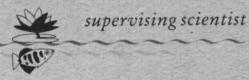
supervising scientist report



Flowering and fruiting phenology of native plants in the Alligator Rivers Region with particular reference to the Ranger uranium mine lease area

Kym Brennan



supervising scientist report 107

Flowering and fruiting

phenology of native

plants in the Alligator

Rivers Region with

particular reference to

the Ranger uranium

mine lease area



Kym Brennan



© Commonwealth of Australia 1996

Supervising Scientist Tourism House, 40 Blackall Street, Barton ACT 2600 Australia

ISSN 1325-1554

ISBN 0 642 24306 9

This work is copyright. Apart from any use as permitted under the Copyright Act 1968, no part may be reproduced by any process without prior written permission from the Supervising Scientist. Requests and inquiries concerning reproduction and rights should be addressed to the Research Project Officer, *eriss*, Locked Bag 2 Jabiru NT 0886.

Views expressed by authors do not necessarily reflect the views and policies of the Supervising Scientist, the Commonwealth Government, or any collaborating organisation.

Printed in Darwin by NTUniprint.

Contents

Abstract	iv
1 Introduction	1
2 Methods	1
2.1 Study sites	1
2.2 Study period	1
2.3 Field methods	1
2.4 Additional data sources	2
2.5 Data storage	2
3 Results and discussion	3
3.1 Herbaceous species	3
3.2 Trees and shrubs	5
4 References	6
Appendix A Flowering and fruiting periods of trees and shrubs	7
Appendix B Flowering and fruiting of grasses	18
Appendix C Flowering and fruiting of non grass herbaceous species	23

Abstract

It is currently agreed that local native plant species will be used to revegetate disturbed sites at the Ranger uranium mine in the Alligator Rivers Region (ARR) of the NT. For many species, seed supplies will not be available commercially and the mining company, or a contractor to it, will need to undertake a seed collection program. Central to the success of an effective seed collection program is knowledge concerning the times of flowering and fruiting of target species. This report gives the flowering and fruiting periods of 288 native plant species which might be considered for use on disturbed sites at Ranger. The species listing includes data from 93 species of trees and shrubs, 39 grass species and 156 species of other herbaceous plants. There was a slight peak in the number of species of trees and shrubs with mature fruit in September. The fruiting periods of most herbaceous species were highly restricted to the months of March and April.

1 Introduction

It is currently agreed that disturbed areas on the Ranger uranium mine lease will be revegetated using native plant species to create assemblages with species compositions and densities similar to those in surrounding natural undisturbed plant communities (SSARR 1990, 59). This indicates the need for revegetation strategies for disturbed sites to establish a considerable diversity of plant species spanning the totality of lifeforms from trees and shrubs to annual herbs and grasses.

To implement such revegetation programs native seed will have to be obtained. However, at Ranger it is unlikely that commercial seed suppliers will be able to provide either the range or the quantity of seed necessary to complete revegetation within the current guidelines. The company, or a consultant to it, will have to undertake a sustained program of seed collection either on its lease or perhaps further afield in Kakadu National Park or Arnhem Land.

Central to the efficiency of a seed collection program is the need for knowledge of the flowering and fruiting periods (ie the phenology) of the range of plants that might be considered useful for revegetation. Very little has been published on the flowering and fruiting patterns of native plants in the Alligator Rivers Region (ARR). Hinz (1990) provides flowering and fruiting periods for 56 species of trees and shrubs from undisturbed vegetation communities near the Nabarlek uranium mine while Bowman et al (1991) report the flowering periods of 13 species of trees and shrubs from a site near Edith Falls south of the ARR. There are no published records of the phenology of herbaceous plants in the ARR. This report provides phenological data for a range of plant species occurring in the Ranger lease area. It also includes phenological information for species on sites elsewhere in the ARR examined during a study of potential natural analogue sites for rehabilitation of the Ranger uranium mine waste rock dump.

2 Methods

2.1 Study sites

The primary data presented in this report were collected during consecutive monthly visits to a set of 18 field sites of 1 ha to 3 ha in area. The locations of these sites are presented in table 1.

