

Some Useful Derivation and Application of Diameter Growth of Commercial Dipterocarp in the Basilan Working Circle

(From the first periodic growth data taken from six sample plots)*

by

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Growth is a basic data needed for determining the yield in a working circle to regulate the cut on a sustained yield basis. The table presented here summarizes some useful figures from the data gathered in six sample plots (one-hectare and 2-1/4-hectare plots established in 1950 in a 22-year old logged-over by steam donkeys, and two 1-hectare plots established in 1950 just after logging by tractors) in the southwestern. These plots were remeasured in 1954 and central western portions of the Basilan

Working Circle. The derivations are briefly explained to serve as a simple guide in their use or preparation of similar tables for other forest tracts.

Column (2)—These are the periodic annual growth in diameter (dbh or dab) in centimeters, reckoned at diameter class when first measured in 1950. These figures are derived from smoothed free-hand curves. From seedling to 35 cm. diameter class, the curve for plots established just after logging was used; from 40 cm. diameter class and over, the curve for plots established 22 years after logging was used.

$$PAI = \frac{\text{Total diameter increment of trees in dia. class}}{(\text{No. of trees}) (\text{No. of Yrs. between measurements})}$$

Example: For diameter class 30—

Total diameter increment: 41.40
No. of trees considered: 15

$$PAI = \frac{15 \times 4}{41.40} \quad \begin{array}{l} .69 \text{ cms. actual, which} \\ \text{was plotted; from smoothed,} \\ \text{free-hand curve, .72 cms.} \end{array}$$

Column (3), Years in class.—(For seedling to 5 cm.-dia. class, 11.4 years: this was derived by extending the curve to the zero line of the diameter class ordinate).

Column (4), Age at diameter class.—Years from seedling to a certain diameter class (Col. 3) are added and the sum is the estimated age at that diameter class.

Example: To compute for years a 30-cm. tree stays in this class until it "graduates" to the next diameter class:

$$\text{Years in class} = \frac{\text{Diameter class interval, 5 cms.}}{PAI, .72} = 6.94 \text{ years}$$

* Established in 1950 by Foresters I. Achocoso, F. Asiddao, L. Diaz and R. Valbuena; remeasured in 1954 by Foresters M. Reyes, L. Diaz and Rangers H. Esteves and J. Cruz.

Thus, age for 20 cm. class tree is found by summing up seedling—11.4, 5 cm. class—9.09, 10 cm. class—8.62, 15 cm. dia. class—8.06 and 20 cm. dia. class—7.58, which is 44.75 years.

Column (5), Diameter reached after 5, 10, etc. years. Ex.: What will be the approximate diameter of a residual 30 cm. dbh (Col. 1) 30 years after logging? Add consecutively years in class (Col. 3) from ~~30~~ ¹ ~~class~~ down the line until a sum nearest to 30 years is reached; interpolate for year difference and add the centimer so found to the next diameter class. The sum is the diameter reached. Thus, sum of added years in class (Col. 3) from 30 cm. class nearest 30 years is 29.64 which is at line for 50 cm. class. The diameter (approx.) reached is the next line down, or 55 centimeters. Difference of 30 and 29.64 years is .36. .36 of 1.18 cm. increment rate at 55 cm. (Col. 2) is .42 cm. Adding .42 cm. to 55 cm. gives 55.42 cm.

Column (6), Number of years to reach 50, 60 and 70 cm. diameter.—

Ex.: How long will it take a 30 cm. (Col. 1) residual to reach 60 centimeters in diameter? Add years in class (Col. 3) from 30 cm. class line until 35 cm. class line. It is 33.88 years.

Some application of the derived figures will be shown in the next issue.

George Bernard Shaw was having lunch in a London restaurant one day, when an orchestra struck up a particularly noisy tune. Without any intermission, it followed with another, Shaw called the head waiter and asked,

"Does the orchestra play anything on request?"

"Yes sir," the man replied, "Is there something you would like them to play?"

"There is," said Shaw, "Ask them to play dominoes until I have finished eating."

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<p style="text-align: center;">Yu Kim Chiong</p> <p style="text-align: center;">Balud, Masbate</p> <p style="text-align: center;"><i>Dried Fish Dealer and General Merchant</i></p>	<p style="text-align: center;">Estelita O. Pasamba</p> <p style="text-align: center;"><i>O. T. Licensee</i></p> <p style="text-align: center;">Atimonan, Quezon</p>

GROWTH FIGURES DERIVED FROM SAMPLE PLOTS IN LOGGED-OVER AREAS IN THE BASILAN WORKING CIRCLE
(FOR COMMERCIAL DIPTEROCARPS*)

