

## Appendix C. Maintenance Requirements at Different Phases of Trees' Life-cycle

***Seed Propagation***

***Type of Seed (N / F)***

**(N)** - Naked seed is the seed borne by Gymnosperms woody plant (non-flowering seed plants) such as cedar, pine, redwood, hemlock, and firs. These seeds are best to be sowed in late winter. Giving the seeds a short cold stratification can aid in germination rate.

**(F)** - Fleshy seed is the seed enclosed in a protective covering called a fruit that borne by Angiosperms plants. The fleshy fruit needs to removed as much as possible and wash with fresh water. If the fruit is a seed pod, allow the pods to split open naturally by laying them in a semi-shaded area.

***Seed Pre-treatment (0 / +1 / - )***

**(0)** – Yes, pretreatment is required for seed immediately after harvesting before sowing.

Pretreatment may include Mechanical treatment, Water treatment, Temperature treatment, Chemical treatment in order to improve germination rate, accelerate the germination process and improve seed growth

**(+1)** – Yes, pretreatment is required for seed within one year of harvesting before sowing

Pretreatment may include, Mechanical treatment, Water treatment, Temperature treatment, Chemical treatment in order to improve germination rate, accelerate the germination process and improve seed growth

**(-)** – No, pretreatment is not required.

***Non-Seed Propagation***

***Cutting (Y / - )***

**(Y)** – Yes, propagation through cutting is viable

**(-)** – No, propagation not viable by cutting or unknown.

***Layering (Y / - )***

**(Y)** – Yes, propagation through layering is viable

**(-)** – No, propagation not viable by layering or unknown.

***Grafting (Y / - )***

**(Y)** – Yes, propagation through grafting is viable

**(-)** – No, propagation not viable by grating or unknown.

***Thinning out (Y / - )***

**(Y)** – Yes, thinning out required for small seeds with direct sowing only

**(-)** – No, thinning out is not required or unknown.

***Tree Staking (L / M / H)***

To stabilize newly planted tree, sometimes tree staking is used to protect young trees from mechanical damage and to reduce vandalism and theft. Tree staking needs to be checked and adjusted regularly.

**(L)** – Low maintenance – tree staking is not required

**(M)** - Medium maintenance – tree staking is required for one growing season;

**(H)** - High maintenance – tree staking is required more than one growing season.

***Pest/Disease Control (L / H)***

**(L)** - Low maintenance - Pest/disease control inspection is required every six months.

Pesticides should be applied if necessary.

**(H)** - High maintenance - Pest/disease control inspection is required every three months.

Pesticides should be applied if necessary.

***Formative Pruning (L / M / H)***

**(L)** - Low maintenance – formative pruning is not required (tree form with single main leader naturally)

**(M)** - Medium maintenance – light formative pruning is required (Tree tends to develop co-dominant leaders)

**(H)** – High maintenance – moderate formative pruning is required. (Tree tends to develop more than 2 nos. of multiple leaders)

***Irrigation (L / M / H)***

**(L)** - Low maintenance – Low demand of irrigation. Tree can tolerate dry spell  $\geq 2$  months without supplementary irrigation

**(M)** - Medium maintenance - Medium demand of irrigation. Tree can tolerate  $\geq 1$  month without supplementary irrigation

**(H)** - High maintenance– High demand of irrigation. Tree can tolerate  $< 1$  month without supplementary irrigation

**Fertilization**

**Type (N / P / K / Mg)**

Emphasis on particular nutrient in fertilizer ratio.