2.2 Study period

For the 10 sites, 1 to 10, on the Ranger lease, data were collected throughout a 22 month period from March 1991 to December 1992. The 8 sites on hills, distant from Ranger, were each observed over a 12 month period; sites 12, 13, 14, 17 and 18 from December 1991 to November 1992 and sites 19, 20 and 22 from August 1992 to July 1993.

2.3 Field methods

At each site, during each monthly visit any species in flower or with fruit was noted. Additionally for trees and shrubs, the presence of buds in months prior to flowering was noted and fruit was recorded in three classes of maturity viz immature, mature or overmature. Site visits consisted of a slow walk through the site with frequent stops to examine herbaceous plants and the crowns of trees and shrubs (with the aid of binoculars). The time taken to complete each site varied enormously according to the amount of plant 'activity' encountered. A burnt site at the end of the Dry season might be completed within 10 minutes though the same site during the Wet season, at the time of greatest herbaceous biomass, could take over an hour to finish.

Table	1	Location	of	sites
		2000000	•••	

Site	Landscape type	General location	1:100 000 map sheet	Grid	reference
1	lowland woodland	Ranger lease	Cahill	² 706	86006
2	lowland woodland	Ranger lease	Cahill	² 719	⁸⁶ 000
3	lowland woodland	Ranger lease	Cahill	² 712	⁸⁵ 989
4	lowland woodland	Ranger lease	Cahill	² 715	⁸⁵ 982
5	lowland woodland	Ranger lease	Cahill	² 717	⁸⁵ 976
6	lowland woodland	Ranger lease	Cahill	² 713	⁸⁵ 968
7	lowland woodland	Ranger lease	Cahill	² 712	85952
8	lowland woodland	Ranger lease	Cahill	² 749	⁸⁵ 971
9	lowland woodland	Ranger lease	Cahill	² 749	⁸⁵ 956
10	iowland woodland	Ranger lease	Cahill	² 750	⁸⁵ 945
12	hill woodland on schist	hills near Fisher Airstrip	Stow	² 447	⁸⁴ 985
13	hill woodland	hills just N of Barra Gorge t/o on Kakadu Hwy	Mundogie	² 188	⁸⁵ 370
14	hill woodland	hills 13 km S of Old Darwin Rd on Kakadu Hwy	Mundogie	² 235	⁸⁵ 540
17	hill woodland on sandstone	Lookout Hill, Jabiluka	Cahill	² 717	⁸⁶ 167
18	hill woodland on schist	Tin Camp Creek	Oenpelli	³ 091	⁸⁶ 275
19	hill woodland on schist	Tin Camp Creek	Oenpelli	³ 128	⁸⁶ 222
20	hill woodland on schist	Tin Camp Creek	Oenpelli	³ 133	⁸⁶ 215
22	hill woodland on schist	Tin Camp Creek	Oenpelli	³ 136	⁸⁶ 221

2.4 Additional data sources

The data gathered from the site visits were enhanced by addition of phenological records compiled from other projects that had been either completed in previous years or that had operated concurrently. Additional records of flowering and fruiting of herbaceous plants from each site were obtained from monthly, species-sorted biomass samples acquired during a concurrent project. For the Ranger lease there was also a large set of phenological data from trees and shrubs collected between 1981 and 1984 during a study on terrestrial birds (Brennan unpub data).

2.5 Data storage

The data from this project are stored in Paradox database tables in the directory

```
g:\plantbio\data\db\vegsurvs\table name
```

The phenology data are stored in the table PHENDATA and an example page from this file showing its structure is given in table 2.

The column 'OSS code' is the species code. It can be linked to the 'OSS code' column in the table NAMES to convert species codes to botanical names. The column 'Site #' is the site number which can be linked to column 'Site #' in table SITES to obtain site location details. The column 'State code' contains the phenological data and can be linked to the column 'State code' in table PHENSTAT to convert the codes to meaningful text.

