. volumetric shrinkage	(%)	:	16.9

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	85
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	11250
Crushing strenght at 12% MC	(N/mm^2)	:	47

Processing

Sawing	: easy; blunting effect: very slight
Drying	: air season rapidly, with risk of distortion and checking risk of blue stain attack
Machining	: easy;.sometimes with fuzzy and torn grain
Gluing	: good
Nailing	: good
Finishing	: good
Veneering	: peels well

Natural durability

Decay fungi	: poor
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : good

End uses : interior joinery, general carpentry, plywood, boxes and crates, matches, splints, particle board.

39. *Tabebuia serratifolia* (Vahl) Nicholson - grinati

Family : Bignoniaceae

Vernacular names

Suriname	: Groenhart / Wassiba
Guyana	: Hakia / Arawnig / Aruain / Ironwood
French Guiana	: Ebene soufre / Ebene verte
Brazil	: Ipê / Pau d'Arco
Venezuela	: Acapro / Puy
Columbia	: Canaguate / Polvillo

International trade name : Ipe, Lapacho, Tabebuia

Occurrence : Suriname, Guianas, Central and Tropical South America

Tree description

Bole lenght	: bole 15 - 20 m; tree height 25 - 45 m
Diameter	: 0.50 - 1.00 m
Log shape	: straight, cylindrical; tree base with root spurs or buttresses

Wood description

Sapwood	: distinct, whitish or yellowish
Heartwood	: olive brown to blackish with lighter or darker streaks (often covered with a green yellow powder)
Grain	: slightly to highly interlocked
Texture	: fine to medium

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	1.28
Air dry density at 12% MC	(g/cm^3)	:	1.05
Basic specific gravity		:	0.96
Tot. tangential shrinkage	(%)	:	8.0
Tot. radial shrinkage	(%)	:	6.6
Tot. volumetric shrinkage	(%)	:	13.2

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	180
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	18300
Crushing strenght at 12% MC	(N/mm^2)	:	97

Processing

Sawing	: difficult; power required; blunting effect: moderate
Drying	: slow drying recommended, risk of distortion: slight US kiln schedule T3 - C1 for 25 - 38 mm
Machining	: moderately difficult; power required
Gluing	: with special precautions
Nailing	: pre-boring necessary
Finishing	: good
Veneering	: pre-steaming before slicing recommended

Natural durability

Decay fungi	: very good
Termites	: very good
Marine borers	: poor to moderate

Treatability (heartwood) : poor

End uses : industrial and parquet flooring, cabinets, sleepers, stairs, furniture, naval construction, hydraulic works, interior and exterior joinery.

40. ***Tabebuia insignis*** **(Miq.) Sandw.** - zwampupanta
var. ***monophylla*** **Sandw.**
a. ***Tabebuia capitata*** **(Bureau & Schum.) Sandw.** - makagrin *

Family : Bignoniaceae

Vernacular names
Suriname : Zwamp panta / Johoto / Mattoe / Warakori / Panda udu
Guyana : Panda / Warakuri / White Cedar
French Guiana : Bois blanchet / Cedre blanc
Brazil : Ipê

International trade name : White cedar, White tabebuia

Occurrence : Suriname, Guianas, Brazil

Tree description
Bole lenght : bole 12 - 18 m; tree height 20 - 40 m
Diameter : 0.30 - 1.00 m
Log shape : not straight, strongly tapering; tree base with fluted buttresses or swollen

Wood description
Sapwood : not clearly distinct
Heartwood : yellowish or greyish brown with olive or reddish tinge
Grain : fairly straight
Texture : medium and uniform

Technological characteristics

Physical properties (40)		*T. insignis*
Green density	(g/cm^3)	: 1.04
Air dry density at 12% MC	(g/cm^3)	: 0.67
Basic specific gravity		: 0.57
Tot. tangential shrinkage	(%)	: 7.2
Tot. radial shrinkage	(%)	: 4.7
Tot. volumetric shrinkage	(%)	: 10.8

Mechanical properties (40)		*T. insignis*
Bending strenght at 12% MC	(N/mm^2)	: 105
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	: 15600
Crushing strenght at 12% MC	(N/mm^2)	: 58

Processing

Sawing	: easy in dry condition
Drying	: easy to airseason
Machining	: good in dry condition
Gluing	: with precautions
Nailing	: pre-boring necessary
Finishing	: good
Veneering	: pre-steaming before slicing

Natural durability

Decay fungi	: poor to moderate
Termites	: moderate
Marine borers	: poor

Treatability (heartwood) : good

End uses : interior joinery, flooring, interior trim, carpentry, boxes and crates.

* available in limited quantities.

41. Platonia insignis Mart. - pakuli

Synonym : Platonia esculenta **(Arruda) Rickett & Stafleu**

Family : Guttiferae

Vernacular names

Suriname	: Geelhart / Manipau / Gerati
Guyana	: Pakuri / Mammee aple
French Guiana	: Parcouri / Matouni / Moussa
Brazil	: Bacuri / Pacuru / Bacuri acu
Venezuela	: Roble Maria

International trade name : Bacuri, Pakuri

Occurrence : Suriname, Guianas, Brazil, Tropical South America

Tree description

Bole lenght	: bole 16 - 20 m; tree height 20 - 35 m
Diameter	: 0.45 - 1.00 m
Log shape	: straight, cylindrical; tree base swollen or with low thick root spurs

Wood description

Sapwood	: distinct; beige to yellow
Heartwood	: yellow brown with yellow beige streaks and stripes
Grain	: straight
Texture	: medium to coarse

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	1.10
Air dry density at 12% MC	(g/cm^3)	:	0.87
Basic specific gravity		:	0.77
Tot. tangential shrinkage	(%)	:	10.0
Tot. radial shrinkage	(%)	:	6.2
Tot. volumetric shrinkage	(%)	:	16.8

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	179
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	18400
Crushing strenght at 12% MC	(N/mm^2)	:	85

Processing

Sawing	: difficult; power required, blunting effect: slight
Drying	: with care; risk of distortion and checking more or less high; US kiln schedule T6 - D2 for 25-38 mm and T3 - D1 for 50 mm stock
Machining	: difficult; stellite tipped tools recommended
Gluing	: good
Nailing	: pre-boring necessary
Finishing	: good
Veneering	: pre-steaming before slicing

Natural durability

Decay fungi	: very good
Termites	: good
Marine borers	: moderate

Treatability (heartwood) : poor

End uses : interior and exterior joinery, flooring, stairs, marine construction, moulding, veneer.

42. Mora excelsa **Bentham** - mora

Family : Leguminosae (Caesalpinioideae)

Vernacular names

Suriname	: Peto / Mora-yek
Guyana	: Mora / Mora-yek / Parakaua
French Guiana	: Mora
Brazil	: Pracuúba
Venezuela	: Peto / Mora de Guyana
Columbia	: Nato rojo

International trade name : Mora

Occurrence : Suriname, Guianas, Brazil, Columbia, Venezuela, Trinidad

Tree description

Bole lenght	: bole 15 - 25 m; tree height 30 - 40 m, sometimes up to 50 m.
Diameter	: 0.60 - 0.90 m, sometimes up to 1.30 m *
Log shape	: usually straight, cylindrical, sometimes flattened ; tree base buttressed

Wood description

Sapwood	: distinct, light yellowish grey
Heartwood	: yellowish red brown, reddish brown or dark brown with white or brown streaks
Grain	: straight and commonly interlocked
Texture	: medium to coarse

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	1.30
Air dry density at 12% MC	(g/cm^3)	:	0.99
Basic specific gravity		:	0.78
Tot. tangential shrinkage	(%)	:	9.8
Tot. radial shrinkage	(%)	:	6.7
Tot. volumetric shrinkage	(%)	:	18.6

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	152
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	21000
Crushing strenght at 12% MC	(N/mm^2)	:	82

Processing

Sawing	: difficult, power required; blunting effect: moderate to high
Drying	: difficult; risk of distortion and checking more or less high; US kiln schedule T2 - C2 for 25-38 mm and T2 - C1 for 50 mm stock
Machining	: difficult due to hardness and interlocked grain
Gluing	: with special precautions
Nailing	: pre-boring necessary (good holding of nails)
Finishing	: good

Natural durability

Decay fungi	: good to very good
Termites	: good
Marine borers	: poor

Treatability (heartwood) : poor

End uses : heavy constructions, sleepers, boat building, industrial flooring, heavy carpentry, quality charcoal wood.

* large trees, above 60 cm dbh often hollow.

43. Mora gonggrijpii (Kleinh.) Sandw. - morabukeya

Family : Leguminosae (Caesalpinioideae)

Vernacular names
Suriname : Mora / Morera
Guyana : Morabukea / Para kwai
Venezuela : Mora / Morera

International trade name : Morabukea

Occurrence : Restricted to Suriname, Guyana and Venezuela

Tree description
Bole lenght : bole 18 - 25 m; tree height 20 - 50 m
Diameter : 0.40 - 1.50 m
Log shape : cylindrical; tree base buttressed

Wood description
Sapwood : distinct, pale pinkish brown
Heartwood : reddish brown to dark brown or pinkish brown with paler streaks
Grain : straight, commonly interlocked, irregular or wavy
Texture : rather fine to moderately coarse

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	1.30
Air dry density at 12% MC	(g/cm^3)	:	1.02
Basic specific gravity		:	0.78
Tot. tangential shrinkage	(%)	:	10.2
Tot. radial shrinkage	(%)	:	6.3
Tot. volumetric shrinkage	(%)	:	18.8

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	176
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	22000
Crushing strenght at 12% MC	(N/mm^2)	:	95

Processing

Sawing	: difficult, power required; blunting effect: moderate to high
Drying	: difficult; risk of distortion and checking more or less high; US kiln schedule T2 - C2 for 25-38 mm and T2 - C1 for 50 mm stock
Machining	: difficult, due to hardness and interlocked grain
Gluing	: with special precautions
Nailing	: pre-boring necessary (good holding of nails)
Finishing	: good

Natural durability

Decay fungi	: good to very good
Termites	: very good
Marine borers	: poor

Treatability (heartwood) : poor

End uses : heavy constructions, industrial flooring, boat building, heavy carpentry.

44. Symphonia globulifera L.f. - mataki *

Synonym : Symphonia gabonensis **Pierre**

Family : Guttiferae

Vernacular names

Suriname	: Mani / Manipau
Guyana	: Manni / Maitakin / Karamanni
French Guiana	: Manil / Manil marecage / Mataaki
Brazil	: Anani / Canadi / Mani
Venezuela	: Mani / Paraman

International trade name : Mani

Occurrence : Suriname, Guianas, Tropical South America and Tropical West Afrika (Gabon, Congo, Zaire)

Tree description

Bole lenght	: bole 15 - 20 m; tree height 20 - 40 m
Diameter	: 0.35 - 1.00 m
Log shape	: straight, cylindrical and slender; tree stems in swamp areas develop stilroots with numerous elbow buttresses

Wood description

Sapwood	: distinct, yellowish or gray
Heartwood	: beige brown with yellow, orange or green tinge
Grain	: straight, sometimes interlocked
Texture	: medium

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	0.80 - 1.05
Air dry density at 12% MC	(g/cm^3)	:	0.71
Basic specific gravity		:	0.61
Tot. tangential shrinkage	(%)	:	9.7
Tot. radial shrinkage	(%)	:	5.7
Tot. volumetric shrinkage	(%)	:	15.6

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	141
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	14100
Crushing strenght at 12% MC	(N/mm^2)	:	67

Processing

Sawing	: easy; blunting effect: moderate
Drying	: difficult; risk of distortion and checking more or less high; risk of casehardening; US kiln schedule T3 - C2 for 25-38 mm and T3 - C1 for 50 mm stock
Machining	: good but rough surfaces in planing and shaping
Gluing	: good
Nailing	: pre-boring recommended
Finishing	: good
Veneering	: peels and slices satisfactory

Natural durability

Decay fungi	: moderate
Termites	: poor
Marine borers	: moderate

Treatability (heartwood) : poor

End uses : interior and exterior joinery, carpentry, furniture, flooring, interior fittings, plywood, sleepers.

* in West Africa: Ossol / Nianga / Muyanga / Tshilunga.

45. Moronobea coccinea **Aublet** - manni

Family : Guttiferae

Vernacular names

Suriname	: Parcouri manil
Guyana	: Manniballi / Moronbo-rai
French Guiana	: Moronobo / Manilpeou / Coronobo
Brazil	: Marupa / Bacuri de anta / Anani

International trade name : Manniballi

Occurrence : Suriname, Guianas, Brazil

Tree description

Bole lenght	: bole 15 - 25 m; tree height 30 - 40 m
Diameter	: 0.45 - 0.80 m
Log shape	: straight, cylindrical, slender; tree base without buttresses

Wood description

Sapwood	: distinct, light yellow
Heartwood	: yellow brown with veins
Grain	: generally straight; in sapwood crooked and wavy
Texture	: medium to coarse

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	1.25
Air dry density at 12% MC	(g/cm^3)	:	0.96
Basic specific gravity		:	0.87
Tot. tangential shrinkage	(%)	:	9.4
Tot. radial shrinkage	(%)	:	4.6
Tot. volumetric shrinkage	(%)	:	15.0

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	160
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	22650
Crushing strenght at 12% MC	(N/mm^2)	:	66

Processing

Sawing	: easy; blunting effect: moderate
Drying	: difficult; risk of distortion and checking more or less high
Machining	: easy
Gluing	: good
Nailing	: good
Finishing	: good
Veneering	: peels satisfactory

Natural durability

Decay fungi	: very good
Termites	: moderate
Marine borers	: poor to moderate

Treatability (heartwood) : poor

End uses : exterior joinery, carpentry, industrial flooring, sleepers, bridge decking.

46. *Micropholis guianensis* (A. DC.) Pierre - wetilo-udu
var. *commixta* Lindeman - blakalo-udu

Family : Sapotaceae

Vernacular names

Suriname	: Wit riemhout / Awapan
Guyana	: Moraballi
French Guiana	: Faux balata / Balata blanc
Brazil	: Apixuna / Grumixava
Venezuela	: Hácano

International trade name : Moraballi

Occurrence : Suriname, Guianas, Brazil, Venezuela

Tree description

Bole lenght	: bole 12 - 20 m; tree height 30 - 35 m
Diameter	: 0.45 - 1.00 m
Log shape	: generally straight; tree base with high buttresses

Wood description

Sapwood	: not clearly distinct
Heartwood	: yellow to grey brown with a pinkish tinge and sometimes with a yellowish-green hue
Grain	: generally straight
Texture	: fine to medium

Technological characteristics

Physical properties (46)			*M. guianensis*
Green density	(g/cm^3)	:	1.10
Air dry density at 12% MC	(g/cm^3)	:	0.80
Basic specific gravity		:	0.67
Tot. tangential shrinkage	(%)	:	8.5
Tot. radial shrinkage	(%)	:	5.8
Tot. volumetric shrinkage	(%)	:	14.3

Mechanical properties (46)			*M. guianensis*
Bending strenght at 12% MC	(N/mm^2)	:	161
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	16930
Crushing strenght at 12% MC	(N/mm^2)	:	80

Processing

Sawing	: moderately difficult; blunting effect: more or less high
Drying	: moderately difficult; slow drying recommended
Machining	: moderately difficult
Gluing	: good
Nailing	: pre-boring recommended
Finishing	: good
Veneering	: peels well

Natural durability

Decay fungi	: moderate to good
Termites	: poor
Marine borers	: poor to moderate

Treatability (heartwood) : poor

End uses : interior joinery, flooring, millwork, furniture, decorative veneer.

47. Peltogyne venosa (Vahl) Benth. - popo-ati
a. Peltogyne paniculata Benth.

Synonym(s) : Peltogyne pubescens **Bentham**

Family : Leguminosae (Cesalpinioideae)

Vernacular names

Suriname	: Purperhart / Alastan / Simirirang
Guyana	: Purpleheart / Koroboreli / Karawai
French Guiana	: Amarante / Bois violet
Brazil	: Pau roxo / Ipê roxo / Guarabu
Venezuela	: Zapatero / Marado / Algarrosito

International trade name : Amarante

Occurrence : Suriname, Guianas, Brazil, Tropical South America

Tree description

Bole lenght	: bole 18 - 27 m; tree height 25 - 50 m
Diameter	: 0.45 - 0.90 m
Log shape	: straight, cylindrical; tree base buttressed

Wood description

Sapwood	: clearly distinct; pale pink to grey white
Heartwood	: brown beige when freshly cut, but turns in deep purple upon exposure to light and darkens to dark brown
Grain	: usually straight
Texture	: medium to fine

Technological characteristics

Physical properties (47)		*P. venosa*
Green density	(g/cm^3)	: 1.20
Air dry density at 12% MC	(g/cm^3)	: 0.84
Basic specific gravity		: 0.76
Tot. tangential shrinkage	(%)	: 6.7
Tot. radial shrinkage	(%)	: 4.6
Tot. volumetric shrinkage	(%)	: 11.3

Mechanical properties (47)		*P. venosa*
Bending strenght at 12% MC	(N/mm^2)	: 155
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	: 16880
Crushing strenght at 12% MC	(N/mm^2)	: 79

Processing

Sawing	: difficult; power required; blunting effect: moderate
Drying	: easy; risk of distortion and checking slight US kiln schedule T6 - D2 for 25-38 mm and T3 - D1 for 50 mm stock
Machining	: moderately difficult
Gluing	: good, but with care
Nailing	: pre-boring recommended
Finishing	: good
Veneering	: slices well

Natural durability

Decay fungi	: good to very good
Termites	: good to very good
Marine borers	: moderate

Treatability (heartwood) : poor

End uses : interior and exterior joinery, cabinet work, furniture, stairs, flooring, tool handles, billiard cue butts, carving, turnery, marquetry, laminated beams, sliced veneer.