**(N) – Nitrogen**

**(P) – Phosphorous**

**(K) – Potassium**

**(Mg) - Magnesium**

**Period of Application (L / F)**

**(L) – apply fertilizer when leaves are budding, usually early spring**

**(F) – apply fertilizer before flower budding**

**Tree Inspection & Risk Assessment (L / H)**

**(L) - Low maintenance – annual inspection for tree with slow to moderate growth rate / trees with higher wind tolerance / small size**

**(H) - High maintenance – inspection at every 6 months for tree with a fast growth rate / large tree with low wind tolerance / tree with weaker root system**

**Tree Protection (Y / - )**

**(Y) Yes, tree protection is required due to large tree with low wind tolerance / tree with weaker root system**

**(-) No, tree protection is not required due to higher wind tolerance / small tree size / lighter foliage density**

**Tree Pruning**

**(L) - Low maintenance - slow growing tree species seldom require pruning**

**(M) - Medium maintenance - moderate growers do not often require pruning**

**(H) - High maintenance - fast growers need to be pruned often.**

**Roots Management (L / M / H)**

**(L) - Low maintenance – tree seldom require root or aerial root pruning**

**(M) - Medium maintenance - tree do not often require root or aerial root pruning**

**(H) - High maintenance - tree often require root or aerial root pruning.**

Appendix C – Maintenance Requirements at Different Phases of Trees' Life-cycle

No.	Scientific Name	Chinese Name	Life cycle pattern (year)				Maintenance Operations at Different Stages of the Life-cycle																																	
			Propagation to Seedling		Sapling to Semi-mature		Mature		Senescence		Propagation to Seedling					Sapling to Semi-mature					Mature					Senescence														
			Seed Propagation		Non-Seed Propagation		Cutting		Layering		Grafting		Thinning out		Tree Staking		Pest/Disease Control		Formative Pruning		Irrigation		Fertilisation		Period of Application		Tree Inspection & Risk Assessment		Tree Protection		Pest/Disease Control		Tree Pruning		Fertilisation		Roots Management		Tree Inspection & Risk Assessment	
			Type of Seed	Seed Pre-treatment	Cutting	Layering	Grafting	Thinning out	Tree Staking	Pest/Disease Control	Formative Pruning	Irrigation	Type	Period of Application	Tree Protection	Pest/Disease Control	Tree Pruning	Type	Period of Application	Roots Management	Tree Inspection & Risk Assessment	Tree Protection	Pest/Disease Control	Tree Pruning	Fertilisation	Type	Period of Application	Roots Management	Tree Inspection & Risk Assessment											
1	<i>Adenanthera microsperma</i>	海紅豆, 孔雀豆	1-4	5-8	9-50	51-60	F	1+	-	-	-	-	L	L	M	L	N	L	L	L	L	-	L	L	N	L	L	L	L	L	L	L	L	L	L					
2	<i>Arenga pinnata</i>	砂糖椰子, 桄榔	1-3	4-15	16-40	41-50	F	0	-	-	-	-	M	L	L	M	N,P,K,Mg	L	L	-	L	L	N,P,K,Mg	L	L	L	L	-	L	L	N	L	L	L	L					
3	<i>Albizia julibrissin</i>	合歡	1-4	5-8	9-40	41-50	F	1+	Y	-	-	Y	M	L	M	M	N	L	H	Y	L	M	N	L	H	H	Y	L	M	N	L	M	H							