Trip #	Date	Month	Site #	OSS code	State code
8	28 Oct 1991	10	1	9387	2
8	28 Oct 1991	10	1	9387	4
8	28 Oct 1991	10	2	1608	4
8	28 Oct 1991	10	2	1632	2
8	28 Oct 1991	10	3	1602	4
8	28 Oct 1991	10	10	2961	4
8	28 Oct 1991	10	10	8572	2
9	22 Nov 1991	11	1	1607	4
9	22 Nov 1991	11	1	1614	2
9	22 Nov 1991	11	1	1632	4
9	22 Nov 1991	11	1	1934	2
9	22 Nov 1991	11	1	9387	2
9	22 Nov 1991	11	1	9387	4
9	22 Nov 1991	11	2	1934	2
9	22 Nov 1991	11	2	2087	1
9	22 Nov 1991	11	2	2162	2
Ð	22 Nov 1991	11	3	2406	2
9.	22 Nov 1991	11	10	9548	2

 Table 2
 Sample of table structure of Paradox database table PHENDATA

3 Results and discussion

Diagrams showing the flowering and fruiting records of all 288 species observed amongst the study sites are presented in appendix A (trees and shrubs, 93 species), appendix B (grasses, 39 species) and appendix C (other herbaceous plants, 156 species). Overall summaries of the flowering and fruiting patterns of plants from the 10 eucalypt woodland sites on the Ranger lease are shown in figs 1 and 2.

3.1 Herbaceous species

Flowering and fruiting of herbaceous species was, not unexpectedly, mostly confined to the Wet season months, January to April, with March being the most active month. One hundred and thirty-six herbaceous species were observed flowering or fruiting in the three months from February to April on the 10 Ranger sites.

From fig 3, it is clear that the majority of herbaceous species that flower and fruit at the beginning of the Wet season (from September to December) have perennial root systems. Early flowering herbaceous species with perennial root systems included *Drosera petiolaris*, *Minuria macrorhiza*, *Murdannia graminea*, *Arthrostylis aphylla*, *Tephrosia reticulata*, *Haemodorum brevicaule*, *Iphigenia indica*, *Eriachne obtusa*, *Kailarsenia suffruticosa*, *Stemona australiana*, *Brunoniella linearifolia*, *Curculigo ensifolia*, *Sauropus* sp 2, *Sauropus* sp 4, *Gymnema trinerve and Helicteres* sp 4. Very few species of true annuals began to flower or fruit before January.

At the end of the Wet season a group of 7 'late' species, Spermacoce exerta, Blumea tenella, Polycarpaea violacea, Goodenia leiosperma, Cymbopogon procera, Mitrasacme connata and Stylidium leptorrhizum, were only observed to fruit after April.

During the mid Dry season months, June to August, a total of 15 herbaceous species were recorded with flower. The flowering of some of these appeared to be initiated by fire. On site 1 on the Ranger uranium lease, in the Dry season of 1991, two species with perennial root systems, *Minuria macrorhiza* and *Sauropus* sp 4, first flowered in July and August respectively after the site was burnt in late June. In the following Dry season (1992), when the site was not burnt until late August, neither of these species commenced flowering until November. At least two other herbaceous species with perennial roots, *Ptilotus distans* and *Haemodorum brevicaule*, also appeared to be stimulated by fire to begin flowering but these responses were only noted incidentally from 'off site' locations.

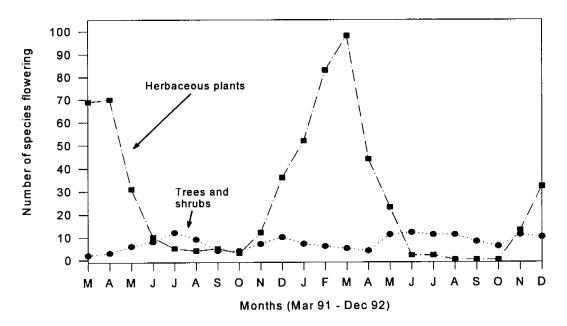
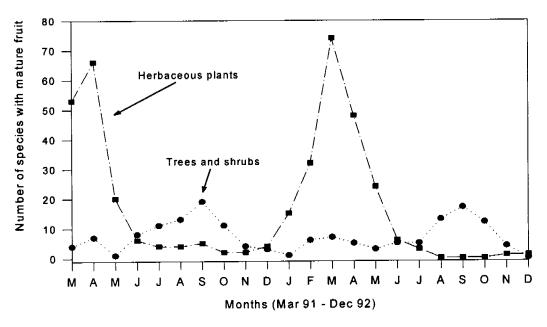
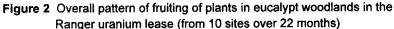