48. Licania laxiflora **Fritsch** - kwepi
a. Licania majuscula **Sagot** - fungu
b. Licania heteromorpha **Bentham** - anawra
var. *heteromorpha*

Family : Rosaceae (Chrysobalanoideae)

Vernacular names
Suriname : Vonkhout / Baka koko / Bergi kwepi
Guyana : Kauta (*L. laxiflora*) / Farsha (*L. majuscula*) / Kauta balli (*L. alba*) / Maiuarai
French Guiana : Bois gaulette (*L. majuscula*) / Gris gris rouge / Koko
Brazil : Anaoura / Pinta dinho / Caraipé
Venezuela : Hierrito / Merecure
Columbia : Cana dulce

International trade name : Kauta (48), Kauta balli (48b)

Occurrence : Suriname, Guianas, Brazil, Tropical Amazon Region

Tree description
Bole lenght : bole 15 - 20 m; tree height 20 -35 m
Diameter : 0.70 - 0.85 m (*L. heteromorpha*)
0.40 - 0.65 m (*L. laxiflora*)
Log shape : moderately straight; tree base butressed or swollen (*L. heteromorpha*)

Wood description
Sapwood : rather indistinct, pinkish red (*L. hetermorpha*)
Heartwood : reddish brown, yellowish or greyish brown with pinkish tinge (*L. heteromorpha*)
Grain : straight or slightly interlocked
Texture : coarse to fine

Technological characteristics

Physical properties (48, 48a)			*L. laxiflora*	*L. majuscula*
Green density	(g/cm^3)	:	1.18	1.16
Air dry density at 12% MC	(g/cm^3)	:	1.07	1.03
Basic specific gravity		:	0.92	0.90
Tot. tangential shrinkage	(%)	:	11.7	10.8
Tot. radial shrinkage	(%)	:	8.1	7.5
Tot. volumetric shrinkage	(%)	:	19.8	16.5

Mechanical properties (48, 48a)			*L. laxiflora*	*L. majuscula*
Bending strenght at 12% MC	(N/mm^2)	:	219	173
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	18340	17400
Crushing strenght at 12% MC	(N/mm^2)	:	88	84

Processing

Sawing : difficult, power required; blunting effect: high

Drying : easy to moderately difficult; risk of distortion and checking: slight

Machining : difficult; special tools recommended

Gluing : with special precautions

Nailing : pre-boring necessary

Finishing : good

Natural durability

Decay fungi : poor to moderate

Termites : moderate

Marine borers : very good

Treatability (heartwood) : moderate

End uses : heavy constructions (above ground), framing, shingles, marine constructions.

49. Manilkara bidentata (A. DC.) Chev. - bortri

Synonym(s) : Mimusops balata **(Miq.) Eichl.** / Manilkara balata **(Pierre) Dubard**

Family : Sapotaceae

Vernacular names

Suriname	: Bolletrie / Balata / Paardevleeshout
Guyana	: Bulletwood / Balata / Beefwood / Iriar / Kobero / Purue
French Guiana	: Balata franc / Balata rouge / Balata gomme
Brazil	: Macaranduba / Maparajuba / Paraju
Venezuela	: Balata / Massaranduba
Columbia	: Balata / Nispero / Trapichero

International trade name : Macaranduba

Occurrence : Suriname, Guianas, Brazil, Tropical South America

Tree description

Bole lenght	: bole 20 - 25 m; tree height 30 - 45 m
Diameter	: 0.45 - 1.50 m
Log shape	: straight, cylindrical and slender

Wood description

Sapwood	: distinct, pink beige to pale brown
Heartwood	: light to dark red brown, upon exposure to dark purple brown
Grain	: straight, occasionally wavy or interlocked
Texture	: fine

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	1.30
Air dry density at 12% MC	(g/cm^3)	:	1.09
Basic specific gravity		:	0.94
Tot. tangential shrinkage	(%)	:	9.4
Tot. radial shrinkage	(%)	:	6.3
Tot. volumetric shrinkage	(%)	:	17.0

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	190
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	19300
Crushing strenght at 12% MC	(N/mm^2)	:	87

Processing

Sawing	: difficult, power required; blunting effect: moderate
Drying	: difficult, slow and carefully; risk of distortion and checking: high; risk of casehardening US kiln schedule T1 - B1 for 25-38 mm stock
Machining *	: power required but moderately easy; special tools recommended
Gluing	: with special precautions
Nailing	: pre-boring necessary; good holding of nails
Finishing	: good
Veneering	: slices well

Natural durability

Decay fungi	: good to very good
Termites	: very good
Marine borers	: poor

Treatability (heartwood) : poor

End uses : heavy constructions, bridges, flooring, carpentry, stairs, naval construction, violin bows, billiard cue butts, furniture components.

* wood dust may cause skin irritation (dermatitis).

50. Sclerolobium guianense **Bentham** - gedu
a. Sclerolobium micropetalum **Ducke**
b. Sclerolobium albiflorum **(A.DC.) Chev.**
c. Sclerolobium melinonii **Harms** - dyadidya
d. Tachigali paniculata **Aubl.**
var. ***paniculata***

Family : Leguminosae (Caesalpinioideae)

Vernacular names

Suriname : Sabana djedu (*S. guianense*) / Zwarte djedu (*S. micropetalum*) / Rode djedu (*S. albiflorum*)

Guyana : Kaditiri / Kalili / Kata / Thick skin Kaditiri / Thin skin Kaditiri

French Guiana : Diaguidia

Brazil : Tachy / Tachirana / Pachare

Venezuela : Congrio / Guamillo

International trade name : Djedu, Kaditiri

Occurrence : Suriname, Guianas, Brazil, Tropical South America

Tree description

Bole lenght : bole 15 - 20 m; tree height 25 - 40 m

Diameter : 0.35 - 0.85 m

Log shape : log with shallow longitudinal depressions; base often with many flat and wide butresses

Wood description

Sapwood : not clearly distinct, greyish brown

Heartwood : light brown to dark brown with pinkish or yellowish tinge

Grain : straight to interlocked

Texture : medium to coarse

Technological characteristics

Physical properties (50, 50c)			*S. guianense*	*S. melinonii*
Green density	(g/cm^3)	:	0.98	1.02
Air dry density at 12% MC	(g/cm^3)	:	0.54	0.68
Basic specific gravity		:	0.47	0.56
Tot. tangential shrinkage	(%)	:	8.8	9.5
Tot. radial shrinkage	(%)	:	4.3	4.6
Tot. volumetric shrinkage	(%)	:	12.1	13.0

Mechanical properties (50, 50c)			*S. guianense*	*S. melinonii*
Bending strenght at 12% MC	(N/mm^2)	:	91	94
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	13090	14080
Crushing strenght at 12% MC	(N/mm^2)	:	45	57

Processing

Sawing	: easy; blunting effect: slight
Drying	: easy; slight risk of distortion
Machining	: good, but with fuzzy surfaces
Gluing	: good
Nailing	: good
Finishing	: good, except when interlocked grain occurs
Veneering	: peels and slices well

Natural durability

Decay fungi	: moderate to good
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : poor

End uses : interior boarding and panelling, furniture, general carpentry, packing, crates.

53. *Cedrelinga cateniformis* Ducke - donsedre

Family : Leguminosae (Mimosoideae)

Vernacular names

Suriname	: Don ceder
French Guiana	: Cedrelinga
Brazil	: Cedrorana / Parica / Cedrelinga
Venezuela / Peru	: Tornillo

International trade name : Cedrorana

Occurrence : Suriname, Guianas, Brazil, Venezuela, Peru

Tree description

Bole lenght	: bole 10 - 25 m: tree height 25 -45 m
Diameter	: 0.85 - 2.00 m
Log shape	: straight, cylindrical; tree base unbuttressed

Wood description

Sapwood	: not clearly distinct, light yellowish
Heartwood	: pale brown with a golden luster
Grain	: straight, sometimes interlocked
Texture	: fine to coarse

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	0.92
Air dry density at 12% MC	(g/cm^3)	:	0.65
Basic specific gravity		:	0.53
Tot. tangential shrinkage	(%)	:	7.6
Tot. radial shrinkage	(%)	:	4.3
Tot. volumetric shrinkage	(%)	:	11.8

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	76
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	12134
Crushing strenght at 12% MC	(N/mm^2)	:	47

Processing

Sawing	: easy; blunting effect: slight
Drying	: easy; risk of distortion and checking: slight; risk of collaps
Machining	: easy; tendency to woolliness
Gluing	: good
Nailing	: good
Finishing	: good; filler required
Veneering	: peels well

Natural durability

Decay fungi	: moderate
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : poor

End uses : interior and exterior joinery, furniture, plywood, decorative fittings, boxes and crates.

52. *Brosimum paraënse* Huber - satèn-udu *

Synonym : Brosimum rubescens **Taub.**

Family : Moraceae

Vernacular names

Suriname	: Satijnhout / Ajersi
Guyana	: Dukaliballi
French Guiana	: Satin rubane
Brazil	: Pau rainha / Amapa amargoso

International trade name : Satiné, Dukaliballi

Occurrence : Suriname, Guianas, Amazon Region

Tree description

Bole lenght	: bole 15 - 20 m; tree height 20 - 35 m
Diameter	: 0.50 - 0.70 m
Log shape	: straight, cylindrical; tree base buttressed

Wood description

Sapwood	: distinct, pinkish or pinkish yellow
Heartwood	: light red brown or chestnut brown
Grain	: straight, sometimes interlocked
Texture	: medium to fine

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	1.20
Air dry density at 12% MC	(g/cm^3)	:	0.95
Basic specific gravity		:	0.80
Tot. tangential shrinkage	(%)	:	7.8
Tot. radial shrinkage	(%)	:	5.3
Tot. volumetric shrinkage	(%)	:	13.2

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	98
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	16494
Crushing strenght at 12% MC	(N/mm^2)	:	57

Processing

Sawing	: difficult, power required; blunting effect: moderate
Drying	: moderately difficult; carefully and slow drying
Machining	: difficult, special tools required
Gluing	: good
Nailing	: pre-boring necessary
Finishing	: good
Veneering	: slices well

Natural durability

Decay fungi	: good
Termites	: good
Marine borers	: moderate

Treatability (heartwood) : poor

End uses : turnery, carving, marquetry, violin bows, furniture and cabinets.

* ocassionally and rare in high dryland forest.

51. Brosimum guianense **Huber** - letr'udu *
a. Piratinera sp.

Synonym : Piratinera guianensis **Aublet**

Family : Moraceae

Vernacular names

Suriname	: Letterhout / Bylhykoro
Guyana	: Letterwood / Tibokushi
French Guiana	: Satine gris / Bois d'Amourette
Brazil	: Gateado / Muirapenima
Venezuela	: Nanata / Palo de oro

International trade name : Snakewood, Leopardwood, Letterwood

Occurrence : Suriname, Guianas, Amazon Region

Tree description

Bole lenght	: bole 12 - 15 m; tree height 15 - 25 m
Diameter	: 0.30 - 0.50 m
Log shape	: straight, cylindrical; tree base swollen

Wood description

Sapwood	: distinct, pinkish white
Heartwood	: reddish brown with conspicuous irregular black speckles or stripes resemble letters or markings of a snake
Grain	: straight
Texture	: fine

Technological characteristics

Physical properties (51)		*B. guianense*
Green density	(g/cm^3)	: 1.40
Air dry density at 12% MC	(g/cm^3)	: 1.25
Basic specific gravity		: 1.15
Tot. tangential shrinkage	(%)	: 11.1
Tot. radial shrinkage	(%)	: 7.0
Tot. volumetric shrinkage	(%)	: 18.4

Mechanical properties (51)		*B. guianense*
Bending strenght at 12% MC	(N/mm^2)	: 133
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	: 22910
Crushing strenght at 12% MC	(N/mm^2)	: 67

Processing

Sawing	: difficult, power required: blunting effect: moderate
Drying	: difficult, slow and carefull drying recommended; risk of distortion and checking: high; risk of casehardening
Machining	: difficult, special tools required
Gluing	: good
Nailing	: pre-boring necessary
Finishing	: good
Veneering	: slices well

Natural durability

Decay fungi	: very good
Termites	: very good
Marine borers	: good

Treatability (heartwood) : poor

End uses : turnery, fancy articles, violin bows, drum sticks, walking sticks, carving, marquetry, sliced veneer.

* low frequency in high dryland forest.

54. Lecythis zabucajo **Aublet** - kwatapatu

Synonym : Lecythis davisii **Sandw.**

Family : Lecythidaceae

Vernacular names

Suriname	: Zabuca
Guyana	: Monkeypot / Kume / Wadaduri
French Guiana	: Kouatapatou / Canari macaque / Zabucaio
Brazil	: Sapucaia / Castanha sapucala
Venezuela	: Coco de mono / Tinajito

International trade name : Sapucaia

Occurrence : Suriname, Guianas, Brazil, Amazon Region

Tree description

Bole lenght	: bole 20 - 30 m; tree height 35 - 55 m
Diameter	: 0.60 - 1.80 m
Log shape	: straight, cylindrical; tree base somewhat buttressed or swollen

Wood description

Sapwood	: distinct, creamy yellow
Heartwood	: light red brown or salmon red
Grain	: straight or slightly interlocked
Texture	: rather fine to medium

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	1.25
Air dry density at 12% MC	(g/cm^3)	:	1.05
Basic specific gravity		:	0.82
Tot. tangential shrinkage	(%)	:	10.5
Tot. radial shrinkage	(%)	:	6.2
Tot. volumetric shrinkage	(%)	:	17.8

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	186
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	22360
Crushing strenght at 12% MC	(N/mm^2)	:	93

Processing

Sawing	: difficult, power required; blunting effect: high
Drying	: easy to air season; risk of distortion and checking: slight
Machining	: difficult; special tools required
Gluing	: good, with precautions
Nailing	: pre-boring necessary
Finishing	: good
Veneering	: sliced well

Natural durability

Decay fungi	: very good
Termites	: very good
Marine borers	: moderate

Treatability (heartwood) : poor

End uses : marine constructions, heavy flooring, sleepers, tool handles, ship keels and beams, turnery.

55. Lecythis confertiflora (A.C. Smith) S. Mori - wetilo-abi
a. Lecythis pisonis * Camb.

Synonym (55) : Eschweilera confertiflora **A.C. Smith**

Family : Lecythidaceae

Vernacular names

Suriname	: Wirimiri
Guyana	: Wirimiri / Kakaralli
French Guiana	: Mahot blanc / Wetilo abi
Brazil	: Ripeiro vermelho

International trade name : Wirimiri

Occurrence : Suriname, Guianas, Brazil

Tree description

Bole lenght	: bole 15 - 20 m; tree height 20 - 35 m
Diameter	: 0.40 - 0.70 m
Log shape	: straight, cylindrical; tree base swollen

Wood description

Sapwood	: distinct, yellow brown with a few dark streaks
Heartwood	: dark red brown
Grain	: straight
Texture	: fine to medium

Technological characteristics

Physical properties (55a)			*L. pisonis*
Green density	(g/cm^3)	:	1.28
Air dry density at 12% MC	(g/cm^3)	:	1.06
Basic specific gravity		:	0.88
Tot. tangential shrinkage	(%)	:	7.6
Tot. radial shrinkage	(%)	:	6.0
Tot. volumetric shrinkage	(%)	:	13.4

Mechanical properties (55a)			*L. pisonis*
Bending strenght at 12% MC	(N/mm^2)	:	190
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	23300
Crushing strenght at 12% MC	(N/mm^2)	:	91

Processing

Sawing	: rather difficult, power required
Drying	: moderately difficult to air season; risk of distortion and checking: slight
Machining	: rather difficult, special tools required
Gluing	: good, with precautions
Nailing	: pre-boring necessary
Finishing	: good
Veneering	: slices well

Natural durability

Decay fungi	: good to very good
Termites	: moderate
Marine borers	: moderate to good

Treatability (heartwood) : poor

End uses : heavy dry and wet constructions, flooring, sleepers, tool handles.

* *L. pisonis* **Camb.** is in appearance and technical properties similar to *L. confertiflora*.

56. *Catostemma fragrans* Bentham - barmani

Family : Bombacaceae

Vernacular names

Suriname	: Foetei / Kajoewaballi
Guyana	: Sand Baromalli / Baramanni / Adarouna
French Guiana	: Flambeau rouge
Venezuela	: Baraman
Columbia	: Arenillo

International trade name : Baromalli

Occurrence : Suriname, Guianas, Venezuela, Columbia

Tree description

Bole lenght	: bole 20 - 25 m; tree height 30 - 45 m
Diameter	: 0.60 - 1.20 m
Log shape	: straight, slender and cylindrical; base unbuttressed

Wood description

Sapwood	: not clearly distinct, yellowish brown
Heartwood	: dull yellowish brown to pinkish brown
Grain	: straight to slightly interlocked
Texture	: coarse

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	1.10
Air dry density at 12% MC	(g/cm^3)	:	0.58
Basic specific gravity		:	0.50
Tot. tangential shrinkage	(%)	:	11.2
Tot. radial shrinkage	(%)	:	5.2
Tot. volumetric shrinkage	(%)	:	17.3

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	77
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	12500
Crushing strenght at 12% MC	(N/mm^2)	:	46

Processing

Sawing	: easy; blunting effect: moderate
Drying	: moderately difficult, slow drying with care recommended; risk of distortion and checking; slight to moderate *
Machining	: moderately difficult; sharp tools necessary
Gluing	: good
Nailing	: good
Finishing	: filler required
Veneering	: good

Natural durability

Decay fungi	: poor
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : good

End uses : interior joinery, light carpentry, interior trim, utility plywood, pulpwood, boxes and crates.

* movement in service, large.

57. *Laetia procera* (Poeppig) Eichler - kaiman-udu

Family : Flacourtiaceae

Vernacular names

Suriname	: Piento kopi / Moelawa / Wara kajaro
Guyana	: Warakairo / Bastard kabukalli / Murewa
French Guiana	: Kaaiman oudou / Bois Jacquot / Bois marie
Brazil	: Pau-Jacaré / Apijo / Piria / Tuchaua
Venezuela	: Caimite cimarron / Cuajillo

International trade name : Warakairo

Occurrence : Suriname, Guianas, Amazon Region

Tree description

Bole lenght	: bole 10 - 25 m; tree height 20 - 35 m
Diameter	: 0.45 - 0.75 m
Log shape	: straight, cylindrical and slender; tree base swollen or with root spurs

Wood description

Sapwood	: indistinct
Heartwood	: yellowish white to yellowish light brown
Grain	: moderately straight and generally slightly interlocked (wavy)
Texture	: fine to medium

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	1.15
Air dry density at 12% MC	(g/cm^3)	:	0.84
Basic specific gravity		:	0.70
Tot. tangential shrinkage	(%)	:	11.3
Tot. radial shrinkage	(%)	:	5.4
Tot. volumetric shrinkage	(%)	:	17.2

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	125
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	13375
Crushing strenght at 12% MC	(N/mm^2)	:	72

Processing

Sawing	: easy, but risk of splitting; blunting effect: moderate
Drying	: moderate to rapid; risk of checking, cupping, twisting and casehardening: high
Machining	: difficult in planing due to interlocked grain
Gluing	: good, with care
Nailing	: good
Finishing	: good
Veneering	: peels well

Natural durability

Decay fungi	: poor
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : moderate

End uses : interior joinery, carpentry, flooring, plywood (interior).