4	<i>Aporosa dioica</i>	銀柴, 大沙葉	1-4	5-8	9-50	51-60	F	0	-	-	-	-	M	L	M	L	N	L	L	-	L	M	N	L	L	L	-	L	M	N	L	L	L							
5	<i>Bixa orellana</i>	紅木	1-4	5-8	9-40	41-50	F	1+	Y	-	-	-	M	L	L	M	P	F	H	Y	L	L	P	F	L	L	Y	L	L	N	L	L	H							
6	<i>Brachychiton acerifolius</i>	槭葉蘋婆	1-3	4-8	9-70	71-80	F	1+	Y	-	Y	-	L	L	H	L	P	F	L	-	L	H	P	F	H	L	-	L	M	N	L	M	L							
7	<i>Bridelia tomentosa</i>	土蜜樹, 邊仔仔	1-3	4-8	9-40	41-50	F	0	-	-	-	-	L	L	H	M	N	L	H	Y	L	H	N	L	L	L	Y	L	M	N	L	L	H							
8	<i>Caesalpinia ferrea</i>	巴西鐵木	1-4	5-10	11-50	51-60	F	1+	Y	-	-	-	M	L	H	M	N,P,K	L	H	-	L	H	N,P,K	L	H	L	-	L	M	N	L	M	H							
9	<i>Carallia brachiata</i>	竹節樹	1-4	5-8	9-50	51-60	F	0	Y	-	-	-	L	H	M	M	N	L	L	-	H	M	N	L	M	L	-	H	M	N	L	M	L							
10	<i>Cassia x nealiae</i>	彩虹雨樹	1-4	5-8	9-50	51-60	F	1+	-	-	-	-	M	L	M	M	P	F	L	-	L	H	P	F	H	L	-	L	M	N	L	M	L							
11	<i>Cassia javanica var. indochinensis</i>	節果決明	1-4	5-8	9-50	51-60	F	1+	Y	-	-	-	M	L	M	M	P	F	L	-	L	H	P	F	H	L	-	L	M	N	L	M	L							
12	<i>Celtis timorensis</i>	假玉桂, 樟葉朴	1-4	5-8	9-50	51-60	F	0	Y	-	-	-	M	H	M	L	N	L	L	-	H	M	N	L	M	L	-	H	M	N	L	M	L							
13	<i>Choerospondias axillaris</i>	南酸棗, 酸棗	1-3	4-8	9-60	61-80	F	0	Y	-	-	-	M	L	H	M	P	F	H	Y	L	H	P	F	L	H	Y	L	M	N	L	L	H							
14	<i>Chukrasia tabularis</i>	麻棟	1-4	5-8	9-50	51-60	F	1+	-	Y	-	Y	L	L	M	M	N	L	L	-	L	M	N	L	H	L	-	L	M	N	L	M	L							
15	<i>Cinnamomum parthenoxylon</i>	黃樟	1-4	5-8	9-70	71-80	F	0	-	-	-	-	L	L	L	M	P	F	L	-	L	L	P	F	M	L	-	L	L	N	L	M	L							
16	<i>Cleistocalyx nervosum</i>	水翁	1-4	5-8	9-50	51-60	F	0	-	-	-	-	L	L	L	M	P	F	L	-	L	L	P	F	M	L	-	L	L	N	L	M	L							
17	<i>Cordia dichotoma</i>	破布木	1-3	4-10	11-40	41-60	F	1	Y	-	-	-	M	L	M	M	N,P,K	L	L	-	L	H	N,P,K	L	M	L	-	L	M	N,P,K	L	M	L							
18	<i>Crateva trifoliata</i>	鈍葉魚木	1-3	4-10	11-50	51-60	F	0	-	-	-	-	L	L	H	M	P	F	L	-	L	H	P	F	M	L	-	L	M	N	L	M	L							
19	<i>Crateva unilocularis</i>	樹頭菜	1-3	4-10	11-50	51-60	F	0	-	-	-	-	L	L	H	L	P	F	L	-	L	H	P	F	L	L	-	L	M	N	L	L	L							
20	<i>Cratoxylum cochinchinense</i>	黃牛木	1-4	5-10	11-50	51-60	F	1+	Y	-	-	-	L	L	H	M	P	F	L	-	L	M	P	F	L	L	-	L	M	N	L	L	L							
21	<i>Dalbergia assamica</i>	南嶺黃檀	1-3	4-10	11-70	71-80	F	1	-	-	-	-	L	H	H	M	N	L	H	Y	H	H	N	L	L	H	Y	H	M	N	L	L	H							
22	<i>Diospyros morrisiana</i>	羅浮柿	1-3	4-8	9-40	41-50	F	1	Y	-	Y	-	M	L	H	M	NPK+C <sub>aO</sub>	L	H	Y	L	H	NPK+C <sub>aO</sub>	L	M	L	Y	L	M	NPK+C <sub>aO</sub>	L	L	H							
23	<i>Dracontomelon duperreanum</i>	人面子	1-4	5-8	9-50	51-60	F	0	-	-	-	-	L	L	L	M	P	F	L	-	L	L	P	F	H	L	-	L	L	N	L	M	L							
24	<i>Ehretia longiflora</i>	長花厚殼樹	1-5	6-10	11-50	51-60	F	0	-	-	-	-	M	L	M	M	N	L	L	-	L	M	N	L	M	L	-	L	M	N	L	L	L							
25	<i>Elaeocarpus apiculatus</i>	長芒杜英, 尖葉杜英	1-4	5-8	9-50	51-60	F	0	Y	-	-	-	M	H	M	L	P	F	H	Y	H	L	P	F	L	L	Y	H	L	N	L	L	H							
26	<i>Elaeocarpus chinensis</i>	中華杜英	1-4	5-8	9-50	51-60	F	0	Y	-	-	-	M	H	M	L	P	F	H	-	H	L	P	F	L	L	-	H	L	N	L	L	H							
27	<i>Elaeocarpus hainanensis</i>	水石榕	1-4	5-8	9-50	51-60	F	0	Y	-	-	-	L	L	M	L	P	F	L	-	L	H	P	F	L</															