Figure 1 Overall pattern of flowering of plants in eucalypt woodlands on the Ranger uranium lease (from 10 sites over 22 months)





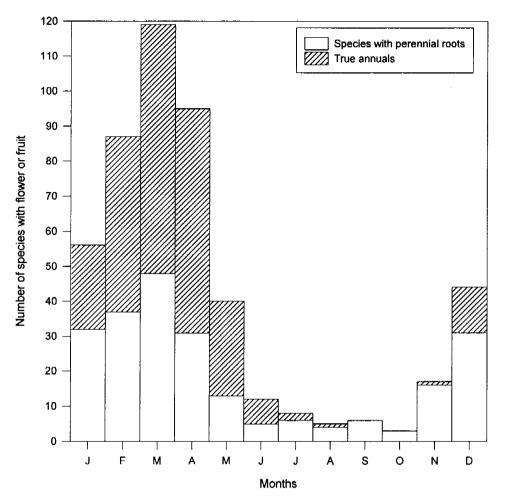


Figure 3 Overall pattern of flowering and fruiting of annual and perennial herbaceous plants in eucalypt woodlands on the Ranger uranium lease

3.2 Trees and shrubs

From fig 1 and fig 2 it is evident that seasonal peaks in the number of species of trees and shrubs flowering and fruiting follow a somewhat bimodal pattern. Flowering peaks occurred in June/July and November/December while peak fruiting times occur 2–3 months later in September and February/March. A point of particular note is that the number of species fruiting during the September peak of each year is much greater than the number of species flowering in June/July. Of the 23 species recorded with mature fruits in September (both years combined), seven, *Eucalyptus porrecta, Eucalyptus bleeseri, Planchonella pohlmaniana, Gardenia megasperma, Eucalyptus latifolia, Eucalyptus foelscheana* and *Eucalyptus chartacea*, had always finished flowering prior to June. For three of these, *P pohlmaniana, G megasperma* and *E chartacea*, the flower to fruit maturation time was over 9 months. None of the tree and shrub species with mature fruit in September flowered later than July.

Comparison of the flowering and fruiting periods of trees and shrubs in the Ranger area with those from Nabarlek (Hinz 1990) and Edith Falls (Bowman et al 1991) showed that generally each species timing of phenological events was similar throughout the region. However, of the species studied by Hinz (1990) at Nabarlek, *Acacia gonocarpa, Brachychiton megaphyllus* (as *B paradoxum*), *Eucalyptus tectifica, Hakaea arborescens* and *Terminalia ferdinandiana* were listed as flowering and fruiting up to 2 months earlier than reported here for the Ranger area. Conversely, *Eucalyptus tetrodonta, Grevillea decurrens* and *Petalostigma pubescens* were reported flowering and fruiting 2 to 4 months later. The flowering period of *Eucalyptus setosa* reported by Hinz (1990) was particularly intriguing. Although this species has now

been split into 3 taxa, *E chartacea*, *E dunlopiana* and *E papillosa*, none of the flowering periods given here for any of these species correspond with that published by Hinz (1990). From the current data it is impossible to determine whether these intra specific phenology differences between the Ranger area and the Nabarlek area are consistent from year to year.

Although the diagrams in appendix A show the times at which mature fruit can be expected to occur on the various species of trees and shrubs, they do not convey the regularity or intensity of fruit production from year to year or from site to site. Local and regional fruit production can be extremely variable from year to year (Hinz 1990, Brennan unpub data). Table 3 shows the somewhat irregular patterns of mature fruit production for 4 common species of *Eucalyptus* on the sites on the Ranger lease during this study.