58. *Inga alba* (Swartz) Willd. - rediprokoni

Family : Leguminosae (Mimosoideae)

Vernacular names

Suriname	: Aboonkini / Lebiweko / Mapolhokon
Guyana	: Maporokon / Kurang / Yokar / Kwariye
French Guiana	: Lebi oueko / Bois sucre / Bougoupi
Brazil	: Inga-chi-chi
Venezuela	: Bunzquillo / Guamo

International trade name : Inga

Occurrence : Suriname, Guianas, Venezuela, Brazil

Tree description

Bole lenght	: bole 15 - 20 m; tree height 20 - 30 m
Diameter	: 0.35 - 0.70 m
Log shape	: straight, cylindrical; tree base buttressed

Wood description

Sapwood	: indistinct, light reddish brown
Heartwood	: pinkish brown with occasionally darker streaks
Grain	: straight, commenly light wavy or interlocked
Texture	: coarse

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	0.96
Air dry density at 12% MC	(g/cm^3)	:	0.66
Basic specific gravity		:	0.57
Tot. tangential shrinkage	(%)	:	6.9
Tot. radial shrinkage	(%)	:	3.5
Tot. volumetric shrinkage	(%)	:	12.0

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	90
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	10600
Crushing strenght at 12% MC	(N/mm^2)	:	51

Processing

Sawing	: easy; blunting effect: very slight
Drying	: easy, careful stacking required, risk of distortion: more or less high
Machining	: easy at few interlocked grain
Gluing	: good
Nailing	: good
Finishing	: good
Veneering	: peels well

Natural durability

Decay fungi	: poor
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : poor to moderate

End uses : interior joinery, cheap furniture, carpentry, utility plywood, boxes and crates.

59. *Pithecellobium pedicellare* (DC) Benth. - tamarenprokoni

Synonym : Macrosamanea pedicellaris (DC) **Kleinh.**

Family : Leguminosae (Mimosoideae)

Vernacular names

Suriname	: Assau / Apokonjo
Guyana	: Manariballi
French Guiana	: Assao
Brazil	: Juerana
Venezuela	: Uvero

International trade name : Assao

Occurrence : Suriname, Guianas, Venezuela, Brazil

Tree description

Bole lenght	: bole 15 - 20 m; tree height 25 - 35 m
Diameter	: 0.75 - 1.10 m
Log shape	: straight, cylindrical; base unbuttressed

Wood description

Sapwood	: distinct, light yellowish brown
Heartwood	: pinkish brown to dark red
Grain	: straight but generally slight interlocked
Texture	: moderately coarse

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	0.63
Air dry density at 12% MC	(g/cm^3)	:	0.55
Basic specific gravity		:	0.50
Tot. tangential shrinkage	(%)	:	6.9
Tot. radial shrinkage	(%)	:	3.7
Tot. volumetric shrinkage	(%)	:	12.1

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	105
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	12920
Crushing strenght at 12% MC	(N/mm^2)	:	60

Processing

Sawing	: easy; blunting effect: slight
Drying	: easy but careful; risk of distortion and checking: more or less high
Machining	: easy
Gluing	: good
Nailing	: good
Finishing	: good
Veneering	: peels well

Natural durability

Decay fungi	: moderate to good
Termites	: good
Marine borers	: poor

Treatability (heartwood) : poor to moderate

End uses : interior joinery, carpentry, furniture, plywood, boxes and crates.

60. Hydrochorea corymbosa (A. Rich) Barneby & Grimes - busitamaren
a. Pithecellobium sp.

Synonym (60) : Arthrosamanea corymbosa **(A. Rich) Kleinh. /** *Pithecellobium corymbosum* **(A. Rich.) Benth.**

Family : Leguminosae (Mimosoideae)

Vernacular names

Suriname : Bostamarinde / Amandra bali
Guyana : Tureli
French Guiana : Kioudou
Brazil : Angelim pintado / Inga rassa

International trade name : Angelim pintado

Occurrence : Suriname, Guianas, Brazil

Tree description

Bole lenght : bole 15 - 20 m; tree height 20 - 35 m
Diameter : 0.40 - 0.65 m
Log shape : moderately straight; tree base: swollen and buttressed

Wood description

Sapwood : distinct, pinkish red
Heartwood : reddish brown
Grain : wavy and interlocked
Texture : coarse

Technological characteristics

Physical properties (60)			*H. corymbosa*
Green density	(g/cm^3)	:	0.85 - 0.90
Air dry density at 12% MC	(g/cm^3)	:	0.65
Basic specific gravity		:	0.57
Tot. tangential shrinkage	(%)	:	6.9
Tot. radial shrinkage	(%)	:	3.7
Tot. volumetric shrinkage	(%)	:	10.8

Mechanical properties (60)			*H. corymbosa*
Bending strenght at 12% MC	(N/mm^2)	:	76
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	10100
Crushing strenght at 12% MC	(N/mm^2)	:	43

Processing

Sawing	: easy; blunting effect: slight
Drying	: easy; risk of distortion and checking: slight to moderate
Machining	: moderate, due to interlocked and raised grains
Gluing	: good
Nailing	: good
Finishing	: good, filler required
Veneering	: slices well

Natural durability

Decay fungi	: moderate
Termites	: moderate
Marine borers	: poor

Treatability (heartwood) : poor to moderate

End uses : interior and exterior joinery, general carpentry, furniture turnery, veneer.

61. Aspidosperma cruentum Woodson - kromantikopi
a. Aspidosperma album (Vahl) Benoist ex Pichon
b. Aspidoperma helstonei van Donselaar

Family : Apocynaceae

Vernacular names

Suriname : Kumantikopi / Kabokhalibali
Guyana : Shibadan
French Guiana : Bois macaye / Kiantioutiou
Brazil : Araracanga / Maparana / Jacamim
Venezuela : Canalete amarillo
Columbia : Copachi

International trade name : Araracanga (61), Shibadan (61a)

Occurrence : Suriname, Guianas, Brazil, Venezuela, Columbia, Mexico

Tree description

Bole lenght : bole 15 - 20 m; tree height 25 - 35 m
Diameter : 0.50 - 0.80 m
Log shape : cylindrical or slightly flattened: tree base unbuttressed or light swollen

Wood description

Sapwood : distinct, light yellow
Heartwood : orange red to reddish brown; upon exposure pinkish brown or pale yellowish brown
Grain : straight, sometimes irregular or roey
Texture : rather fine to medium

Technological characteristics

Physical properties (61, 61a)			*A. cruentum*	*A. album*
Green density	(g/cm^3)	:	1.06	1.03
Air dry density at 12% MC	(g/cm^3)	:	0.95	0.90
Basic specific gravity		:	0.75	0.80
Tot. tangential shrinkage	(%)	:	9.7	9.6
Tot. radial shrinkage	(%)	:	6.8	6.0
Tot. volumetric shrinkage	(%)	:	18.8	17.6

Mechanical properties (61, 61a)			*A. cruentum*	*A. album*
Bending strenght at 12% MC	(N/mm^2)	:	175	176
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	24820	19580
Crushing strenght at 12% MC	(N/mm^2)	:	89	92

Processing

Sawing	: moderately difficult, some power required; blunting effect: slight
Drying	: easy to air season; risk of distortion and checking: slight US kiln schedule T7 - B3 for 25-38 mm stock
Machining	: easy
Gluing	: good
Nailing	: pre-boring necessary
Finishing	: good
Veneering	: slices well

Natural durability

Decay fungi	: good to very good
Termites	: moderate
Marine borers	: poor

Treatability (heartwood) : poor to moderate

End uses : interior and exterior joinery, flooring, furniture, general carpentry, turnery, carving.

62. *Swartzia benthamiana* Miq. var. *benthamiana* - bergibebe

Family : Leguminosae (Papilionoideae)

Vernacular names

Suriname	: Kaka bruku / Itiki buruballi
Guyana	: Itiki boroballi / Morompo / Okraprabu
French Guiana	: Montouchi / Goué-goué
Brazil	: Saboarana / Sabotarana branco
Venezuela	: Conigrio / Barbasco / Canasposo

International trade name : Saboarana

Occurrence : Suriname, Guianas, Brazil, Venezuela

Tree description

Bole lenght	: bole 15 - 20 m; tree height 25 - 35 m
Diameter	: 0.35 - 0.60 m
Log shape	: straight, cylindrical, sometimes slightly flat; tree base often swollen

Wood description

Sapwood	: distinct, whitish (very wide sapwood)
Heartwood	: chocolate brown to pale reddish brown or purplish brown; occasionally marked by dark olive or purplish brown stripes
Grain	: generally straight, but also variable
Texture	: medium to very fine

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	1.20
Air dry density at 12% MC	(g/cm^3)	:	0.89
Basic specific gravity		:	0.78
Tot. tangential shrinkage	(%)	:	11.2
Tot. radial shrinkage	(%)	:	5.6
Tot. volumetric shrinkage	(%)	:	16.3

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	201
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	22100
Crushing strenght at 12% MC	(N/mm^2)	:	85

Processing

Sawing	: difficult; power required; blunting effect: high
Drying	: moderately difficult; slow drying recommended; risk of checking: high
Machining	: difficult; power required
Gluing	: good, with precautions
Nailing	: pre-boring necessary
Finishing	: good

Natural durability

Decay fungi	: very good
Termites	: very good
Marine borers	: moderate

Treatability (heartwood) : poor

End uses : interior trim, cabinet work, parquet flooring, violin bows, fine furniture, cutlery, marquetry, musical instruments.

Synonym (63) : *Swartzia prouacensis* **(Aublet) Amsh.**

Family : Leguminosae (Papilionoideae)

Vernacular names

Suriname	: Ijzerhart / Gandoe / Bania bali
Guyana	: Wamara / Ironwood / Brown ebony
French Guiana	: Boco / Bois de fer
Brazil	: Pau ferro / Mututy
Venezuela	: Orura sarrialera
Columbia	: Alma negra

International trade name : Bannia, Wamara

Occurrence : Suriname, Guianas, Brazil, Tropical South America

Tree description

Bole lenght	: bole 15 - 20 m; tree height 20 - 35 m
Diameter	: 0.40 - 0.50 m
Log shape	: deeply fluted; base unbuttressed

Wood description

Sapwood	: distinct, white to yellowish
Heartwood	: dark brown, reddish brown or nearly black
Grain	: straight to irregular
Texture	: medium to very fine

Technological characteristics

Physical properties (63)			*B. prouacensis*
Green density	(g/cm^3)	:	1.30
Air dry density at 12% MC	(g/cm^3)	:	1.05
Basic specific gravity		:	0.87
Tot. tangential shrinkage	(%)	:	7.6
Tot. radial shrinkage	(%)	:	3.9
Tot. volumetric shrinkage	(%)	:	11.2

Mechanical properties (63)			*B. prouacensis*
Bending strenght at 12% MC	(N/mm^2)	:	225
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	22220
Crushing strenght at 12% MC	(N/mm^2)	:	114

Processing

Sawing	: difficult, power required; blunting effect: high
Drying	: moderately difficult; slow drying recommended; risk of checking: high; British kiln schedule: B
Machining	: difficult, power required *
Gluing	: good, with precautions
Nailing	: pre-boring necessary
Finishing	: good

Natural durability

Decay fungi	: good to very good
Termites	: good
Marine borers	: moderate to good

Treatability (heartwood) : poor

End uses : interior trim, parquet flooring, turnery, furniture, cabinet work, violin bows, inlay, marquetry.

* fine sawdust may cause skin and mucosa irritation.

64. Pouteria cuspidata (A.DC.) Baehni - pintobortri
ssp. *robusta* (Mart & Eichl.) Pennington
a. Pouteria eugeniifolia * (Pierre) Baehni
b. Pouteria cladantha Sandw.

Synonym (64) : Pouteria dura **Eyma** / Neoxythece dura **(Eyma) Aubr. & Pellgr.**

Family : Sapotaceae

Vernacular names

Suriname	: Pintobolletrie / Kurassini / Morabali kuleru
Guyana	: Kokoritiballi / Bastard kokoritiballi
French Guiana	: Balata singe rouge
Brazil	: Paudoce / Abiurana
Venezuela	: Chuponcillo / Pendarito / Temare
Columbia	: Maranocillo
Peru	: Caimitillo

International trade name : Abiuranta

Occurrence : from Panama to Tropical South America

Tree description

Bole lenght	: bole 18 - 25 m; tree height 25 - 35 m
Diameter	: 0.25 - 0.60 m
Log shape	: cylindrical to fluted; tree base with low thick buttresses

Wood description

Sapwood	: distinct, light brown
Heartwood	: reddish brown
Grain	: straight
Texture	: fine

Technological characteristics

Physical properties (64a)

			P. eugeniifolia
Green density	(g/cm^3)	:	1.33
Air dry density at 12% MC	(g/cm^3)	:	1.29
Basic specific gravity		:	1.08
Tot. tangential shrinkage	(%)	:	11.3
Tot. radial shrinkage	(%)	:	7.6
Tot. volumetric shrinkage	(%)	:	16.9

Mechanical properties (64a)			*P. eugeniifolia*
Bending strenght at 12% MC	(N/mm^2)	:	259
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	30430
Crushing strenght at 12% MC	(N/mm^2)	:	108

Processing	
Sawing	: difficult, power required; blunting effect: high
Drying	: moderate to air season
Machining	: difficult (hardness and silica); special tools required
Gluing	: good with special precautions
Nailing	: pre-boring necessary
Finishing	: good

Natural durability	
Decay fungi	: poor to moderate
Termites	: moderate to good
Marine borers	: poor

Treatability (heartwood)	: poor
End uses	: heavy dry constructions, industrial flooring.

* in appearance and technical properties similar to *Pouteria cuspidata*.

65. *Pouteria guianensis* Aublet - yamboka *

Family : Sapotaceae

Vernacular names

Suriname	: Jan Snijder / Njangboka / Komalhamalha bali
Guyana	: Asepoko / Marapasmukri / Pöyak
French Guiana	: Akoinsiba / Jaune d'oeuf
Brazil	: Abiu / Abiurana
Venezuela	: Calmito morado / Carrizalero
Columbia	: Caimito

International trade name : Asepoko / Abiu

Occurrence : Suriname, Guianas, Brazil, Tropical South America

Tree description

Bole lenght	: bole 15 - 20 m; tree height 20 - 35 m
Diameter	: 0.30 - 0.60 m
Log shape	: cylindrical or fluted at the base; tree base with small, thick swollen buttresses

Wood description

Sapwood	: distinct, yellow brown
Heartwood	: red brown with slight stripes or flame like figures
Grain	: straight, but sometimes slightly interlocked
Texture	: fine

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	1.24
Air dry density at 12% MC	(g/cm^3)	:	1.16
Basic specific gravity		:	1.10
Tot. tangential shrinkage	(%)	:	8.5
Tot. radial shrinkage	(%)	:	11.0
Tot. volumetric shrinkage	(%)	:	19.8

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	189
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	22172
Crushing strenght at 12% MC	(N/mm^2)	:	99

Processing

Sawing	: difficult, power required; blunting effect: high
Drying	: moderate to air season
Machining	: difficult (hardness and silica); special tools required
Gluing	: good with special precautions
Nailing	: pre-boring necessary
Finishing	: good

Natural durability

Decay fungi	: very good
Termites	: good
Marine borers	: good

Treatability (heartwood) : poor

End uses : heavy dry and wet constructions, house framing, posts, spars, lock gates.

* ocassional in high dryland and marsh forest.

66. *Sacoglottis guianensis* Bentham - bofru-udu

Family : Humiriaceae

Vernacular names

Suriname	: Doekali / Bovo udu / Kamadan
Guyana	: Dukuria / Huriki / Kotore / Sand dukuria
French Guiana	: Bofo-oudou
Brazil	: Achua / Axua / Uchy / Cumate
Venezuela	: Ponsigne montanero

International trade name : Dukuria

Occurrence : Suriname, Guianas, Brazil, Tropical South America

Tree description

Bole lenght	: bole 15 - 25 m; tree height 20 - 30 m
Diameter	: 0.40 - 0.65 m
Log shape	: straight, cylindrical; tree base: swollen

Wood description

Sapwood	: not clearly distinct, greyish brown
Heartwood	: reddish brown to purplish brown
Grain	: straight to irregular
Texture	: coarse

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	1.05
Air dry density at 12% MC	(g/cm^3)	:	0.96
Basic specific gravity		:	0.82
Tot. tangential shrinkage	(%)	:	10.6
Tot. radial shrinkage	(%)	:	6.3
Tot. volumetric shrinkage	(%)	:	17.7

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	196
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	20588
Crushing strenght at 12% MC	(N/mm^2)	:	87

Processing

Sawing	: difficult, power required; blunting effect: moderate
Drying	: easy and fast; risk of distortion: slight
Machining	: easy to moderate (interlocked grain)
Gluing	: good
Nailing	: pre-boring necessary
Finishing	: good

Natural durability

Decay fungi	: poor to moderate
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : poor

End uses : heavy dry constructions, industrial flooring, crossties.

67. Xylopia aromatica (Baill.) Mart. - pegrekupisi
a. Xylopia sp.

Family : Annonaceae

Vernacular names

Suriname	: Pedreku / Arara / Amose / Koenge
Guyana	: Wajoeli / Kurenge / Kurahara
French Guiana	: Cèdre pedrekou
Brazil	: Envira / Envireira / Pindaiba
Venezuela	: Fruto de burro

International trade name : Envira

Occurrence : Suriname, Guianas, Brazil, Venezuela

Tree description

Bole lenght	: bole 15 - 20 m; tree height 20 - 25 m
Diameter	: 0.40 - 0.60 m
Log shape	: straight, cylindrical; tree base with few buttresses

Wood description

Sapwood	: indistinct, greyish white to pinkish brown
Heartwood	: pinkish brown
Grain	: straight
Texture	: moderately fine

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	0.66
Air dry density at 12% MC	(g/cm^3)	:	0.53
Basic specific gravity		:	0.48
Tot. tangential shrinkage	(%)	:	9.9
Tot. radial shrinkage	(%)	:	6.6
Tot. volumetric shrinkage	(%)	:	16.1

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	98
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	11880
Crushing strenght at 12% MC	(N/mm^2)	:	50

Processing

Sawing	: easy; blunting effect: slight
Drying	: moderate to air season; risk of distortion and checking: moderate
Machining	: easy
Gluing	: good
Nailing	: good
Finishing	: good
Veneering	: peels well

Natural durability

Decay fungi	: poor
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : moderate

End uses : interior joinery, general carpentry, furniture, plywood, boxes and crates.