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34	<i>Ficus subpisocarpa</i>	筆管榕	1-3	4-10	11-70	71-80	F	0	Y	Y	Y	Y	M	L	M	L	N	L	L	H	L	-	L	M	N	L	M	L														
35	<i>Ficus variegata</i>	青果榕	1-3	4-10	11-70	71-80	F	0	Y	Y	Y	Y	M	L	M	L	N	L	L	H	H	Y	L	M	N	L	M	H														
36	<i>Ficus virens</i>	大葉榕,黃葛樹	1-3	4-10	11-80	81-100	F	0	Y	Y	Y	Y	M	H	M	L	N	L	H	Y	H	H	N	L	H	L	Y	H	M	N	L	H	H									
37	<i>Garcinia subelliptica</i>	菲島福木	1-3	4-10	11-80	81-100	F	0	-	-	-	-	L	L	M	N,P,K	L	L	L	M	N,P,K	L	L	L	-	L	L	N	L	L	L	L	L									
38	<i>Hyophorbe lagenicaulis</i>	酒瓶椰子	1-3	4-10	11-50	51-60	F	0	-	-	-	-	L	H	L	M	K	L	L	-	H	L	K	L	L	L	-	H	L	N	L	L	L									
39	<i>Ilex rotunda var. microcarpa</i>	小果鐵冬青	1-5	6-10	11-60	61-70	F	0	-	-	-	-	L	H	L	L	P	F	L	-	H	L	P	F	M	L	-	H	L	N	L	L	L									
40	<i>Juniperus chinensis 'Kaizuka'</i>	龍柏	1-3	4-10	11-40	41-50	N	0	-	-	-	-	L	H	L	L	N	L	L	-	H	L	N	L	L	L	-	H	L	N	L	L	L									
41	<i>Khaya senegalensis</i>	非洲棟	1-3	4-10	11-70	71-80	F	1+	-	-	-	-	L	L	M	L	N,P,K	L	L	-	L	M	N,P,K	L	L	L	-	L	M	N	L	L	L									
42	<i>Koelreuteria elegans subsp. formosana</i>	台灣欒樹	1-3	4-10	11-50	51-60	F	1	-	-	-	-	M	L	L	L	P	F	H	Y	L	M	P	F	L	L	Y	L	M	N	L	L	H									
43	<i>Liquidambar formosana</i>	楓香	1-4	5-10	11-70	71-80	F	1+	-	-	-	-	L	L	H	M	N	L	L	-	L	H	N	L	H	L	-	L	M	N	L	M	L									
44	<i>Litsea glutinosa</i>	潺槁樹	1-5	6-10	11-60	61-80	F	0	-	-	-	-	M	L	M	L	N	L	L	-	L	M	N	L	M	L	-	L	M	N	L	L	L									
45	<i>Litsea monopetala</i>	假柿木薑子, 假柿樹	1-5	6-10	11-50	51-60	F	0	-	-	-	-	M	L	M	M	N	L	L	-	L	M	N	L	M	L	-	L	M	N	L	L	L									
46	<i>Machilus breviflora</i>	短序潤楠, 短花楠	1-5	6-10	11-60	61-70	F	0	-	-	-	-	L	L	L	L	P	F	L	-	L	M	P	F	M	L	-	L	M	N	L	M	L									