The fruiting season of *Eucalyptus porrecta* in 1991 appeared to be more extensive than in 1992 but for the other three species the 1992 season was better. *Eucalyptus miniata* and *E bleeseri* had particularly poor fruit crops in 1991 and this appeared to be a regional phenomenon (pers obs.). Though outbreaks of defoliating insects, bird (cockatoo) predation and fire were readily identifiable as significant agents causing fruit loss on the Ranger study sites, there were doubtless other more subtle factors related to seasonal weather and ground water conditions that also contributed to variations in annual fruit production. These factors could directly or indirectly influence bud initiation processes, the effectiveness of flower pollination systems and fruit maturation success. Fruit collection strategies to overcome spatial and temporal variations in fruit production would be essential if the lead time between seed collection and scheduled seed use is short.

	Years with mature fruit												
	Eucalyptu	is porrecta	Eucalyptus	s tetrodonta	Eucalypti	us miniata	Eucalyptus blees						
Site	1991	1992	1991	1992	1991	1992	1991	1992					
1	✓		1	~		1		✓					
2	✓			✓		1		✓					
3		✓	✓	✓		1		✓					
4	✓	✓	✓	✓				1					
5	✓	✓	✓	✓				✓					
6	✓	✓		1									
7	✓	✓	✓	1	✓	✓		✓					
8	✓			✓		✓	✓	1					
9	✓			✓		✓		1					
10			1	1									

Table 3 Production of mature fruit for four Eucalyptus species on sites on the Ranger lease

4 References

- Bowman DMJS, Wilson BA & Woinarski JCZ 1991. Floristic and phenological variation in a northern Australian rocky *Eucalyptus* savanna. *Proceedings of the Royal Society of Queensland* 101, 79–90.
- Hinz R 1990. Seed technology for the Northern Territory's Top End. In *Proceedings of the AMIC Environmental Workshop, Woollongong NSW*, Australian Mining Industry Council, Dickson, ACT, 43–59.
- SSARR (Supervising Scientist for the Alligator Rivers Region) 1990. Supervising Scientist for the Alligator Rivers Region: Annual report 1989–90. AGPS, Canberra.

Appendix A Flowering and fruiting periods of trees and shrubs

Note For fruits, immature fruit period is in light stipple, mature fruit period is in dark stipple.

	J	F	м	Α	М	J	J	Α	S	0	Ν	D
Flower												
Fruit												
2835 Aca												
	J	F	M	A	M	J	J	A	S	0	N	D
Flower												
Fruit									1			
2836 Aca	acia dimi J	idiata F	м	А	м	J	L	A	s	ο	N	D
Flower		г 				J Lankard			3			
Fruit									·			
			l	l	<u> </u>					l <u></u>		L
2839 Aca	acia don	ocama										
	J	F	м	А	м	J	J	А	s	о	N	D
	-			1	1	-	- -		_	_		
Flower				Į		1					1	0.0000000000
Fruit	acia hem	nignosta										
Fruit	acia hem	nignosta F	M	A	M		J	A	S	0	N	D
Fruit 2841 Aca				A	M	J		A	S	0	N	D
Fruit 2841 <i>Aca</i> Flower				A	M	J	J			0	N	D
Fruit 2841 <i>Aca</i> Flower Fruit	J	F		A	M	J					N	D
Fruit 2841 <i>Aca</i> Flower Fruit	J	F	M									
Fruit 2841 Aca Flower Fruit 2845 Aca	J	F		A A	M M	J					N	D
Fruit 2841 Aca Flower Fruit 2845 Aca Flower	J	F	M									
Fruit 2841 Aca Flower Fruit 2845 Aca Flower	J	F	M									
Fruit 2841 Aca Flower Fruit 2845 Aca Flower Fruit	J acia late: J	F scens F	M									
Fruit 2841 Aca Flower Fruit 2845 Aca Flower Fruit	J acia late: J	F scens F	M									
Fruit 2841 Aca Flower Fruit 2845 Aca Flower Fruit 1615 Aca	J acia lates J	F scens F	M 	A	M	J	J	A	S	0	N	D
Fruit 2841 Aca Flower Fruit 2845 Aca Flower Fruit 1615 Aca Flower	J acia lates J	F scens F	M 	A	M	J	J	A	S	0	N	D
Fruit 2841 Aca Flower Fruit 2845 Aca Flower Fruit 1615 Aca Flower	J acia lates J	F scens F	M 	A	M	J	J	A	S S	0	N	D
Fruit 2841 Aca Flower Fruit 2845 Aca Flower Fruit 1615 Aca Flower Fruit	J acia late: J acia mim J acia onci	F scens F ula F	M M	A A	M M	J	J	A A	S S	0	N	D
Fruit 2841 Aca Flower Fruit 2845 Aca Flower Fruit 1615 Aca Flower Fruit 2860 Aca	J acia lates J acia mim	F scens F ula F	M M	A	M	J	J	A	S S	0	N	D
Flower Fruit 2841 Aca Flower Fruit 2845 Aca Flower Fruit 1615 Aca Flower Fruit 2860 Aca Flower Fruit	J acia late: J acia mim J acia onci	F scens F ula F	M M	A A	M M	J	J	A A	S S	0	N N	D