68. Terminalia dichotoma G. Meyer - busi-amandra
a. Terminalia lucida * Hoffmanns. ex Mart.

Family : Combretaceae

Vernacular names

Suriname	: Bosamandel / Amandra bali
Guyana	: Fukadi / Cokerwood / Naharu / Alasoaba / Swamp fukadi
French Guiana	: Angouchy
Brazil	: Tanibuca / Cuiarana / Mirindiba
Venezuela	: Guayabón

International trade name : Fukadi, Tanibuca

Occurrence : Suriname, Guianas, Brazil, Venezuela

Tree description

Bole lenght	: bole 15 - 22 m; tree height 20 - 40 m
Diameter	: 0.50 - 1.00 m
Log shape	: cylindrical, sometimes fluted; tree base buttressed

Wood description

Sapwood	: indistinct
Heartwood	: light brown to creamy brown, often with darker streaks
Grain	: straight to roey
Texture	: medium

Technological characteristics

Physical properties (68a)			*T. lucida*
Green density	(g/cm^3)	:	1.08
Air dry density at 12% MC	(g/cm^3)	:	0.84
Basic specific gravity		:	0.68
Tot. tangential shrinkage	(%)	:	8.4
Tot. radial shrinkage	(%)	:	4.8
Tot. volumetric shrinkage	(%)	:	12.5

Mechanical properties (68a)			*T. lucida*
Bending strenght at 12% MC	(N/mm^2)	:	143
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	17760
Crushing strenght at 12% MC	(N/mm^2)	:	71

Processing

Sawing	: moderately difficult, power required; blunting effect: moderate
Drying	: moderate; risk of distortion and checking: moderate US kiln schedule T3 - C2 for 25-38 mm and T3 - C1 for 50 mm stock
Machining	: moderately difficult due to interlocked grain
Gluing	: good
Nailing	: pre-boring necessary
Finishing	: good, filler required
Veneering	: peels moderate

Natural durability

Decay fungi	: good
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : poor

End uses : interior and exterior joinery, flooring, cabinet work, furniture, turnery, plywood, sleepers.

* similar in appearance and properties to *T. dichotoma* and *Buchenavia fanshawei* **Exell & Maguire**

69. *Terminalia amazonia* (J.F. Gmelin) Exell. - krabasi-udu *

Synonym : Terminalia obovata **Aubreville**

Family : Combretaceae

Vernacular names

Suriname	: Kalebashout / Djindja udu / Alasabo
Guyana	: Hill fukadi / Coffee mortar / Matora / Pookadi
French Guiana	: Anangossi / Angouchi
Brazil	: Cuiarana / Merendiba branca / Pau mulato branco
Venezuela	: Chicharro / Pardillo amarillo / Pardillo negro
Columbia	: Guyabo léon

International trade name : Nargusta

Occurrence : Central and Northern South America (also in Trinidad & Tobago)

Tree description

Bole lenght	: bole 15 - 20 m; tree height 20 - 40 m
Diameter	: 0.50 - 1.20 m
Log shape	: straight, cylindrical; tree base with large buttresses

Wood description

Sapwood	: not sharply distinct, light yellowish brown
Heartwood	: yellowish olive to golden brown
Grain	: roey and interlocked
Texture	: medium

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	1.24
Air dry density at 12% MC	(g/cm^3)	:	0.87
Basic specific gravity		:	0.80
Tot. tangential shrinkage	(%)	:	7.8
Tot. radial shrinkage	(%)	:	5.2
Tot. volumetric shrinkage	(%)	:	12.8

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	151
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	15700
Crushing strenght at 12% MC	(N/mm^2)	:	80

Processing

Sawing	: moderately difficult; power required: blunting effect: moderate
Drying	: moderate; risk of distortion and checking: slight to high; risk of casehardening US kiln schedule for *T. dichotoma* recommended
Machining	: moderately difficult due to highly interlocked grain
Gluing	: good
Nailing	: pre-boring necessary
Finishing	: good, filler required

Natural durability

Decay fungi	: moderate to good
Termites	: moderate to good
Marine borers	: poor

Treatability (heartwood) : poor

End uses : interior and exterior joinery, flooring, cabinet work, turnery, boat building, sleepers.

* the same local name is also used for the species *Vitex stahelii* **Mold.**, family Verbenaceae.

70. Platymiscium trinitatis **Benth.** - kunatepi
var. *durum* Ducke
***a. Platymiscium ulei* Harms**

Family : Leguminosae (Papilionoideae)

Vernacular names

Suriname	: Trebol
Guyana	: Macacawood
French Guiana	: Ebene rouge
Brazil	: Macacaúba / Jacaranda do brejo
Venezuela	: Roble
Columbia	: Trebol / Guayacan trebol

International trade name : Trebol

Occurrence : Suriname, Guianas, Brazil, Central and Tropical South America

Tree description

Bole lenght	: bole 12 - 18 m; tree height 15 - 25 m
Diameter	: 0.65 - 1.10 m
Log shape	: straight, cylindrical; tree base buttressed

Wood description

Sapwood	: distinct, yellow white
Heartwood	: bright red to reddish or purplish brown often with distinctly dark stripes
Grain	: straight to roey
Texture	: medium to fine

Technological characteristics

Physical properties (70a)

			P. ulei
Green density	(g/cm^3)	:	0.96
Air dry density at 12% MC	(g/cm^3)	:	0.88
Basic specific gravity		:	0.75
Tot. tangential shrinkage	(%)	:	3.5
Tot. radial shrinkage	(%)	:	2.7
Tot. volumetric shrinkage	(%)	:	6.5

Mechanical properties (70a)			*P. ulei*
Bending strenght at 12% MC	(N/mm^2)	:	116
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	17250
Crushing strenght at 12% MC	(N/mm^2)	:	68

Processing

Sawing	: moderately difficult; blunting effect: slight to moderate
Drying	: good to air season but slowly; risk of distortion and checking: slight
Machining	: good
Gluing	: good
Nailing	: pre-boring recommended
Finishing	: good
Veneering	: peels well

Natural durability

Decay fungi	: very good
Termites	: good to very good
Marine borers	: moderate

Treatability (heartwood) : poor

End uses : interior and exterior joinery, furniture, cabinet work, turnery, musical instruments, decorative veneer.

71. Hymenolobium flavum **Kleinh.** - makakabisi
a. Hymenolobium excelsum **Ducke**

Family : Leguminosae (Papilionoideae)

Vernacular names

Suriname : Makkakabbes / Erejuru / Saandu / Lialiadan
Guyana : Koraroballi / Kotik / Atoritan / Kaserena
French Guiana : Saint Martin jaune / Saint Martin gris / Gullikiabicci
Brazil : Angelim / Angelim do Pará / Sapupira amarella

International trade name : Angelim

Occurrence : Suriname, Guianas, Brazil

Tree description

Bole lenght : bole 20 - 25 m; tree height 25 - 45 m
Diameter : 0.30 - 1.10 m
Log shape : cylindrical; tree base with large and high buttresses, usually branched and concave

Wood description

Sapwood : indistinct, white greyish to light brown
Heartwood : orange brown to pale brown
Grain : straight to interlocked
Texture : coarse to uneven

Technological characteristics

Physical properties (71, 71a)			*H. flavum*	*H. excelsum*
Green density	(g/cm^3)	:	1.18	1.21
Air dry density at 12% MC	(g/cm^3)	:	0.71	0.75
Basic specific gravity		:	0.63	0.63
Tot. tangential shrinkage	(%)	:	5.2	7.1
Tot. radial shrinkage	(%)	:	3.6	4.4
Tot. volumetric shrinkage	(%)	:	9.3	10.2

Mechanical properties (71, 71a)			*H. flavum*	*H. excelsum*
Bending strenght at 12% MC	(N/mm^2)	:	101	121
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	11770	14135
Crushing strenght at 12% MC	(N/mm^2)	:	63	62

Processing

Sawing	: easy; blunting effect: slight
Drying	: moderately difficult to air season; risk of distortion and checking: slight
Machining	: easy
Gluing	: good
Nailing	: good
Finishing	: good
Veneering	: peels moderate

Natural durability

Decay fungi	: good to very good
Termites	: good
Marine borers	: moderate

Treatability (heartwood) : moderate

End uses : interior and exterior joinery, flooring, panelling, turnery, furniture, general carpentry.

72. *Hura crepitans* L. - possentri

Family : Euphorbiaceae

Vernacular names

Suriname	: Possum / Bulhewe bali
Guyana	: Sandbox / Monkey's dinner bell
French Guiana	: Sablier blanc / Sablier jauné
Brazil	: Assacú / Acacu
Venezuela	: Ceiba blanca / Ceiba habillo / Jabillo
Columbia	: Ceiba de leche / Ceiba amarillo

International trade name : Hura, Possumwood

Occurrence : Suriname, Guianas, Brazil, Central America (Mexico) to Peru

Tree description

Bole lenght	: bole 10 - 20 m; tree height 25 - 60 m
Diameter	: 0.90 - 1.50 m
Log shape	: straight, cylindrical; tree base with large thick buttresses

Wood description

Sapwood	: indistinct, yellowish white to light brown yellow
Heartwood	: pale yellowish brown or pale olive grey
Grain	: straight to interlocked
Texture	: fine to medium

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	0.64
Air dry density at 12% MC	(g/cm^3)	:	0.45
Basic specific gravity		:	0.35
Tot. tangential shrinkage	(%)	:	4.5
Tot. radial shrinkage	(%)	:	2.7
Tot. volumetric shrinkage	(%)	:	7.3

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	57
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	8075
Crushing strenght at 12% MC	(N/mm^2)	:	27

Processing

Sawing	: easy, but in green condition moderately difficult due to interlocked grain
Drying	: moderately difficult to air season; risk of distortion and checking: slight to high. US kiln schedule T6 - D2 for 25-30 mm and T3 - D1 for 50 mm stock
Machining	: good, in dry condition
Gluing	: good
Nailing	: good
Finishing	: good, filler may be required
Veneering	: peels and slices well

Natural durability

Decay fungi	: variable
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : good

End uses : general carpentry, interior joinery, furniture, veneer and plywood, fiber and particle board, paperpulp.

73. *Abarema jupunba* (Willd.) Britton & Killip - sopo-udu *

Synonym : Pithecellobium jupunba (Willd.) Urban

Family : Leguminosae (Mimosoideae)

Vernacular names

Suriname	: Zeephout / Fikofiko / Hurwasa / Uya / Kraipie
Guyana	: Huruasa / Klaipio / Kwatpain / Soapwood
French Guiana	: Assao blanc / Bois macaque
Brazil	: Angelim fraco
Venezuela	: Angelino
Columbia	: Abey blanco / Angelino / Carbonero

International trade name : Huruasa

Occurrence : Suriname, Guianas, Brazil, Venezuela, Columbia

Tree description

Bole lenght	: bole 10 - 15 m; tree height 20 - 30 m
Diameter	: 0.35 - 0.95 m
Log shape	: fairly straight; tree base swollen or with low buttresses

Wood description

Sapwood	: not clearly distinct, pale roze
Heartwood	: pale brown to red brown
Grain	: straight to interlocked
Texture	: fine to moderately coarse

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	1.05
Air dry density at 12% MC	(g/cm^3)	:	0.64
Basic specific gravity		:	0.52
Tot. tangential shrinkage	(%)	:	7.3
Tot. radial shrinkage	(%)	:	4.5
Tot. volumetric shrinkage	(%)	:	12.6

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	112
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	12450
Crushing strenght at 12% MC	(N/mm^2)	:	60

Processing

Sawing	: easy
Drying	: easy and fast
Machining	: good
Gluing	: good
Nailing	: good
Finishing	: good
Veneering	: peels well

Natural durability

Decay fungi	: moderate
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : poor

End uses : interior trim, stair, furniture, carpentry, veneer, utility plywood.

* not similar to "Gladde bast Sopo udu" (*Caryocar glabrum* **Pers.**) and "Ruwe bast Sopo udu" (*Caryocar microcarpum* **Ducke**) of the family Caryocaraceae.

74. Antonia ovata **Pohl** - lika-udu

Family : Loganiaceae

Vernacular names

Suriname	: Kasaba udu / Melasi udu / Hariroru / Ipuntrie / Paluloipio
Guyana	: Inyak / Icanu
French Guiana	: Bois blanc / Bois cassave / Wetipaou
Brazil	: Pau manihot

International trade name : Inyak

Occurrence : Suriname, Guianas, Brazil

Tree description

Bole lenght	: bole 18 - 20 m; tree height 20 - 25 m
Diameter	: 0.35 - 0.45 m
Log shape	: straight, slightly fluted; tree base unbuttressed, sometimes with basal swelling or root spurs

Wood description

Sapwood	: indistinct
Heartwood	: cream white to yellow grey
Grain	: irregular
Texture	: medium

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	0.78
Air dry density at 12% MC	(g/cm^3)	:	0.56
Basic specific gravity		:	0.52
Tot. tangential shrinkage	(%)	:	7.4
Tot. radial shrinkage	(%)	:	3.8
Tot. volumetric shrinkage	(%)	:	11.5

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	94
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	9400
Crushing strenght at 12% MC	(N/mm^2)	:	53

Processing

Sawing	: easy; blunting effect: very slight
Drying	: moderate; risk of checking: moderate
Machining	: easy
Gluing	: good
Nailing	: good
Finishing	: good
Veneering	: peels well

Natural durability

Decay fungi	: poor
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : poor

End uses : interior and exterior joinery, plywood, boxes and crates.

75. *Bagassa guianensis* Aublet - kaw-udu

Synonym : Bagassa tiliifolia **(Hamilton) Benoist**

Family : Moraceae

Vernacular names

Suriname	: Jawahedan / Kan udu / Gele bagasse
Guyana	: Cow wood / Yawahudan / Katowar
French Guiana	: Odon / Bois bagasse / Kaw oudou
Brazil	: Tatajuba / Bagaceira / Amapa rana

International trade name : Tatajuba

Occurrence : Suriname, Guianas, Brazil

Tree description

Bole lenght	: bole 15 - 25 m; tree height 25 - 35 m
Diameter	: 0.60 - 1.00 m
Log shape	: straight, cylindrical; tree base with root spurs

Wood description

Sapwood	: distinct, yellowish white
Heartwood	: orange yellow, on exposure dark brown
Grain	: irregular and interlocked
Texture	: medium to coarse

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	1.10
Air dry density at 12% MC	(g/cm^3)	:	0.80
Basic specific gravity		:	0.73
Tot. tangential shrinkage	(%)	:	6.6
Tot. radial shrinkage	(%)	:	5.2
Tot. volumetric shrinkage	(%)	:	10.2

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	138
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	17800
Crushing strenght at 12% MC	(N/mm^2)	:	80

Processing

Sawing	: difficult, power required; blunting effect: slight
Drying	: easy to air season; risk of distortion and checking: slight to very slight
Machining	: moderately difficult
Gluing	: good
Nailing	: pre-boring recommended
Finishing	: good
Veneering	: interesting for slicing

Natural durability

Decay fungi	: very good
Termites	: good
Marine borers	: moderate

Treatability (heartwood) : poor

End uses : interior and exterior joinery, general carpentry, cabinet work, flooring, stairs, fittings, wainscoting, shipbuilding, moulding.

76. Chrysophyllum pomiferum (Eyma) Penn. - dyubortri
a. Pouteria sp.

Synonym : Achrouteria pomifera **Eyma**

Family : Sapotaceae

Vernacular names

Suriname	: Djubolletrie / Kwiepa
Guyana	: Limonaballi / Paripiballi / Aknon / Kwikpa
French Guiana	: Balata jaune d'oeuf / Mongui soke
Brazil	: Abiurana
Venezuela	: Purguillo / Capurillo / Felipe pena
Columbia	: Punte

International trade name : Limonaballi

Occurrence : Suriname, Guianas, Brazil up to Peru

Tree description

Bole lenght	: bole 15 - 25 m; tree height 30 - 40 m
Diameter	: 0.60 - 0.90 m
Log shape	: straight; tree base buttressed or somewhat flanged

Wood description

Sapwood	: indistinct, light brown
Heartwood	: pale yellowish brown to dark brown
Grain	: straight to interlocked
Texture	: fine

Technological characteristics

Physical properties (76)			*C. pomiferum*
Green density	(g/cm^3)	:	1.10
Air dry density at 12% MC	(g/cm^3)	:	0.95
Basic specific gravity		:	0.70
Tot. tangential shrinkage	(%)	:	11.2
Tot. radial shrinkage	(%)	:	5.8
Tot. volumetric shrinkage	(%)	:	16.4

Mechanical properties (76)			*C. pomiferum*
Bending strenght at 12% MC	(N/mm^2)	:	179
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	19515
Crushing strenght at 12% MC	(N/mm^2)	:	79

Processing

Sawing	: difficult, power required; blunting effect: high
Drying	: easy to moderate to air season
Machining	: moderate to difficult, power required
Gluing	: good
Nailing	: pre-boring necessary
Finishing	: good

Natural durability

Decay fungi	: poor to moderate
Termites	: good
Marine borers	: good

Treatability (heartwood) : poor to moderate

End uses : interior and exterior joinery, industrial flooring, dry and heavy construction, posts, sleepers.

77. *Dimorphandra conjugata* (Splitg.) Sandw. - dakama
a. *Dimorphandra polyandra* Benoist

Synonym (77a) : Dimorphandra hohenkerkii **Sprague & Sandw.**

Family : Leguminosae (Ceasalpinioideae)

Vernacular names

Suriname	: Anjama / Akajuran
Guyana	: Dakama (*D. polyandra*) / Akayoran (*D. conjugata*)
French Guiana	: Aieoueko / Mora de Saint Laurant
Brazil	: Faveira-Vermelha / Faveira-camurin

International trade name : Fava-vermelha, Aieoueko

Occurrence : Suriname, Guianas, Brazil, Venezuela

Tree description

Bole lenght	: bole 15 - 20 m; tree height 25 - 40 m
Diameter	: 0.45 - 0.75 m
Log shape	: straight with large and shallow furrows; tree base with root spurs or buttresses

Wood description

Sapwood	: distinct, pale white
Heartwood	: dark red brown (*D. conjugata*), yellowish with darker streaks (*D. polyandra*)
Grain	: straight or slightly interlocked
Texture	: coarse

Technological characteristics

Physical properties (77a)			*D. polyandra*
Green density	(g/cm^3)	:	1.05
Air dry density at 12% MC	(g/cm^3)	:	0.70
Basic specific gravity		:	0.62
Tot. tangential shrinkage	(%)	:	8.2
Tot. radial shrinkage	(%)	:	4.5
Tot. volumetric shrinkage	(%)	:	13.0

Mechanical properties (77a)			*D. polyandra*
Bending strenght at 12% MC	(N/mm^2)	:	119
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	12170
Crushing strenght at 12% MC	(N/mm^2)	:	62

Processing

Sawing	: easy; blunting effect: slight
Drying	: difficult; risk of distortion and checking: moderate to high
Machining	: easy
Gluing	: good
Nailing	: good
Finishing	: good

Natural durability

Decay fungi	: very good
Termites	: moderate
Marine borers	: poor

Treatability (heartwood) : poor

End uses : interior and exterior joinery, general carpentry, glued laminated beams, furniture, boxes and crates.