47	<i>Machilus chekiangensis</i>	浙江潤楠	1-5	6-10	11-60	61-70	F	0	-	-	-	-	L	L	L	L	P	F	L	-	L	L	P	F	M	L	-	L	L	N	L	M	L									
48	<i>Machilus chinensis</i>	華潤楠, 香港楠	1-5	6-10	11-60	61-70	F	0	-	-	-	-	L	L	L	L	N	L	L	-	L	L	N	L	M	L	-	L	L	N	L	L	L									
49	<i>Machilus velutina</i>	絨毛潤楠	1-5	6-10	11-60	61-70	F	0	-	-	-	-	L	L	L	L	P	F	L	-	L	L	P	F	M	L	-	L	L	N	L	M	L									
50	<i>Melia azedarach</i>	棟, 苦棟	1-5	6-10	11-40	41-50	F	0	Y	-	-	-	M	L	H	L	P	F	H	Y	L	H	P	F	L	H	Y	L	M	N	L	H	H									
51	<i>Michelia champaca</i>	黃蘭	1-5	6-10	11-70	71-80	F	1+	-	-	-	-	L	L	H	M	P	F	L	-	L	H	P	F	L	L	-	L	M	N	L	L	L									
52	<i>Microcos nervosa</i>	布渣葉	1-5	6-10	11-50	51-60	F	0	-	-	-	-	L	L	H	M	P	F	L	-	L	H	P	F	L	L	-	L	M	N	L	L	L									
53	<i>Nageia nagi</i>	竹柏	1-5	6-10	11-50	51-60	N	0	Y	-	-	-	L	L	M	N	L	L	-	L	L	N	L	M	L	-	L	L	N	L	M	L										
54	<i>Palaquium formosanum</i>	台灣膠木	1-3	4-10	11-40	41-50	F	0	-	-	-	-	L	L	L	M	N,P,K	L	L	-	L	L	N,P,K	L	H	L	-	L	L	N	L	M	L									
55	<i>Peltophorum tonkinense</i>	銀珠	1-5	6-10	11-70	71-80	F	1+	Y	-	-	-	L	L	L	M	P	F	L	-	L	L	-	-	L	L	-	L	L	N	L	M	L									
56	<i>Phoenix dactylifera</i>	海棗, 褐櫚樹	1-5	6-10	11-40	41-50	F	0	-	-	-	-	L	L	L	L	N	L	L	-	L	L	N	L	L	-	L	L	N	L	L	L										
57	<i>Plumeria rubra</i>	雞蛋花, 紅雞蛋花	1-5	6-10	11-80	81-100	F	1+	Y	Y	-	-	M	L	M	M	P	F	L	-	L	M	P	F	L	L	-	L	L	N	L	L	L									
58	<i>Podocarpus macrophyllus</i>	羅漢松	1-5	6-10	11-80	81-100	N	0	Y	Y	-	-	M	L	L	L	N,P,K	L	L	-	L	L	N,P,K	L	M	L	-	L	L	N	L	M	L									
59	<i>Polyalthia longifolia</i>	長葉暗羅	1-5	6-10	11-50	51-60	F	0	Y	Y	-	-	M	L	L	M	N	L	H	-	L	L	N	L	M	L	-	L	L	N	L	M	H									
60	<i>Polyspora axillaris</i>	大頭茶	1-3	4-10	11-40	41-50	F	0	Y	Y	-	Y	L	L	H	M</td																										