(1) Diameter Class (d.b.h. or d.a.b.)	(2) Perio- dic Annual Incre- ment (Cm.)	(3) Years in Class	(4) Age at Dia. Class (Years)	(5) Diameter (Centimeters) Reached After																	(6) Number of Years to Reach						
				5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	Diameter class: 50 cm. 60 cm. 70 cm.			
				Y E A R S																							
Seedling		11.4	11.40		6.98	9.73	12.62	15.55	18.65	21.87	25.17	29.62	32.16	35.78	39.48	43.58	48.13	53.24	58.97	65.29	72.26	79.70	76.97	85.88	93.44		
5	.55	9.09	20.49	7.75	10.53	13.43	16.42	19.52	22.80	26.14	29.59	33.17	36.82	40.59	44.74	49.46	54.74	60.67	67.21	74.29	81.87	89.78	98.03	65.57	74.48	82.04	
10	.58	8.62	29.11	12.91	15.86	18.96	22.19	25.51	28.96	32.51	36.15	39.85	43.98	48.59	53.77	59.54	65.96	72.97	80.45	88.33	96.51	104.99	56.48	65.39	72.95		
15	.62	8.06	37.17	18.10	21.28	24.58	28.01	31.52	35.13	38.83	42.84	47.28	52.29	57.92	64.13	70.97	78.35	86.12	95.87	102.63				47.86	56.77	64.33	
20	.62	7.58	44.75	23.30	26.67	30.12	33.72	37.39	41.23	45.44	50.21	55.63	61.65	68.26	75.42	83.07	91.03	99.33						39.80	48.71	56.27	
25	.69	7.25	52.00	28.45	31.98	35.60	39.30	43.37	47.89	51.98	58.67	64.95	71.96	79.32	87.14	95.27	104.33							32.22	41.13	48.69	
30	.72	6.94	58.94	33.60	37.26	41.09	45.28	50.03	55.42	61.43	68.03	75.17	82.81	90.75	99.05									24.97	33.88	41.44	
35	.74	6.75	65.69	38.70	42.70	47.12	52.11	57.71	63.92	70.73	78.10	85.84	93.94	102.34										18.03	26.94	34.50	
40	.83	6.02	71.71	44.15	48.78	53.98	59.78	66.23	73.26	80.76	88.65	96.85												11.28	20.19	27.75	
45	.95	5.26	76.97	49.75	55.08	61.07	67.63	74.74	82.36	90.28	98.56													5.26	14.17	21.73	
50	1.07	4.67	81.64	55.39	61.40	67.99	75.12	82.76	90.71	99.00		119.93														8.91	16.47
55	1.18	4.24	85.88	60.97	67.55	74.64	82.25	90.16	98.44																	4.24	11.80
60	1.28	3.91	89.79	66.49	73.54	81.06	88.95	97.17				124.66															7.56
65	1.37	3.65	93.44	71.96	79.38	87.21	95.34	103.80																			3.65
70	1.45	3.45	96.89	77.34	85.05	93.12	101.49																				
75	1.51	3.31	100.20	82.63	90.57	98.86																					
80	1.56	3.21	103.41	87.86	96.03	104.50																					
85	1.60	3.13	106.54	93.07	101.44																						
90	1.64	3.05	109.59	98.28																							
95	1.68	2.98	112.57	103.45																							
100	1.71	2.92	115.49																								

* Tangile, Almon, White Lauan, Mayapis, Kalunti, Manggasinoro. (Nato also included).
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PRICES OF LUMBER (DIPTEROCARP SPECIES ONLY)

AVERAGE MONTHLY WHOLESALE PRICE (BY PRODUCERS)
PER THOUSAND BOARD FEET OF LUMBER (ROUGH) FOR
PERIOD FROM JULY, 1955 TO MAY, 1956

AVERAGE MONTHLY WHOLESALE PRICE PER THOUSAND
BOARD FEET OF LUMBER (ROUGH) FOR THE PERIOD
FROM JULY, 1955 TO MAY, 1956.

AVERAGE MONTHLY RETAIL PRICE PER THOUSAND BOARD
FEET OF LUMBER (ROUGH) FOR THE PERIOD
FROM JULY, 1955 TO MAY, 1956.

MONTH	Apitong	R. L.	Tang.	Palo.	W. L.	Maya.	Apitong	R. L.	Tang.	Palosapis	W. L.	Guijo	Yakal	Narra	Apitong	R. L.	Tang.	Palo.	W. L.	Guijo	Yakal	Narra
1955																						
July	P175	P200	P200	P175	P175	P175	P182	P240	P245	P182	P210	P305	P405	P600	P220	P260	P265	P200	P220	P335	P435	P650
August	175	210	210	175	175	175	177	197	220	200	195	330	373	600	205	243	238	212	215	346	450	650
September	165	200	200	165	165	165	176	206	226	186	203	320	376	600	213	241	241	215	199	346	447	650
October	178	210	210	178	175	175	177	200	220	190	190	326	376	600	207	247	247	207	210	245	447	650
November	175	210	210	175	175	175	185	215	227	193	201	339	390	600	210	250	245	210	220	244	450	650
December	175	210	210	175	175	175	181	230	215	195	192	330	375	600	218	250	238	220	217	347	453	650
1956																						
January	180	210	210	180	180	180	200	222	217	205	195	325	428	600	221	249	249	227	221	348	458	650
February	180	210	210	180	180	180	195	218	218	195	195	323	424	650	224	252	252	221	218	249	454	650
March	185	220	220	185	185	185	218	227	220	196	202	331	432	650	225	250	249	220	219	348	452	652
April	185	220	220	185	185	185	195	216	217	202	185	320	425	650	220	247	247	226	215	345	449	650
May	185	220	220	185	185	185	195	216	217	202	185	320	425	650	220	247	247	226	215	345	449	650

Note: The data contained herein are gathered from sources believed to be reliable.

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and Sawmills