78. Dipteryx odorata **(Aubl.) Willd.** - tonka
a. Dipteryx puncatata **(Blake) Amsh.**

Synonym : Coumarouna odorata **Aublet**

Family : Leguminosae (Papilionoideae)

Vernacular names

Suriname	: Kumaru / Katulimia
Guyana	: Tonka bean / Kumaru / Aipo / Krapabosi
French Guiana	: Tonka / Gaiac de Cayenne
Brazil	: Cumaru / Champanha / Muirapagé
Venezuela	: Sarrapia / Yape
Columbia	: Sarrapia

International trade name : Cumaru

Occurrence : Suriname, Guianas, Brazil and Tropical South America

Tree description

Bole lenght	: bole 18 - 25 m; tree height 30 - 50 m
Diameter	: 0.30 - 1.50 m
Log shape	: straight, cylindrical; tree base with thick root spurs or buttresses

Wood description

Sapwood	: distinct, yellowish brown
Heartwood	: reddish brown or purplish brown with light yellowish brown purplish streaks and upon exposure becoming light brown or yellowish brown
Grain	: generally interlocked
Texture	: fine to medium

Technological characteristics

Physical properties (78)

			D. odorata
Green density	(g/cm^3)	:	1.20
Air dry density at 12% MC	(g/cm^3)	:	1.07
Basic specific gravity		:	0.97
Tot. tangential shrinkage	(%)	:	5.2
Tot. radial shrinkage	(%)	:	7.6
Tot. volumetric shrinkage	(%)	:	13.0

Mechanical properties (78)			*D. odorata*
Bending strenght at 12% MC	(N/mm^2)	:	187
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	20950
Crushing strenght at 12% MC	(N/mm^2)	:	95

Processing

Sawing	: difficult, power required; blunting effect: moderate
Drying	: difficult, slow and with care; risk of distortion and checking: more or less high
Machining	: difficult, due to hardness and interlocked grain
Gluing	: poor, special precautions necessary
Nailing	: pre-boring necessary
Finishing	: good if interlocked grain not present
Veneering	: slices good

Natural durability

Decay fungi	: very good
Termites	: very good
Marine borers	: poor to moderate

Treatability (heartwood) : poor

End uses : marine constructions, industrial flooring, heavy carpentry, decorative veneer, turnery, sleepers, bridges.

79. *Pterocarpus rohrii* Vahl - eigron-bebe

Family : Leguminosae (Papilionoideae)

Vernacular names

Suriname	: Hoogland bebe / Eigron bebe / Watra bebe
Guyana	: Hill corkwood / Itiki boro / Mutushi
French Guiana	: Moutouchi / Egon bebe
Brazil	: Pau sangua / Mututi / Angú
Venezuela	: Lagunero / Drago / Sangrito
Columbia	: Yaya sangre / Sangre de drago

International trade name : Bebe, Sangre

Occurrence : Suriname, Guianas, Brazil and from Mexico to Argentina

Tree description

Bole lenght	: bole 15 - 18 m; tree height 20 - 25 m
Diameter	: 0.40 - 1.00 m
Log shape	: irregular and fluted; tree base with high sinuous plank buttresses

Wood description

Sapwood	: indistinct, whitish
Heartwood	: yellowish or dirty white, sometimes traumatic dark brown to purple brown heart
Grain	: straight or irregular
Texture	: medium to coarse

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	0.89
Air dry density at 12% MC	(g/cm^3)	:	0.48
Basic specific gravity		:	0.42
Tot. tangential shrinkage	(%)	:	6.3
Tot. radial shrinkage	(%)	:	3.3
Tot. volumetric shrinkage	(%)	:	10.1

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	72
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	9895
Crushing strenght at 12% MC	(N/mm^2)	:	37

Processing

Sawing	: easy; blunting effect: slight
Drying	: easy to air season; risk of distortion and checking: moderate
Machining	: easy
Gluing	: good
Nailing	: good
Finishing	: good
Veneering	: peels and slices well

Natural durability

Decay fungi	: poor
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : good

End uses : general carpentry, furniture components, plywood, particle and fiberboard.

80. Trattinickia rhoifolia **Willd.** - tingimoni *
a. Trattinickia demerarae **Sandw.**
b. Protium sp.

Family : Burseraceae

Vernacular names
Suriname : Awalu pisi / Ollo / Grand moni
Guyana : Ulu / Wayana (*T. rhoifolia*) / Thick skin ulu / Bastard kurokai (*T. demerarae*)
French Guiana : Gambouchi / Grand moni / Encens gris
Brazil : Amesclao / Morcegueira
Venezuela : Caraño

International trade name : Amesclao, Ulu

Occurrence : Suriname, Guianas, Brazil, Venezuela

Tree description
Bole lenght : bole 15 - 25 m; tree height 20 - 40 m
Diameter : 0.40 - 1.00 m
Log shape : cylindrical; tree base with low thick buttresses or unbuttressed

Wood description
Sapwood : indistinct, whitish grey
Heartwood : grey white to pale beige
Grain : rather straight, but often widely and regularly interlocked
Texture : medium

Technological characteristics

Physical properties (80)			*T. rhoifolia*
Green density	(g/cm^3)	:	0.89
Air dry density at 12% MC	(g/cm^3)	:	0.59
Basic specific gravity		:	0.51
Tot. tangential shrinkage	(%)	:	8.2
Tot. radial shrinkage	(%)	:	4.4
Tot. volumetric shrinkage	(%)	:	12.8

Mechanical properties (80)			*T. rhoifolia*
Bending strenght at 12% MC	(N/mm^2)	:	94
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	11570
Crushing strenght at 12% MC	(N/mm^2)	:	47

Processing

Sawing	: easy; blunting effect: high
Drying	: slowly and with care; risk of distortion and checking: slight to high
Machining	: difficult due to interlocked grain and silica
Gluing	: good
Nailing	: good
Finishing	: good
Veneering	: peels satisfactorily

Natural durability

Decay fungi	: poor
Termites	: moderate
Marine borers	: poor

Treatability (heartwood) : poor to moderate

End uses : interior joinery, light carpentry, furniture, plywood (interior), boxes and crates.

* in physical and technical appearance different from the also as Tingimoni local called species *Protium hostmannii* **(Miq.)Engl.** and *Protium sagotianum* **March.** of the same Burseraceae-family.

81. Triplaris weigeltiana (Rich.) Kuntze - mira-udu

Synonym : *Triplaris surinamensis* **Cham.**

Family : Polygonaceae

Vernacular names

Suriname	: Mierenhout / Don udu / Kachichidan
Guyana	: Long John / Kachidan
French Guiana	: Bois fourmi
Brazil	: Formigueira
Venezuela	: Vara de maria

International trade name : Formigueira

Occurrence : Suriname, Guianas, Brazil and from Mexico to Peru

Tree description

Bole lenght	: bole 10 - 15 m; tree height 15 - 20 m
Diameter	: 0.30 - 0.45 m
Log shape	: slightly angled or fluted; tree base with narrow buttresses

Wood description

Sapwood	: indistinct
Heartwood	: pale grey brown to pinkish brown
Grain	: straight or slightly interlocked
Texture	: medium to moderately coarse

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	1.03
Air dry density at 12% MC	(g/cm^3)	:	0.61
Basic specific gravity		:	0.50
Tot. tangential shrinkage	(%)	:	8.6
Tot. radial shrinkage	(%)	:	3.5
Tot. volumetric shrinkage	(%)	:	12.3

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	103
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	13940
Crushing strenght at 12% MC	(N/mm^2)	:	55

Processing

Sawing	: easy; blunting effect: slight
Drying	: moderately difficult, slow and carefully; risk of distortion and checking: moderate; US kiln schedule T6 - D2 for 25-38 mm stock
Machining	: easy
Gluing	: good
Nailing	: good
Finishing	: good
Veneering	: peels and slices well

Natural durability

Decay fungi	: poor
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : poor to moderate

End uses : interior joinery, utility furniture, boxes and crates, fiber- and particle board.

82. *Ormosia coccinea* (Aubl.) B.D. Jackson - kokriki

Family : Leguminosae (Papilionoideae)

Vernacular names

Suriname	: Hoogland kokriki / Firiberubana / Eigron kokriki
Guyana	: Barakaro / Jumbi bead tree / Epik rik
French Guiana	: Kokriki / Agui / Lebi kiabici
Brazil	: Tento / Jatobahy do igapó
Venezuela	: Peonio
Columbia	: Chocho

International trade name : Tento

Occurrence : Suriname, Guianas, Brazil, Venezuela, Columbia and Central America

Tree description

Bole lenght	: bole 18 - 25 m; tree height 20 - 35 m
Diameter	: 0.40 - 0.90 m
Log shape	: straight, cylindrical; basally swollen or unbuttressed

Wood description

Sapwood	: distinct, cream to yellowish
Heartwood	: pinkish red to dark brown with lighter streaks
Grain	: interlocked and irregular
Texture	: coarse to very coarse

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	1.04
Air dry density at 12% MC	(g/cm^3)	:	0.70
Basic specific gravity		:	0.60
Tot. tangential shrinkage	(%)	:	6.4
Tot. radial shrinkage	(%)	:	3.2
Tot. volumetric shrinkage	(%)	:	9.3

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	107
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	14510
Crushing strenght at 12% MC	(N/mm^2)	:	58

Processing

Sawing	: easy; blunting effect: slight
Drying	: slow but easy to air season; risk of distortion and checking: slight to moderate
Machining	: moderately difficult due to interlocked grain
Gluing	: good
Nailing	: good
Finishing	: good, but filler required

Natural durability

Decay fungi	: moderate
Termites	: moderate
Marine borers	: poor

Treatability (heartwood) : moderate

End uses ; interior and exterior joinery, general carpentry, wainscoting, furiniture, utility veneer.

83. Ormosia coutinhoi Ducke - neku-udu *
a. Alexa wachenheimii Benoist
b. Poecilanthe hostmannii (Benth.) Amsh.

Family : Leguminosae (Papilionoideae)

Vernacular names

Suriname : Warabokkadan / Wanaka

Guyana : Korokororo / Crook / Horse-eye / Warana

French Guiana : Haiari / Lebi kiabici / Nekou oudou aguitin / Saint Martin blanc

Brazil : Boiussu / Tento

International trade name : Tento

Occurrence : Suriname, Guianas and lower Amazon region

Tree description

Bole lenght : bole 18 - 20 m; tree height 20 - 35 m

Diameter : 0.40 - 0.75 m

Log shape : cylindrical; tree base swollen or with buttresses

Wood description

Sapwood : distinct, greyish brown or yellowish grey

Heartwood : yellowish brown to dark with dark streaks and sometimes a pinkish tinge

Grain : straight to slightly interlocked and roey

Texture : coarse

Technological characteristics

Physical properties (83)			*O. coutinhoi*
Green density	(g/cm^3)	:	1.08
Air dry density at 12% MC	(g/cm^3)	:	0.64
Basic specific gravity		:	0.56
Tot. tangential shrinkage	(%)	:	10.2
Tot. radial shrinkage	(%)	:	5.2
Tot. volumetric shrinkage	(%)	:	15.0

Mechanical properties (83)			*O. coutinhoi*
Bending strenght at 12% MC	(N/mm^2)	:	96
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	11870
Crushing strenght at 12% MC	(N/mm^2)	:	50

Processing

Sawing	: easy; blunting effect: very slight
Drying	: air seasoning: moderately difficult
Machining	: fair due to interlocked grain
Gluing	: good
Nailing	: good
Finishing	: good, but filler required

Natural durability

Decay fungi	: poor to moderate
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : moderate

End uses : interior joinery, general carpentry, furniture components.

* wood with waxy appearance.

84. Calophyllum longifolium Willd. - kurali
a. Calophyllum brasiliense Camb.

Family : Guttiferae

Vernacular names

Suriname	: Kurara / Koerli / Kurahara / Ediballi
Guyana	: Kurahara / Marawaro / Kopo / Serena
French Guiana	: Santa mana
Brazil	: Pau de Santa Maria / Jacareúba / Aca cupia
Venezuela	: Jacareuba
Columbia	: Aceita Maria

International trade name : Santa Maria

Occurrence : Suriname, Guianas, Brazil to Argentina

Tree description

Bole lenght	: bole 15 - 20 m; tree height 30 - 45 m
Diameter	: 0.85 - 1.80 m
Log shape	: straight and cylindrical; tree base swollen

Wood description

Sapwood	: not clearly distinct, light brown
Heartwood	: brick red or reddish brown with fine darker red striping
Grain	: generally interlocked
Texture	: medium to fairly uniform

Technological characteristics

Physical properties (84)			*C. longifolium*
Green density	(g/cm^3)	:	0.95
Air dry density at 12% MC	(g/cm^3)	:	0.65
Basic specific gravity		:	0.56
Tot. tangential shrinkage	(%)	:	8.2
Tot. radial shrinkage	(%)	:	5.5
Tot. volumetric shrinkage	(%)	:	13.6

Mechanical properties (84)			*C. longifolium*
Bending strenght at 12% MC	(N/mm^2)	:	110
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	13280
Crushing strenght at 12% MC	(N/mm^2)	:	60

Processing

Sawing	: easy; blunting effect: slight to moderate
Drying	: moderately difficult; risk of distortion and checking: more or less high; US kiln schedule T2 - D4 for 25-38 mm and T2 - D3 for 50 mm stock; British schedule A
Machining	: fairly easy but interlocked grain may cause problem
Gluing	: good
Nailing	: good but tendency to split
Finishing	: good, filler required
Veneering	: slices and peels fairly

Natural durability

Decay fungi	: moderate to good
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : poor

End uses : interior and exterior joinery, fittings, cabinet work, flooring, furniture, decorative veneer, boat building, shingles.

85. ***Clathrotropis brachypetala*** **(Tul.) Kleinh.** - arumata
var. ***ferruginea*** **Yakovlev**
a. ***Clathrotropis brachypetala*** **(Tul.) Kleinh.**
var. ***brachypetala***

Family : Leguminosae (Papilionoideae)

Vernacular names
Suriname : Katje / Kurero
Guyana : Aromata / Kauwi / Korero / Mutuwali
French Guiana : Bois sabre
Brazil : Cabary / Timbo pau / Timborana (*C. macrocarpa*)
Venezuela : Tabaca / Sapanero
Columbia : Alma negra / Sapan / Tabaca

International trade name : Aromata

Occurrence : Suriname, Guianas, Brazil, Venezuela, Columbia and the Caribbean

Tree description
Bole lenght : bole 12 - 15 m; tree height 20 - 30 m
Diameter : 0.30 - 0.60 m
Log shape : somewhat flattened; tree base: swollen

Wood description
Sapwood : distinct, yellowish to brownish white
Heartwood : pinkish brown to dark brown with lighter streaks
Grain : straight
Texture : coarse

Technological characteristics

Physical properties (85)			*C. brachypetala*
Green density	(g/cm^3)	:	1.30
Air dry density at 12% MC	(g/cm^3)	:	0.96
Basic specific gravity		:	0.80
Tot. tangential shrinkage	(%)	:	6.7
Tot. radial shrinkage	(%)	:	5.0
Tot. volumetric shrinkage	(%)	:	11.9

Mechanical properties (85)			*C. brachypetala*
Bending strenght at 12% MC	(N/mm^2)	:	159
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	24150
Crushing strenght at 12% MC	(N/mm^2)	:	96

Processing

Sawing	: difficult, power required; blunting effect: moderate
Drying	: moderately difficult; risk of distortion and checking: moderate
Machining	: due to hardness, very difficult
Gluing	: good
Nailing	: pre-boring necessary
Finishing	: good

Natural durability

Decay fungi	: moderate to very good
Termites	: moderate
Marine borers	: poor

Treatability (heartwood) : poor

End uses : heavy dry constructions, industrial flooring, furniture components.

86. *Hyeronima alchorneoides* Allemão var. *alchorneoides* - suradanni *

Synonym : Hyeronima laxiflora **(Tul.) Muell. Arg.**

Family : Euphorbiaceae

Vernacular names

Suriname	: Ajo-ajo / Akotjo / Anoniwana / Sorodon
Guyana	: Suradan / Napo
French Guiana	: Bois d'amande
Brazil	: Urucurana / Aricurana / Sangue de boi
Venezuela	: Carne asada / Trompillo
Columbia	: Cargamento / Casaco

International trade name : Napo, Pilón, Suradan

Occurrence : Suriname, Guianas, Brazil and Central America

Tree description

Bole lenght	: bole 18 - 22 m; tree height 20 - 35 m
Diameter	: 0.50 - 1.20 m
Log shape	: straight, cylindrical and little taper; base with spreading rounded buttresses

Wood description

Sapwood	: not clearly distinct, pinkish white
Heartwood	: pale reddish brown to chocolate brown or dark red
Grain	: interlocked
Texture	: medium to coarse

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	1.00 - 1.10
Air dry density at 12% MC	(g/cm^3)	:	0.74 - 0.85
Basic specific gravity		:	0.60 - 0.67
Tot. tangential shrinkage	(%)	:	11.7
Tot. radial shrinkage	(%)	:	5.4
Tot. volumetric shrinkage	(%)	:	17.0

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	125
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	15600
Crushing strenght at 12% MC	(N/mm^2)	:	66

Processing

Sawing	: easy; blunting effect: slight
Drying	: moderately difficult, but air seasons rapidly; risk of distortion and checking: moderate
Machining	: good, except in planing
Gluing	: good
Nailing	: pre-boring necessary
Finishing	: good but filler required
Veneering	: slices well

Natural durability

Decay fungi	: moderate to good
Termites	: moderate to good
Marine borers	: moderate to good

Treatability (heartwood) : poor

End uses : heavy dry constructions, flooring, interior trim, interior joinery, fine furniture, decorative veneer, boatbuilding, sleepers.

* also local called "Pientobolletrie" - which is in reality *Pouteria cuspidata* of the family Sapotaceae.

87. *Talisia squarrosa* Radlk. - makakrapa

a. *Talisia esculenta* Radlk.

Family : Sapindaceae

Vernacular names

Suriname : Karaba / Hoderne / Karababalli / Tatu

Guyana : Moroballi / Karinora / Sand mora

French Guiana : Singabassou

Brazil : Pitomba (*T. esculenta*) / Tapaljacote

Venezuela : Cotoperis / Cotuplis / Tiestigo

International trade name : Pitomba, Moroballi

Occurrence : Suriname, Guianas Brazil, Venezuela

Tree description

Bole lenght : bole 15 - 18 m; tree height 20 - 35 m

Diameter : 0.30 - 0.65 m

Log shape : cylindrical; tree base: buttressed

Wood description

Sapwood : not clearly distinct, orange red

Heartwood : reddish brown, sometimes with small dark streaks

Grain : straight to interlocked

Texture : medium to fine

Technological characteristics

Physical properties (87)			*T. squarrosa*
Green density	(g/cm^3)	:	1.20
Air dry density at 12% MC	(g/cm^3)	:	1.10
Basic specific gravity		:	0.88
Tot. tangential shrinkage	(%)	:	12.5
Tot. radial shrinkage	(%)	:	6.8
Tot. volumetric shrinkage	(%)	:	18.8

Mechanical properties (87)			*T. squarrosa*
Bending strenght at 12% MC	(N/mm^2)	:	160
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	17940
Crushing strenght at 12% MC	(N/mm^2)	:	82

Processing

Sawing	: moderately difficult, power required; blunting effect: slight
Drying	: easy to air season
Machining	: good
Gluing	: good
Nailing	: pre-boring necessary
Finishing	: good
Veneering	: poor

Natural durability

Decay fungi	: good
Termites	: moderate
Marine borers	: poor

Treatability (heartwood) : good to moderate

End uses : interior and exterior joinery, millwork, furniture components, flooring, stairs.