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67	<i>Sapium discolor</i>	山烏柏	1-3	4-10	11-40	41-50	F	1+	-	-	-	-	M	L	M	M	P	F	L	-	L	H	P	F	L	L	-	L	N	L	L		
68	<i>Sapium sebiferum</i>	烏柏	1-3	4-10	11-40	41-50	F	1+	Y	-	-	-	M	L	H	M	P	F	L	-	L	H	P	F	H	L	-	L	M	N	L	M	L
69	<i>Schima superba</i>	木荷, 荷樹	1-5	6-10	11-60	61-80	F	1+	Y	-	-	-	L	L	M	L	P	F	L	-	L	M	P	F	M	L	-	L	M	N	L	L	L
70	<i>Senna spectabilis</i>	美麗決明, 美洲槐	1-3	4-15	16-50	51-70	F	1+	-	-	-	Y	M	L	H	M	P	F	H	Y	L	H	P	F	M	L	Y	L	M	N	L	M	H
71	<i>Swietenia mahagoni</i>	桃花心木	1-5	6-15	16-50	51-70	F	1+	Y	-	-	-	L	L	H	M	N,P,K	L	L	-	L	M	N,P,K	L	M	L	-	L	M	N	L	M	L
72	<i>Syzygium cumini</i>	烏墨, 海南蒲桃	1-5	6-15	16-50	51-70	F	0	Y	-	-	-	L	L	M	L	P	F	L	-	L	H	P	F	M	L	-	L	M	N	L	L	L
73	<i>Syzygium hancei</i>	韓氏蒲桃, 紅鱗蒲桃	1-5	6-15	16-50	51-70	F	0	-	-	-	-	L	L	M	L	P	F	L	-	L	M	P	F	M	L	-	L	M	N	L	M	L
74	<i>Syzygium jambos</i>	蒲桃	1-5	6-15	16-50	51-70	F	0	-	Y	Y	-	L	L	M	M	P	F	L	-	L	H	P	F	M	L	-	L	M	N	L	L	L
75	<i>Syzygium levinei</i>	山蒲桃	1-5	6-15	16-50	51-70	F	0	-	-	-	-	L	L	M	L	P	F	L	-	H	M	P	F	M	L	-	H	M	N	L	M	L
76	<i>Thespesia populnea</i>	恒春黃槿, 繖楊	1-5	6-15	16-40	41-60	F	0	Y	Y	-	-	M	L	M	L	N	L	L	-	L	H	N	L	H	L	-	L	M	N	L	M	L
77	<i>Ulmus parvifolia</i>	榔榆	1-5	6-15	16-80	81-100	F	1+	Y	-	-	-	L	L	H	M	N	L	L	-	L	L	N	L	M	L	-	L	L	N	L	M	L
78	<i>Wodyetia bifurcata</i>	狐尾椰子	1-5	6-15	16-50	51-60	F	0	-	-	-	-	M	L	L	M	N,P,K,Mg	L	L	-	L	L	N,P,K,Mg	L	L	L	-	L	L	N	L	L	L
79	<i>Xanthostemon chrysanthus</i>	金蒲桃	1-5	6-15	16-40	41-50	F	1+	Y	-	-	-	M	L	M	M	K	F	L	-	L	M	K	F	M	L	-	L	M	N	L	M	L
80	<i>Zanthoxylum avicinnae</i>	簕欓花椒, 篩欓	1-5	6-10	11-60	61-70	F	0	-	-	-	-	M	L	M	L	P	F	L	-	L	M	P	F	L	L	-	L	M	N	L	L	L