,

2885 Ac	acia uml	bellata										
	J	F	м	А	м	J	J	Α	S	o	Ν	D
Flower												
Fruit								dava Saria da Carto Saria da Carto				
							•				•	
8868 An	npelociss	sus frute:	scens									
	J	F	М	Α	М	J	J	Α	S	0	N	D
Flower		an a						<u> </u>				
Fruit												
1622 As												
	J	F	М	A	M	L	J	A	S	0	N	D
Flower												
Fruit					dh. Agʻibo di vilis	5. Sec.	n an a' a' a'	2 1200	. :	4		
1634 Ba								_	_	_		_
	J 1	F	M	A	M	J	J	A	S	0	N	
Flower	- 	MARINE SHORE	Manazare									
Fruit									5			
1629 Ba									•	~		
	J	F	М	A	M	J	J	A	S	0	N	D
Flower					<u></u>	9.00 m						
Fruit								an agai				in gand
0574 8-	h h ://		18-11									
8574 Bra	acnycniic J	n aivers F	M M	А	м	J	J	А	S	ο	N	D
51			IVI				J	~				
Flower												
Fruit						l			an dha Mariann an An			
8576 Bra	achuchite		nhullun									
0010 010	J	F	M	А	м	J	J	А	S	ο	N	D
Flower										- -		_
Fruit												
1101						L			Sec. 2			
1607 <i>Bu</i>	chanani:	a obovat	а									
	J	F	M	А	м	L	J	Α	s	ο	N	D
Flower	1										t e a	
Fruit								eadorit/181962.la				
	Second Second			_	1	I						
2935 Ca	lytrix acl	naeta										
	J	F	м	А	м	J	J	Α	s	ο	N	D
Flower												
Fruit												
	1	l .			385000 and 5-525				<u> </u>	L	l	

1617 Cal	ytrix exs	tipulata										
	J	F	М	A	М	J	J	A	\$	0	N	D
Flower												
Fruit								i an				
2021 Cap									_	_		_
	J	F	М	A	M	J	J 	A	s r''	0	N	D
Flower			·									
Fruit									<u> </u>	<u> </u>		
1616 Coo	hlaenar	mum fra	sori									
1010 000	J	F	M	A	м	J	J	А	s	о	N	D
Flower	-											
Fruit			.		Recorded to A					5.40560-55		
				L	1	<u> 1999-9999</u>	100000000000000000000000000000000000000	•	dan wanin hi sing t	- KARANGONGARANG	anna, ARDADA	100000000000000000000000000000000000000
2381 Cro	ton amh	nemicus										
	J	F	М	Α	м	J	J	Α	S	0	N	D
Flower												
Fruit												
8878 Dist								_	_	_		_
	J	F	М	A	M	J	J	A	<u>s</u>	0	N Masari Masa	D
Flower				39523555 ⁻¹ 5-1	100252-50093							
Fruit											<u> </u>	ļ
9541 Doc	ionaea «	sn										
0011 000	J	F	м	А	м	J	J	Α	s	о	N	D
Flower												
Fruit	d dhalachadi .	600 · · · ·						1			20000.0000.00.0	
	L	1	00000000000000000		in fan einen wersteri		.L	<u> </u>				
1966 Dol	ichandro	one filifoi	mis									
	J	F	М	Α	М	J	J	Α	S	0	N	D
Flower												
Fruit							L <u></u>					
1612 Ery								-	~	~		~
	J	F	М	A	M	J 	J	A	\$ 	0	N	D
Flower												
Fruit								in an				
2358 Ery	throyolu	m ellintir	num									
2000 6190	J	F	M	А	м	J	J	Α	s	ο	N	D
Flower					T							
Fruit	·											
		L		L	I			1				l