88. Iryanthera lancifolia **Ducke** - srebebe
a. Iryanthera sagotiana **(Benth.) Warb.** - brudu-udu

Family : Myristicaceae

Vernacular names
Suriname : Swanna / Soewana / Pajoelidan
Guyana : Kirikaua / Marbuk / Weputana
French Guiana : Tosso passa (*I. sagotiana*) / Mouchigo rouge
Brazil : Ucuhuba-rana
Venezuela : Sangrito (*I. sagotiana*)
Columbia : Virola de Tumaco

International trade name : Kirikawa, Ucuhubarana

Occurrence : Suriname, Guianas, Brazil, Venezuela, Columbia

Tree description
Bole lenght : bole 15 - 20 m; tree height 20 - 30 m
Diameter : 0.45 - 1.10 m
Log shape : moderately straight; tree base: swollen

Wood description
Sapwood : not clearly distinct, yellowish white as oatmeal
Heartwood : dull oatmeal, light pinkish-cinnamon, sometimes reddish to medium or dark brown
Grain : straight to slightly interlocked
Texture : fine to medium

Technological characteristics

Physical properties (88)			*I. lancifolia*
Green density	(g/cm^3)	:	0.85
Air dry density at 12% MC	(g/cm^3)	:	0.59
Basic specific gravity		:	0.49
Tot. tangential shrinkage	(%)	:	10.2
Tot. radial shrinkage	(%)	:	5.5
Tot. volumetric shrinkage	(%)	:	14.0

Mechanical properties (88)			*I. lancifolia*
Bending strenght at 12% MC	(N/mm^2)	:	87
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	15045
Crushing strenght at 12% MC	(N/mm^2)	:	48

Processing

Sawing	: easy; blunting effect: very slight
Drying	: moderately difficult; risk of distortion and checking: slight
Machining	: good
Gluing	: good
Nailing	: good
Finishing	: good
Veneering	: peels and slices well

Natural durability

Decay fungi	: poor
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : moderate

End uses : interior joinery, furniture, turnery, veneer and plywood, boxes and crates.

89. Caryocar glabrum (Aubl.) Pers. - sawari
spp. glabrum
a. Caryocar nuciferum L.
b. Caryocar microcarpum Ducke

Family : Caryocaraceae

Vernacular names

Suriname	: Sawarinoto / Koela / Suari / Alukumari
Guyana	: Pekia / Kula / Bats souari
French Guiana	: Chawari / Agougagui / Abeà beurre
Brazil	: Piquiá / Piqui / Pitiá
Venezuela	: Jigua / Almendrón
Columbia	: Cagui / Almendrillo

International trade name : Piquia, Cagui

Occurrence : Suriname, Guianas, Brazil, Venezuela, Columbia

Tree description

Bole lenght	: bole 15 - 20 m; tree height 30 - 45 m
Diameter	: 0.90 - 1.80 m
Log shape	: straight, cylindrical; tree base buttressed

Wood description

Sapwood	: indistinct
Heartwood	: yellowish to light greyish brown
Grain	: interlocked or irregular
Texture	: medium to coarse

Technological characteristics

Physical properties (89a)			*C. nuciferum*
Green density	(g/cm^3)	:	1.07
Air dry density at 12% MC	(g/cm^3)	:	0.74
Basic specific gravity		:	0.67
Tot. tangential shrinkage	(%)	:	8.3
Tot. radial shrinkage	(%)	:	3.6
Tot. volumetric shrinkage	(%)	:	12.0

Mechanical properties (89a)			*C. nuciferum*
Bending strenght at 12% MC	(N/mm^2)	:	115
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	14230
Crushing strenght at 12% MC	(N/mm^2)	:	70

Processing

Sawing	: moderately difficult; blunting effect: high
Drying	: difficult to air season, slow drying; risk of distortion and checking: slight
Machining	: moderately difficult due to interlocked grain
Gluing	: good
Nailing	: pre-boring recommended
Finishing	: good, but filler required

Natural durability

Decay fungi	: very good
Termites	: good
Marine borers	: moderate

Treatability (heartwood) : poor

End uses : dry and wet constructions, heavy flooring, boat parts, furniture components, sleepers.

90. *Pinus caribaea* Morelet var. *hondurensis* - pinus *

Family : Pinaceae

Vernacular names
Suriname : Pisping / Ocote
Latin America : Pino / Ocote

International trade name : Caribbean Pine

Occurrence : Honduras, Nicaragua, Guatemala, Mexico, Cuba, Bahamas

Tree description
Bole lenght : bole 15 - 20 m; tree height 20 - 30 m
Diameter : 0.30 - 0.60 m
Log shape : straight and taper; tree base unbuttressed

Wood description
Sapwood : distinct, yellowish white
Heartwood : golden brown to red brown
Grain : typical straight
Texture : slightly coarse

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	0.95
Air dry density at 12% MC	(g/cm^3)	:	0.70
Basic specific gravity		:	0.68
Tot. tangential shrinkage	(%)	:	7.8
Tot. radial shrinkage	(%)	:	6.3
Tot. volumetric shrinkage	(%)	:	12.9

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	68
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	15400
Crushing strenght at 12% MC	(N/mm^2)	:	59

Processing

Sawing	: easy but high resin content may cause down time of cutters
Drying	: easy to air season but slow and a tendency for end splitting in thick stock; US kiln schedule T8 - D4S for 25-38 mm and T8 - D3S for 50 mm stock
Machining	: good
Gluing	: satisfactorily
Nailing	: good
Finishing	: good
Veneering	: peels and slices well

Natural durability

Decay fungi	: poor to moderate
Termites	: variable
Marine borers	: poor

Treatability (heartwood) : poor

End uses : interior and exterior joinery (with preservative), flooring, sidings, furniture, boxes and crates, poles and posts, plywood, particle board, paperpulp.

* a plantation species, not native in Suriname.

91. Bertholletia excelsa Humboldt & Bonplant - inginoto

Family : Lecithidaceae

Vernacular names

Suriname	: Paranoto / Teteka / Toka / Braziliaanse noot
Guyana	: Brazil-nut tree
French Guiana	: Taica
Brazil	: Castanha verdadeira / Tucary / Castanha do Brazil
Venezuela	: Yubia / Juvia / Tucá
Columbia	: Almendro / Castañha del Marañon
Peru	: Castaño de madre de Dios

International trade name : Brazil nut / Para nut

Occurrence : Suriname, Guianas, Brazil to Peru

Tree description

Bole lenght	: bole 15 - 30 m, tree height 30 - 45 m
Diameter	: 0.65 - 1.50 m
Log shape	: straight, cylindrical

Wood description

Sapwood	: distinct, pale yellowish brown
Heartwood	: pinkish brown to chestnut brown
Grain	: typically interlocked
Texture	: coarse to medium

Technological characteristics

Physical properties

Green density	(g/cm^3)	: 1.12
Air dry density at 12% MC	(g/cm^3)	: 0.71
Basic specific gravity		: 0.59
Tot. tangential shrinkage	(%)	: 8.3
Tot. radial shrinkage	(%)	: 3.9
Tot. volumetric shrinkage	(%)	: 11.2

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	: 101
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	: 12150
Crushing strenght at 12% MC	(N/mm^2)	: 48

Processing

Sawing	: moderate difficult; blunting effect: moderate to high
Drying	: slow drying, tends to warp and check
Machining	: poor to moderately difficult
Gluing	: good
Nailing	: good
Finishing	: smooth

Natural durability

Decay fungi	: good to very good
Termites	: moderate to good
Marine borers	: poor

Treatability (heartwood) : poor

End uses : exterior joinery, boat and ship decking, flooring, furniture, cabinets, steam bending applications.

92. Copaifera guianensis **Aublet** - upru-udu
a. Copaifera duckei **Dwyer**
b. Copaifera reticulata **Ducke**

Family : Leguminosae (Caesalpinioideae)

Vernacular names
Suriname : Hoepelhout / Kupaiwa / Apaua / Kupawa / Pasimuti
Guyana : Kupaiwa
French Guiana : Koupahoa
Brazil : Copaiba / Copaibarana / Copahyba
Venezuela : Cabimo / Palo de aceite
Columbia : Copaiba
Paraguay : Cupay

International trade name : Copaiba

Occurrence : Suriname, Guianas, Brazil to Argentina

Tree description
Bole lenght : bole 10 - 25 m; tree height 25 - 30 m
Diameter : 80 - 1.20 m
Log shape : straight; tree base buttressed

Wood description
Sapwood : distinct, pinkish grey to nearly white
Heartwood : reddish brown
Grain : usually straight
Texture : medium

Technological characteristics

Physical properties (92)		*C. guianensis*
Green density	(g/cm^3)	: 1.11
Air dry density at 12% MC	(g/cm^3)	: 0.64
Basic specific gravity		: 0.57
Tot. tangential shrinkage	(%)	: 9.1
Tot. radial shrinkage	(%)	: 4.0
Tot. volumetric shrinkage	(%)	: 13.6

Mechanical properties (92)		*C. guianensis*
Bending strenght at 12% MC	(N/mm^2)	: 91
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	: 9550
Crushing strenght at 12% MC	(N/mm^2)	: 51

Processing

Sawing	: good; blunting effect: slight
Drying	: good
Machining	: good
Gluing	: good
Nailing	: good
Finishing	: good

Natural durability

Decay fungi	: good
Termites	: moderate
Marine borers	: poor

Treatability (heartwood) : poor

End uses : general construction, carpentry, interior trim, particle board (valued for gum and balsam).

93. Parkia pendula Benth. ex. Walp. - kwatakama

Synonym(s) : Inga pendula **Willd.** / Mimosa pendula **Poir.**

Family : Leguminosae (Mimosoideae)

Vernacular names

Suriname	: Ipana / Manalhibali
Guyana	: Ipanai / Hipanai
French Guiana	: Kouatakaman / Acacia mâle
Brazil	: Fava-bolata / Visguciro / Faveira-bolata / Jupumba

International trade name : Fava-bolata

Occurrence : Suriname, Guianas, Brazil

Tree description

Bole lenght	: bole 10 - 18 m; tree height 20 - 25 m
Diameter	: 0.45 - 0.70 m
Log shape	: straight, cylindrical; tree base sometimes buttressed

Wood description

Sapwood	: distinct, greyish white
Heartwood	: light golden brown
Grain	: straight
Texture	: medium

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	1.10
Air dry density at 12% MC	(g/cm^3)	:	0.56
Basic specific gravity		:	0.50
Tot. tangential shrinkage	(%)	:	7.1
Tot. radial shrinkage	(%)	:	2.5
Tot. volumetric shrinkage	(%)	:	10.1

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	110
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	12500
Crushing strenght at 12% MC	(N/mm^2)	:	44

Processing

Sawing	: easy; raised grains and woolly surface; blunting effect: slight
Drying	: slowly and with care, severe casehardening
Machining	: easy but woolly surface
Gluing	: good
Nailing	: good
Finishing	: good
Veneering	: peels well

Natural durability

Decay fungi	: poor
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : moderate

End uses : interior joinery, light carpentry, light furniture, veneer, boxes and crates.

94. Buchenavia capitata (Vahl) Eichl. - gindja-udu
a. Buchenavia fanshawei Exell & Maguire

Family : Combretaceae

Vernacular names

Suriname	: Djindja-udu / Chichibridan
Guyana	: Fukadi / Cokerwood
French Guiana	: Angouchy
Brazil	: Tanibuca / Cuiarana
Venezuela	: Amarillo / Olive negro
Columbia	: Almendro

International trade name : Fukadi

Occurrence : Suriname, Guianas, Brazil, Venezuela to Bolivia

Tree description

Bole lenght	: bole 18 - 21 m; tree height 20 - 25 m
Diameter	: 0.60 - 0.80 m
Log shape	: straight; tree base with large buttresses

Wood description

Sapwood	: indistinct, light yellow brown
Heartwood	: yellowish brown to golden brown; upon exposure with a grey or olive hue
Grain	: straight to interlocked
Texture	: medium to coarse

Technological characteristics

Physical properties (94)			*B. capitata*
Green density	(g/cm^3)	:	1.05
Air dry density at 12% MC	(g/cm^3)	:	0.75
Basic specific gravity		:	0.63
Tot. tangential shrinkage	(%)	:	5.6
Tot. radial shrinkage	(%)	:	2.8
Tot. volumetric shrinkage	(%)	:	8.7

Mechanical properties (94)			*B. capitata*
Bending strenght at 12% MC	(N/mm^2)	:	89
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	11320
Crushing strenght at 12% MC	(N/mm^2)	:	51

Processing

Sawing	: difficult; blunting effect: moderate
Drying	: easy, little degrade
Machining	: moderately difficult
Gluing	: good
Nailing	: pre-boring necessary
Finishing	: good
Veneering	: good

Natural durability

Decay fungi	: good
Termites	: good to very good
Marine borers	: poor

Treatability (heartwood) : poor

End uses * : exterior and interior flooring, furniture, boat decking, planking and framing, decorative veneer and turnery.

* Some characteristics of the species are similar to White Oak and Teak.

95. Newtonia suaveolens (Miq.) Brenan - pikinmisiki

Synonym : Piptadenia suaveolens **Miq.**

Family : Leguminosae (Mimosoideae)

Vernacular names

Suriname	: Leki-pikinmisiki / Korobali
Guyana	: Manariballi
French Guiana	: Alimmao
Brazil	: Fava folha fina / Parica-branco / Timborana
Venezuela	: Carabali / Carbonero
Columbia	: Hediondo / Bocachico

International trade name : Timborana

Occurrence : Suriname, Guianas, Brazil

Tree description

Bole lenght	: bole 10 - 15 m; tree height 20 - 25 m
Diameter	: 0.50 - 0.65 m
Log shape	: straight, cylindrical; tree base buttressed

Wood description

Sapwood	: indistinct, greyish white
Heartwood	: brown to reddish brown
Grain	: straight to interlocked
Texture	: fine to medium

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	1.10
Air dry density at 12% MC	(g/cm^3)	:	0.76
Basic specific gravity		:	0.72
Tot. tangential shrinkage	(%)	:	7.0
Tot. radial shrinkage	(%)	:	4.7
Tot. volumetric shrinkage	(%)	:	11.2

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	123
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	13140
Crushing strenght at 12% MC	(N/mm^2)	:	68

Processing

Sawing	: difficult; blunting effect: moderate
Drying	: slow and careful; prone to severe checking, case hardening
Machining	: easy to moderate, tends to tear
Gluing	: good
Nailing	: good
Finishing	: good
Veneering	: slices well

Natural durability

Decay fungi	: poor
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : fair to good

End uses : exterior joinery (treated), flooring, turnery, posts, crossties.

96. Fagara pentendra Aublet - pritiyari
a. Zanthoxylum flavum Vahl

Family : Rutaceae

Vernacular names

Suriname	: Zwarte pritiyari / Karidan / Buburaballi / Karidan hariraru
Guyana	: Buburaballi
French Guiana	: Keou / Noyer / Bois noyer
Venezuela	: Mapurite / Mapurite negro

International trade name : Bois noyer

Occurrence : Suriname, Guianas, Venezuela

Tree description

Bole lenght	: bole 10 - 15 m; tree height 15 - 22 m
Diameter	: 0.40 - 0.50 m
Log shape	: straight, cylindrical

Wood description

Sapwood	: indistinct, yellowish white
Heartwood	: golden or greenish yellow
Grain	: straight to interlocked
Texture	: fine to medium

Technological characteristics

Physical properties (97)			*F. pentandra*
Green density	(g/cm^3)	:	0.86
Air dry density at 12% MC	(g/cm^3)	:	0.67
Basic specific gravity		:	0.57
Tot. tangential shrinkage	(%)	:	4.0
Tot. radial shrinkage	(%)	:	2.4
Tot. volumetric shrinkage	(%)	:	6.7

Mechanical properties (97)			*F. pentandra*
Bending strenght at 12% MC	(N/mm^2)	:	60
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	13730
Crushing strenght at 12% MC	(N/mm^2)	:	49

Processing

Sawing	: difficult; blunting effect: slight
Drying	: good, slow and careful
Machining	: easy
Gluing	: good
Nailing	: good
Finishing	: good
Veneering	: peels well

Natural durability

Decay fungi	: poor to moderate
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : poor

End uses : furniture, pannelling, cabinet work, inlays, turnery.

97. Aniba cf. rosaeodora **Ducke *** - rosu-udu
a. Aniba duckei **Kosterm.**
b. Aniba parviflora **Mez.**

Family : Lauraceae

Vernacular names
Suriname : Rozenhout
Guyana : Red silverballi
French Guiana : Bois de rose
Brazil : Louro rosa / Pau rosa
Venezuela : Madeira rosa
Columbia : Camino real

International trade name : Louro rosa

Occurrence : Suriname, Guianas, Amazon region

Tree description
Bole lenght : bole 15 - 20 m; tree height 25 - 30 m
Diameter : 0.55 - 0.75 m
Log shape : cylindrical; base sometimes swollen

Wood description
Sapwood : distinct, light yellowish
Heartwood : brownish yellow with a green hue
Grain : straight to interlocked
Texture : fine to medium

Technological characteristics

Physical properties (97a)			*A. duckei*
Green density	(g/cm^3)	:	0.98
Air dry density at 12% MC	(g/cm^3)	:	0.64
Basic specific gravity		:	0.55
Tot. tangential shrinkage	(%)	:	7.0
Tot. radial shrinkage	(%)	:	4.3
Tot. volumetric shrinkage	(%)	:	12.0

Mechanical properties (97a)			*A. duckei*
Bending strenght at 12% MC	(N/mm^2)	:	130
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	17000
Crushing strenght at 12% MC	(N/mm^2)	:	70

Processing

Sawing	: easy; blunting effect: slight
Drying	: moderately difficult to air-season, some warping and slight checking
Machining	: easy
Gluing	: good
Nailing	: good
Finishing	: good
Veneering	: peels well

Natural durability

Decay fungi	: very good
Termites	: very good
Marine borers	: moderate to good

Treatability (heartwood) : poor

End uses : high grade furniture, turnery, inlays, interior trim, boat construction.

* Wood of *Aniba rosaeodora* is sometimes distilled in the pharmaceutical industry for its fragrant oil

98. Pouteria ptychandra Eyma - kimboto

Synonym(s) : Neopometia ptychandra **(Eyma) Aubr.** / Pradosia surinamensis **(Eyma) Pennington**

Family : Sapotaceae

Vernacular names

Suriname	: Kimboto
Guyana	: Chuya
French Guiana	: Kimboto
Brazil	: Abiu-Pitomba
Venezuela	: Chupon / Toco

International trade name : Abiu / Chupon

Occurrence : Suriname, Guianas, Brazil

Tree description

Bole lenght	: bole 20 - 25 m; tree height 25 - 40 m
Diameter	: 0.35 - 1.00 m
Log shape	: cylindrical

Wood description

Sapwood	: distinct, greyish yellow brown
Heartwood	: light red brown
Grain	: straight to slightly interlocked
Texture	: fine to medium

Technological characteristics

Physical properties

Green density	(g/cm^3)	:	1.27
Air dry density at 12% MC	(g/cm^3)	:	1.02
Basic specific gravity		:	0.70
Tot. tangential shrinkage	(%)	:	11.0
Tot. radial shrinkage	(%)	:	7.6
Tot. volumetric shrinkage	(%)	:	18.1

Mechanical properties

Bending strenght at 12% MC	(N/mm^2)	:	187
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	20090
Crushing strenght at 12% MC	(N/mm^2)	:	94

Processing

Sawing	: difficult, power required; blunting effect: high
Drying	: easy to air-season
Machining	: difficult due to hardness and silica
Nailing	: pre-boring necessary
Finishing	: good

Natural durability

Decay fungi	: very good
Termites	: poor
Marine borers	: moderate

Treatability (heartwood) : poor

End uses : heavy constructions, posts, spars, house framing, marine constructions.

99. Lueheopsis flavescens (Uitt) Burret - katun-udu
a. Lueheopsis rugosa (Pulle) Burret

Family : Tiliaceae

Vernacular names

Suriname	: Jafodan
Guyana	: Cottonwood
French Guiana	: Bois de cotton
Brazil	: Acoma-cavallo / Mutumba preta
Venezuela	: Guacimo blanco
Columbia	: Algodon demonte

International trade name : Guacimo / Estriveira

Occurrence : From Panama to Argentina (Rio de la Plata)

Tree description

Bole lenght	: bole 25 - 35 m; tree height: 30 - 40 m
Diameter	: 0.50 - 1.00 m
Log shape	: straight; tree base: irregularly fluted

Wood description

Sapwood	: indistinct, pinkish
Heartwood	: beige brown or brownish beige
Grain	: straight to roey
Texture	: fine to medium

Technological characteristics

Physical properties (99)			*L. flavescens*
Green density	(g/cm^3)	:	0.89
Air dry density at 12% MC	(g/cm^3)	:	0.62
Basic specific gravity		:	0.53
Tot. tangential shrinkage	(%)	:	2.4
Tot. radial shrinkage	(%)	:	0.92
Tot. volumetric shrinkage	(%)	:	3.3

Mechanical properties (99)			*L. flavescens*
Bending strenght at 12% MC	(N/mm^2)	:	105
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	11090
Crushing strenght at 12% MC	(N/mm^2)	:	51

Processing

Sawing	: easy; blunting effect: very slight
Drying	: easy
Machining	: easy
Gluing	: good
Nailing	: good
Finishing	: good
Veneering	: slices and peels well

Natural durability

Decay fungi	: very poor
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : good

End uses : interior and exterior joinery, furniture, boxes and crates, veneer, plywood, particle board.

100. Inga leiocalycina **Benth.** - swietbonki
a. Inga capitata **Desv.**

Family : Leguminosae (Mimosoideae)

Vernacular names

Suriname	: Redi weko / Kalhoto
Guyana	: Kwari
French Guiana	: Oueko
Brazil	: Inga-chichi
Venezuela	: Guamo

International trade name : Inga

Occurrence : Suriname, Guianas, Amazon region.

Tree description

Bole lenght	: bole 15 - 20 m; tree height 25 - 30 m
Diameter	: 0.35 - 0.70 m
Log shape	: straight, cylindrical

Wood description

Sapwood	: indistinct, pinkish brown
Heartwood	: light brown with darker streaks
Grain	: straight to wavy or interlocked
Texture	: medium

Technological characteristics

Physical properties (100)			*I. leiocalycina*
Green density	(g/cm^3)	:	0.92
Air dry density at 12% MC	(g/cm^3)	:	0.69
Basic specific gravity		:	0.58
Tot. tangential shrinkage	(%)	:	2.0
Tot. radial shrinkage	(%)	:	1.0
Tot. volumetric shrinkage	(%)	:	3.1

Mechanical properties (100)			*I. leiocalycina*
Bending strenght at 12% MC	(N/mm^2)	:	113
Modulus of elasticity (MOE) at 12% MC	(N/mm^2)	:	12200
Crushing strenght at 12% MC	(N/mm^2)	:	62

Processing

Sawing	: easy; blunting effect: slight
Drying	: moderately difficult; slight risk of distortion
Machining	: good
Gluing	: good
Nailing	: good
Finishing	: filler required
Veneering	: peels well

Natural durability

Decay fungi	: poor
Termites	: poor
Marine borers	: poor

Treatability (heartwood) : poor

End uses : interior joinery, utility plywood, carpentry, cheap furniture, boxes and crates.

Sawmill Inspection Murukreek

6. FOREST MANAGEMENT AND PRODUCTION CONTROL IN SURINAME

The overal objective of the National Forest Policy is the conservation, protection, management and utilization of the nation's forest resources, while ensuring that the productive capacity of the forests for both goods and services is maintained or enhanced. The fundamental objective for the forest timber sector is the development of a financially and economically vital forest industry. The number and types of forest-based industries however and their production capacity established, should be in balance with the output of the nation's forests under a sustainable management system.
To implement this sectoral policy the Government of Suriname decided in 1998 to establish the:

Foundation for Forest Management and Production Control.

The aim of the foundation is: Promotion of sustainable optimum utilization of the Forest of Suriname in general and those destined for timber production in particular, through implementation of the guidelines provided in the Forest Management Act and other relevant legal regulations.

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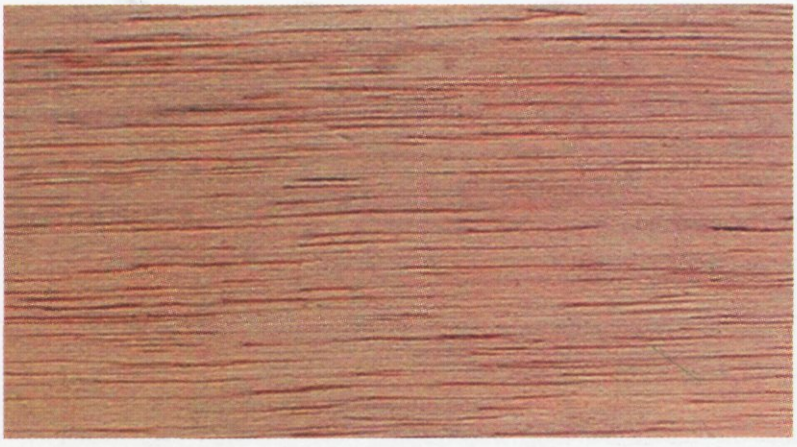
01. BASRALOKSI
Dicorynia guianensis

02. EIGRON-GRONFOLO
Ruizterania albiflora

03a. WISWISKWARI
Vochysia guianensis

04. MAWSIKWARI
Erisma uncinatum

05. KOPI
Goupia glabra



07. EIGRON-BABUN
Virola michelli

09. REDISALI
Tetragastris altissima / T. panamensis

11. WALABA
Eperua falcata

14. INGIPIPA
Couratari guianensis / C. gloriosa

17. MERI / BLAKABERI
Humiria balsamifera

20. BROINATI
Vouacapoua americana

22. GERIKABISI
Vateirea guianensis

24. WANA
Ocotea rubra

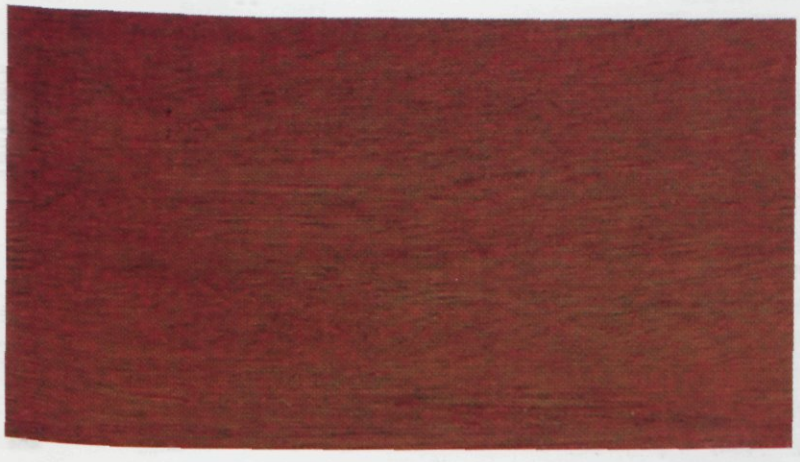
28. BLAKAKABISI
Diplotropis purpurea

30. REDILOKSI
Hymenaea courbaril / H. oblongifolia

31. SEDRE
Cedrela odorata

40a. MAKAGRIN
Tabebuia capitata

41. PAKULI
Platonia insignis



42. MORA
Mora excelsa

54. KWATAPATU
Lecythis zabucajo

APPENDIX I.

Genera of timber species, alphabetically arranged according to families

ANACARDIACEAE
Loxopterygium

APOCYNACEAE
Ambelania
Aspidosperma
Geissospermum
Macoubea

ARALIACEAE
Didymopanax
Schefflera

AVICENNIACEAE
Avicennia

BIGNONIACEAE
Jacaranda
Tabebuia

BOMBACACEAE
Bombax
Catostemma
Pachira

BORAGINACEAE
Cordia

BURSERACEAE
Hemicrepidospermum
Protium
Tetragastris
Trattinickia

CAESALPINIACEAE
Copaifera
Dicorynia
Dimorphandra
Eperua
Hymenaea
Macrolobium
Martiodendron
Mora
Peltogyne
Sclerolobium
Tachigali
Vouacapoua

CARYOCARACEAE
Caryocar

CELASTRACEAE
Goupia

CHRYSOBALANACEAE
Couepia
Hirtella
Licania
Parinari

CLUSIACEAE
Calophyllum
Platonia
Rheedia
Symphonia

COMBRETACEAE
Buchenavia
Terminalia

EBENACEAE
Diospyros

EUPHORBIACEAE
Alchornea
Alchorneopsis
Chaetocarpus
Conceveiba
Drypetes
Hevea
Hura
Hyeronima
Pera
Pogonophora

FLACOURTIACEAE
Homalium
Laetia

FABACEAE
Alexa
Andira
Bocoa
Clathrotropis
Diplotropis
Dipteryx
Hymenolobium
Lonchocarpus
Ormosia
Platymiscium
Pterocarpus
Swartzia
Vatairea
Vataireopsis

HUMIRIACEAE
Humiria
Sacoglottis
Vantanea

LAURACEAE
Aniba
Chlorocardium
Endlicheria
Licaria
Nectandra
Ocotea

LECYTHIDACEAE
Bertholletia
Corythophora
Couratari
Eschweilera
Lecythis

LOGANIACEAE
Antonia

MALPIGHIACEAE
Spachea

MELASTOMATACEAE
Mouriri

MELIACEAE
Carapa
Cedrela
Trichilia

MIMOSACEAE
Inga
Parkia
Pentaclethra
Piptadenia
Pithecellobium
Stryphnodendron

MORACEAE
Bagassa
Brosimum
Clarisia
Helicostylis
Maquira
Naucleopsis
Pseudolmedia
Trymatococcus

MYRISTICACEAE
Iryanthera
Virola

OLACACEAE
Chaunochiton
Dulacia

OPILIACEAE
Agonandra

POLYGONACEAE
Triplaris

RHIZOPHORACEAE
Cassipourea
Rhizophora

SAPINDACEAE
Matayba
Talisia

SAPOTACEAE

Achrouteria
Chrysophyllum
Ecclinusa
Manilkara
Micropholis
Pouteria (s.l.), included:
Nemaluma
Neoxythece
Neopometia
Prieurella
Pseudocladia
Sandwithiodoxa

SIMAROUBACEAE

Quassia

STERCULIACEAE

Sterculia

THEACEAE

Laplacea

TILIACEAE

Apeiba
Luehea
Lueheopsis

ULMACEA

Ampelocera

VERBENACEAE

Chitarexylum
Vitex

VOCHYSIACEAE

Erisma
Qualea
Vochysia

APPENDIX II - Assembled British standard kiln-drying schedules

British schedules have been listed for many of the woods not native to the United States and Canada (Appendix B). Following is a listing of the assembled British Princess Risborough Laboratory schedules as published in Pratt, G.H., *Timber Drying Manual, 1986,* Building Research Establishment, Department of the Environment, HMSO, London, England.

Standard Schedule conditions for timber thickness up to 38 mm

Temperature °C				Temperature °F	
Moisture content	Dry-bulb	Wet-bulb	Relative humidity (approx.)	Dry-bulb	Wet-bulb
Percent			*Percent*		
		SCHEDULE A			
Green	35	30.5	70	95	87
60	35	28.5	60	95	83
40	40	31.0	50	104	88
30	45	32.5	40	113	91
20	50	35.0	35	122	95
15	60	40.5	30	140	105
		SCHEDULE B			
Green	40	37.5	85	104	100
40	40	36.5	80	104	98
30	45	40.5	75	113	105
25	50	44.0	70	122	111
20	55	46.0	60	131	115
15	60	47.5	50	140	118
		SCHEDULE C			
Green	40	37.5	85	104	100
60	40	36.5	80	104	98
40	45	40.5	75	113	105
35	45	39.5	70	113	103
30	45	38.5	65	113	101
25	50	42.0	60	122	107
20	60	47.5	50	140	118
15	65	48.5	40	149	119

Temperature °C				Temperature °F	
Moisture content	Dry-bulb	Wet-bulb	Relative humidity (approx.)	Dry-bulb	Wet-bulb
Percent			*Percent*		
		SCHEDULE D			
Green	40	37.5	85	104	100
60	40	36.5	80	104	98
40	40	35.0	70	104	95
35	45	37.5	60	113	99
30	45	35.0	50	113	95
25	50	36.5	40	122	98
20	60	40.5	30	140	105
15	65	44.0	30	149	111
		SCHEDULE E			
Green	50	47.0	85	122	117
60	50	46.0	80	122	115
40	50	45.0	75	122	113
30	55	47.5	65	131	118
25	60	49.0	55	140	121
20	70	54.5	45	158	130
15	75	57.5	40	167	136
		SCHEDULE F			
Green	50	45.0	75	122	113
60	50	44.0	70	122	111
40	50	42.0	60	122	107
30	55	43.5	50	131	110
25	60	46.0	45	140	115
20	70	52.5	40	158	127
15	75	57.5	40	167	136
		SCHEDULE G			
Green	50	47.0	85	122	117
60	50	46.0	80	122	115
40	55	51.0	80	131	124
30	60	54.5	75	140	130
25	70	62.5	70	158	145
20	75	62.5	55	167	145
15	80	61.0	40	176	141

Temperature °C				Temperature °F	
Moisture content	Dry-bulb	Wet-bulb	Relative humidity (approx.)	Dry-bulb	Wet-bulb
Percent			*Percent*		
		SCHEDULE H			
Green	60	55.5	80	140	132
50	60	54.5	75	140	130
40	60	52.0	65	140	126
30	65	53.5	55	149	129
20	75	57.5	40	167	136
		SCHEDULE J			
Green	60	53.0	70	140	128
50	60	50.5	60	140	123
40	60	47.5	50	140	118
30	65	48.5	40	149	119
20	75	52.0	30	167	126
		SCHEDULE K			
Green	70	65.0	80	158	149
50	75	67.0	70	167	153
30	80	68.5	60	176	155
20	90	69.0	40	194	156
		SCHEDULE L			
Green	80	72.0	70	176	161
40	90	69.0	40	194	156
		SCHEDULE M			
Green	90	81.0	70	194	178
50	95	78.0	50	203	172

APPENDIX III - Dry kiln schedules

One of the most important and effective measures for wood protection, is seasoning. Seasoning however starts immediately after the cutting of green trees even in an atmosphere highly saturated with water vapor. At first liquid or free water is removed and eventually the fiber saturation point is reached, viz air drying. To control this behaviour and to speed up the seasoning processes, modern dry kilns were disigned. This type of kilns are designed to control temperature (dry-bulb), relative humidity (wet-bulb depression) and air circulation speed. If these variables are controlled properly throughout the drying process, rapid removal of undesired moisture from wood will follow and defects such as checking and warp hold to an acceptable minimum level.
Kiln schedules were developed by "trial and error" and described for many wood species. These schedules are coded to indicate desired dry-bulb temperature, moisture content at step change and wet-bulb depression. In this publication T1-B1 for example is suggested for 4/4 - 6/4 Bolletrie (Macaranduba) stock. "T" indicates the desired dry-bulb temperature settings, "B" the sample board moisture contents at which changes are made in the dry-bulb and wet-bulb settings and "1" the wet-bulb depressions that accompany the dry-bulb temperatures. These settings are assembled to form the working kiln schedule.

Example: T1 - B1 (modified) US-Dry kiln schedule for Macaranduba *.

Step	Moisture content	Temperature Dry-bulb	Wet-bulb	Equilibrium moisture content	Relative humidity	Temperature Dry-bulb	Wet-bulb
	%	..... °F		..... %		..... °C	
1.	> 35	100	97	19.5	90	37.5	36.0
2.	35 - 30	100	96	17.6	86	37.5	35.5
3.	30 - 25	105	99	15.4	81	40.5	37.0
4.	25 - 20	105	95	12.0	69	40.5	35.0
5.	20 -15	115	90	6.4	38	46.0	32.0
6.	15 - final	120	90	5.5	32	49.0	32.0
Equalize and condition as necessary.							

The letter S may follow a kiln schedule code, e.g. T4 - E3S.
This code refers to general wet-bulb depression schedules for softwoods or conifer (Table 3 and 4) and is sometimes suggested as well for drying articular hardwood.

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* Dry kiln Schedules for Commercial Woods; R.S. Boone, C.J. Kozik, P.J. Bois and E.M. Wengert, 1988. US Department of Agriculture, Forest Products Laboratory.

Table 1. *General temperature schedules for hardwoods* *

Temperature step number	Moisture content at start of step	Dry-bulb temperatures for temperature schedule number													
		T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13	T14
	Percent	°F													
1.	> 30	100	100	110	110	120	120	130	130	140	140	150	160	170	180
2.	30	105	110	120	120	130	130	140	140	150	150	160	170	180	190
3.	25	105	120	130	130	140	140	150	150	160	160	160	170	180	190
4.	20	115	130	140	140	150	150	160	160	160	170	170	180	190	200
5.	15	120	150	160	180	160	180	160	180	160	180	180	180	190	200

Table 2. *General wet-bulb depression schedules for hardwoods*

Wet-bulb depression step number	Moisture content at start of step for moisture content class						Wet-bulb depressions for wet-bulb depressions schedule number							
	A	B	C	D	E	F	1	2	3	4	5	6	7	8
				%						°F				
1.	> 30	> 35	> 40	> 50	> 60	> 70	3	4	5	7	10	15	20	25
2.	30	35	40	50	60	70	4	5	7	10	14	20	30	35
3.	25	30	35	40	50	60	6	8	11	15	20	30	40	50
4.	20	25	30	35	40	50	10	14	19	25	35	50	50	50
5.	15	20	25	30	35	40	25	30	35	40	50	50	50	50
6.	10	15	20	25	30	35	50	50	50	50	50	50	50	50

* Dry-kiln - Operators Manual, Agriculture Handbook # 188, E.F. Rasmussen, 1961. Forest Products Laboratory, U.S. Department of Agriculture.

Table 3. *General temperature schedules for softwoods* *

Temperature step number	Moisture content at start of step	Dry-bulb temperatures for temperature schedule number													
		T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13	T14
	Percent							°F							
1.	> 30	100	100	110	110	120	120	130	130	140	140	150	160	170	180
2.	30	105	110	120	120	130	130	140	140	150	150	160	170	180	190
3.	25	105	120	130	130	140	140	150	150	160	160	160	170	180	190
4.	20	115	130	140	140	150	150	160	160	160	170	170	180	190	200
5.	15	120	150	160	180	160	180	160	180	160	180	180	180	190	200

Table 4. *General wet-bulb depression schedules for softwoods*

Wet-bulb depression step number	Moisture content at start of step for moisture content class						Wet-bulb depressions for wet-bulb depressions schedule number							
	A	B	C	D	E	F	1	2	3	4	5	6	7	8
				%						°F				
1.	> 30	> 35	> 40	> 50	> 60	> 70	3	4	5	7	10	15	20	25
2.	30	35	40	50	60	70	4	5	7	10	14	20	25	30
3.	25	30	35	40	50	60	6	8	11	15	20	25	30	35
4.	20	25	30	35	40	50	10	14	15	20	25	30	35	35
5.	(1)	20	25	30	35	40	15	20	20	25	30	35	35	35
6.		(1)	20	25	30	35	20	25	25	30	35	35	35	35
7.			(1)	20	25	30	25	30	30	35	35	35	35	35
8.				(1)	20	25	30	35	35	35	35	35	35	35
9.					(1)	20	35	35	35	35	35	35	35	35
10.	15	15	15	15	15	15	50	50	50	50	50	50	50	50

(1) Go directly to step 10.

APPENDIX IV - Utilization of mentioned timber species.

Utilization	Timber species
01. Agriculture buildings	
sheds / sty / fold / silo	basraloksi, grinati, makagrin, anawra, wana, kwepi, mora
fences	walaba, makagrin
roofings	walaba, mawsikwari
02. Boat and ship building under water members	
(ribs, stems, knees)	basraloksi, manbarklaki, bortri, blakakabisi, anawra, kwepi, morabukeya, fungu
framing	basraloksi, kopi, mora, grinati, blakakabisi, makagrin, yamboka, arumata
planking	basraloksi, wana, blakakabisi, pisi, gindja-udu, kaner'ati
decking	baraloksi, gindja-udu, mataki, yamboka, bofru-udu, grinati, broinati, kwatapatu, sali, wetilo-abi, pintobortri, blakaberi, kaw udu
03. Boxes and crates	agrobigi, babun, bebe, gedu, gubaya, kwari, mira-udu, lika-udu, morototo, ingipipa, dakama, donsedre, possentrie, prokoni, sumaruba, tingimoni, sedre, busikasyu
04. Carriage and wagon building	anawra, arumata, basraloksi, makagrin, mora, pakuli, walaba, meri, manbarklaki, kwateri, mataki, redikabisi, sali, kaw udu, tonka, popo-ati, suradanni
05. Cooperage	basraloksi, kurali, pakuli, walaba
06. Concrete shuttering	agrobigi, gubaya, possentri, sumaruba, kwari, tingimoni, busikatun, morototo, gedu, dakama
07. Decorative panelling	broinati, sedre, busitamarin, blakakabisi, kaner'ati, kromanti kopi, popo-ati, snek'udu, pritiyari, pinus, makakabisi, rosu-udu
08. Fibre and particle board	babun, bebe, possentri, mira-udu, sopo-udu, okro-udu, morototo, barmani, gubaya, sumaruba

Utilization	Timber species
09. Flooring	
general residence	basraloksi, broinati, kopi, mataki, sali, bortri, kaner'ati, pakuli, popo-ati, rediloksi, redikabasi, blakakabisi, kromanti kopi, kurali, ingipipa, meri, isri-ati, kaiman udu, snek'udu, mataki, gindja-udu
industrial	arumata, walaba, manbarklaki, pinto bortri, grinati, eigron-manbarklaki, meri, wetilo-abi, umanbarklaki, bofru-udu, kwatapatu, mataki, fungu
10. Foundation and piles	anawra, fungu, kopi, manbarklaki, umanbarklaki, morabukeya, walaba, grinati, kaw udu
11. Frame constructions	
floor, roof and wall members	basraloksi, kopi, krapa, pakuli, manbarklaki, redikabisi, kaw udu, kurali, arumata, walaba, eigron-manbarklaki, meri, suradanni, mataki, gerikabisi
exterior sidings and sheats	basraloksi, kopi, krapa, gronfolo, pisi, sali, mataki, popo-ati, redikabisi, wana, blakakabisi, walaba, tonka, kokriki, pakuli, gerikabisi
general carpentry, interior members	gronfolo, kopi, krapa, kwari, gedu, mataki, pisi, sali, wana, sumaruba, sedre, pakuli, kromanti kopi, tingimoni, swietbonki, ingipipa, kimboto, mira-udu, pinus, gubaya, sopo-udu, sawari, rediprokoni, pegrekupisi
12. Furniture and cabinet members	arumata, basraloksi, broinati, krapa, mataki, rediloksi, sali, pisi, bortri, sedre, kaner'ati, kunatepi, pakuli, pritiyari, popo-ati, snek'udu, satin udu, rosu-udu, makakabisi, sopo-udu
13. Interior trim	gronfolo, krapa, kwari, gerikabisi, sumaruba, tingimoni, pisi, wana, possentri, ingipipa, meri, swietbonki, tamarinprokoni, pegrekupisi
14. Marine and bridge construction	
above waterline	basraloksi, kopi, grinati, botri, blakakabisi, pakuli, kaner'ati, broinati, rediloksi, gronfolo, mora, redikabisi, kaw udu, arumata, meri, fungu, makagrin
under warterline	anawra, grinati, morabukeya, walaba, basraloksi, fungu, popo-ati, yamboka, tonka, eigron-manbarklaki, wetilo-abi, kwatapatu, pintobortri

Utilization	Timber species
15. Marquetry and fancy articles	loksi, bortri, busitamarin, kunatepi, letre-udu, popo-ati, satin udu, rosu-udu, isri-ati
16. Millwork / carpentry	
doors, window and doorframes	basraloksi, krapa, gronfolo, pisi, wana, sedre, redi-loksi, redikabisi, makakabisi, gerikabisi, kopi, sali, broinati, pakuli, kromanti kopi, busi-amandra, gindja, dakama, neku-udu
17. Musical instruments	sumaruba, sedre, kaner'ati, popo-ati, bortri, isri-ati, kunatepi
18. Railway construction	
crossties / sleepers	grinati, mora, morabukeya, bortri, bofru-udu, sura-danni, kopi, wetilo-abi, kwatapatu, pintobortri, fungu, mataki, gindja-udu, busi-amandra, gerikabisi
19. Utility poles / posts	broinati, manbarklaki, walaba, grinati, bortri, pinus (impreg.), isri-ati, yamboka
20. Veneer and plywood	
deck and decorative veneer	krapa, lika-udu, sopo-udu, barmani, sedre, kopi, meri, rediloksi, popo-ati, babun, pisi, sumaruba, wana, kurali, tonka, suradanni, srebebe
plywood	ingipipa, tingimoni (core), busi-amandra, kwari, sura-danni, prokoni, srebebe, gubaya (core), kaiman udu, pisi, wana, kokriki, dukali, pakuli, sumaruba, moro-toto (core), okro-udu (core), mataki, gronfolo, babun, pinus, possentri

APPENDIX V - Alphabetical order of Timber species.

Timber species	Trade name	Species number
Agrobigi	Faveira bengue	18
Anawra	Kauta / Anaoura	48 b
Arumata	Aromata	85
Babun	Babun / Virola	07
Babunwalaba	Wallaba	12
Barmani	Baromalli	56
Basraloksi	Angelique	01
Blakakabisi	Sucupira	28
Blakalo-udu	Moraballi	46 a
Bergibebe	Saboarana	62
Bergigronfolo	Mandio	02 a
Bergimanbarklaki	Kakaralli	15 a
Bergi umanbarklaki	Matá-matá	15 c
Bofru-udu	Dukuria	66
Bortri	Macaranduba	49
Broinati	Wacapou	20
Busi-amandra	Fukadi / Tanibuca	68
Busimaumau	Paineira	34 a
Busikasju	Espave	33
Busikatun	Yankomini	34
Busitamaren	Angelim pintado	60
Dakama	Fava-vermelha	77
Donsedre	Cedrorana	53
Dukali	Amapa	35
Dyubortri	Limonaballi / Abiurana	76
Eigron-bebe	Bebe / Sangre	79
Eigron-babun	Babun / Virola	06
Eigron-gronfolo	Mandio / Quaruba	02
Eigron-manbarklaki	Kakaralli	16
Eigron-umanbarklaki	Kakaralli / Balibon	15 b
Fungu	Farsha / Bois gaulette	48 a
Gedu	Djedu / Kaditiri	50
Gerikabisi	Arisauro	22
Gindja-udu	Fukadi	94
Grinati	Ipe	39
Gubaja	Gobaja	29
Inginoto	Paranut	91
Ingipipa	Tauarí	14
Isri-ati	Bannia / Wamara	63

Timber species	Trade name	Species number
Jeturiwalaba	Wallaba	13
Kaneri-udu	Preciosa / Silverballi	26
Kaiman-udu	Warakairo / Pau-Jacaré	57
Kasaba-udu	Morototo	38
Kaw-udu	Tatajuba	75
Katun-udu	Cotton wood / Guacimo	99
Kimboto	Abiu	98
Kokriki	Tento	82
Kopi	Cupiuba / Kopi	05
Krabasi-udu	Nargusta	69
Krapa	Andiroba	08
Kromantikopi	Araracanga	61
Kunatepi	Trebol	70
Kurali	Santa Maria	84
Kwatakama	Fava-bolata	93
Kwatapatu	Sapucaia	54
Kwateri	Kwateri	15 d
Kwepi	Kauta	48
Letr'udu	Letterwood	51
Lika-udu	Inyak	74
Loksi	Courbaril / Jatoba	30
Makagrin	Warakuri	40 a
Makakabisi	Angelim	71
Makakrapa	Pitomba	87
Manbarklaki	Mata mata	15
Manni	Manniballi / Marupa	45
Mataki	Mani	44
Mawsikwari	Jaboti	04
Meri / Blakaberi	Chanul	17
Mira-udu	Formigueira	81
Mora	Mora	42
Morabukeya	Morabukea	43
Morototo	Morototo	37
Neku-udu	Tento	83
Okro-udu	Kobe	23
Pakuli	Bacuri / Pakuri	41
Pegrekupisi	Envira	67
Pikinmisiki	Timborana	95
Pintobortri	Abiuranta	64
Pinus / Pisping	Caribbean pine	90
Pisi	Canelo / Louro	25
Popo-ati	Amarante	47

Timber species	Trade name	Species number
Possentri	Hura / Acacu	72
Pritiyari	Bois noyer	96
Redifungu	Burada / Farinha	36
Redikabisi	Angelin	21
Rediprokoni	Inga	58
Redisali	Sali	09
Rosu-udu	Pau rosa	97
Satén-udu	Satine	52
Sawari	Piquia	89
Sedre	Cedro	31
Snek-udu	Hubaballi / Snakewood	32
Sopo-udu	Angelino / Huruasa	73
Srebebe	Ucuhubarana	88
Sumaruba	Marupa / Simaruba	10
Suradanni	Napo / Suradan	86
Swietbonki	Inga-chichi	100
Tamarenprokoni	Assao	59
Tingimoni	Amesclao / Ulu	80
Tingimoni / Kurakai	Kurokai	27
Tonka	Cumaru	78
Upru-udu	Copaiba	92
Wanakwari / Wetikwari	Quaruba	03 a
Walaba	Wallaba	11
Wana	Louro vermelho	24
Watrakwari	Kwari	03 b
Wetilo-udu	Apixuna	46
Wetilo-abi	Wirimiri	55
Wiswiskwari / Redikwari	Quaruba	03 a
Yamboka	Asepoko / Abiu	65
Zwampupanta	White tabebuia	40

APPENDIX VI - Forest Authority and Management Institutions.

- Ministry of Natural Resources and Energy - NHE
  Mr.Dr. J. de Mirandastraat # 13-15
  Paramaribo - Suriname
  Telephone : (+597) 47 46 66 / 47 34 28 / 41 01 60
  Fax : (+597) 47 29 11
  E-mail : Min NH@c.q-link.sr

- Foundation for Forest Management and Production Control - SBB
  Dr. M.L. Luther Kingweg # 38
  Paramaribo - Suriname
  Telephone : (+597) 48 31 31
  Fax : (+597) 48 30 51
  E-mail : SBBSUR@SR.NET

- Suriname Forest Service - LBB
  Mr. Cornelis Jongbawstraat # 10-14
  Paramaribo - Suriname
  Telephone : (+597) 47 43 46 / 47 94 31
  Fax. : (+597) 41 02 56
  E-mail : LBBNB@SR.NET

- Centre for Agricultural and Forestry Research in Suriname - CELOS
  Leysweg # 14
  Paramaribo - Suriname
  Telephone : (+597) 49 07 89 / 49 08 89 / 49 01 28
  Fax : (+597) 49 80 69
  E-mail : CELOS@SR.NET

APPENDIX VII - Main Sawmills, Timber Exporters / Forest Exploitation Society *

No.	Company name	Address	Telephone	Fax/Ref.
01	Amazone Handel en Industrie Ondern. NV	Duisburglaan # 31	462125	404288
02	ANCO Houtzagerij	Meerzorg Oost-Westverbinding # 93	0354112	0354112
03	Ballaydin J. en Co.	Wayambostraat # 18	08850290	
04	Bhagwandin P.	La Recontre 1e zijstraat # 115	08802007	
05	Boeng Oedoe Houthandel en Houtzagerij NV	Saramaccadoorsteek/Industrieweg # 41	403640	402820
06	Bosmij N.V.	Verl. Duisburglaan # 18	465341	465341
07	Bruch T.E.	Menckendam # 109	481059	
08	Brunswijck J.A.	Bungalowpark # 94	580327	
09	Bruynzeel Suriname Houtmaatschappij NV	Slangenhoutstraat # 1	403811	402304
10	De Eenheid Houthandel N.V.	Duisburglaan # 7	471782	
11	De Energie Zaagmolen	Kleine Saramaccastraat # 23	411243	
12	Dhanes R. Houthandel NV	Commissaris Weytingweg # 409	0330327	
13	Durga R. Machinale Houtverwerkingsbedrijf	Sir Winston Churchillweg # 173 - Wanica	481148	
14	ELHACO (Leysner D.W.)	Beryaja terrein weg naar Domburg	312817/8822100	
15	Goelab H.M.I.	Toekomstweg # 74	482037	
16	Goelab J.	Toekomstweg # 74	482741	
17	Harry's Sawmill and Lumber Supply	Clarapolder - Nickerie	804562	804506
18	Hira P. Houtzagerij	Voorland Waldeck # 7 - Nickerie	0231475	0232190
19	Hout NV (VABI)	Saramaccadoorsteek # 20	481540	480391
20	Indian Brothers NV	De Goede Verwachting # 6	482200	497639
21	Jagernath en Co.	Sir Winston Churchillweg # 1088	0370304	
22	Jaipal A.	Tout Lui Faut br. 19	0312590	
23	Jaipal J.	Anniestraat # 97	412072	
24	Jaipal S.	Papajastraat # 6	482142	
25	Komis D.	Quamaboweg # 1	481296	
26	Loeloe Zaagmolen NV	Sir Winston Churchillweg # 769 - Wanica	804089	
27	Mohamed Ali	Ramdienweg # 18	480614	
28	Mohan R.	Pater Weidmanstraat # 82	453966	
29	Nationaal Handel en Industrie Ondern. NV	Uitkijk - Saramacca	0328078	
30	New Life	Duisburglaan # 9	497052	
31	Nooitgedacht Houtzagerij NV	Duisburglaan # 3	497384	499485
32	Optiwood N.V.	Zwartenhovenbrugstraat # 251	472464	471218
33	Prem Houtzagerij NV	Voorland Longmay # 31 - Nickerie	0236100	
34	Ramgoelam Houthandel NV	Nw. Weergevondenweg # 7	0821194	
35	Rio Timber International NV	Helena Cristinaweg # 166	0368412	0368411
36	Rudi Fantjo en Co.	Afobakka	08866702	
37	Rudisa Houtmij N.V.	M.L. Kingweg	372233	
38	Sedney S.	Stentorstraat # 3	455030	
39	Sewsankar Ramcharan Houtzagerij	Boonackerpolder # 3	0236039	
40	Shaik Sultan Mohamed Zagerij	G.G. Maynardstraat # 47 - Nickerie	0231364	0232494
41	Shaik Sultan S.F. Zagerij	Fredericiweg - Nickerie	0231143	
42	SIHO - Nazir	Commissaris Weytingweg # 299	0330054	
43	Soekhoe Houtzagerij	Tout Lui Fautkanaalweg # 45	483378	
44	Suhim NV	Wayambo - Sipaliwini	473512	472473
45	Suhoutex	Duisburglaan # 15	499413	499413
46	Toeval Zaagmolen NV	Zwartenhovenstraat # 257	472800	410788
47	Travasie Lumber Enterprise	Beekhuizenweg # 7 - Livorno	480158	480158
48	Tropical Timber Company	Lijnweg # 431 - Moengo	841500	841122
49	Tropical Wood Company	Leiding 20 # 17	0350160/350155	
50	Wijma Suriname NV	Livorno # 1	486972/ 410563	486972

* Forest Exploitation Society – ABE
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