,

1631 <i>Eu</i>	calyptus	alba										
	J	F	м	A	м	J	J	A	S	0	N	D
Flower		000000000000000000000000000000000000000										
Fruit											Representation of the	: الماديم ردما الأ
			-									
1605 <i>Eu</i>									_	_		
	J 1	F	<u>М</u>	A	M	J	J	A	S	0	N	D
Flower Fruit												
Fruit						Server of L		in teachar I	li li s	elt setti		
2979 Eu	calvntus	chartac	ea									
2010 20	J	F	M	А	м	J	J	А	s	о	N	D
Flower												
Fruit							Selecteri e com Glad Polyceccia		 Āremā <u>nās par</u> t	l Ali an an	a ha marka da aliante	
	<u></u>				n an de ser an de se Na de ser an	e faglet tata an an tat	• <u>•</u> •••	n na sind			 A statistical statisti Statistical statistical statisticae statisticae statisticae statisticae statis	
1604 <i>Eu</i>	calyptus	conferti	flora									
	J	F	М	Α	м	J	J	Α	S	о	N	D
Flower												
Fruit												
2958 Eu			ophloia									
	J	F	M	A	M	J	J	A	S	0	N	D
Flower									er:			
Fruit										Salating di Salating Salating		
9486 Eu	calyptus J	dunlopia F	ana M	А	м	J	J	А	s	ο	N	D
Flavora	J 				171		J		3			
Flower												
Fruit				<u> </u>		Surfamel.	e in d	ti en la		÷ . /		
2961 Eu	calvntus	foelschi	ana									
	J	F	M	А	м	J	J	А	s	о	N	D
Flower	Τ											
Fruit												
	J	1	1	P-10-2010/0000000000								L
2966 Eu	calyptus	kombol	giensis									
	J	F	м	A	м	J	J	Α	s	о	N	D
Flower												
Fruit												
1640 <i>Eu</i>						_			_	-		-
	J	F	M	A	M	J	J	A	S	0	N	D
Flower						8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	an a	si		()		
Fruit	1	Į		1								

1603 <i>Euc</i>	alyptus	miniata										
	L	F	М	Α	М	J	J	Α	S	о	Ν	D
Flower												
Fruit												
9151 <i>Euc</i>												
	J	F	M	A	M	J	J	A	S	0	N	D
Flower					n fili 1944 Antiologia		stantinein,	and the second		had infiduciista		
Fruit												
9431 Euc	alvotue	nanillos										
5431 EUC	J	F	a M	А	м	J	J	A	s	ο	N	D
Flower	-								-			-
Fruit												
		L	I					ali interne de la compañía de la com	90303092338		. 969-997-941 A	
1639 <i>Euc</i>	alyptus	papuan	а									
	J	F	м	Α	м	J	J	А	S	о	Ν	D
Flower									:			
Fruit												
2974 Euc	alyptus	phoenic	ea									
	J	F	М	A	м	J	J	A	S	0	N	D
Flower	w					1 d dr. 1919966 						
Fruit												
1619 Euc								•	<u> </u>	~	N	
	J	F	M Paregraner	A	M	L I	L L	A	s	0	N []	D
Flower							Østalines		<u> na sang</u>		R-3449	
Fruit								à		8444		
2955 Euc	alvntus	nolvscia	nda									
2000 200	J	F	M	А	м	J	J	А	s	о	N	D
Flower												
Fruit												
1										ini contractorio	1.1992.000.000.000.000.000	
1601 <i>Euc</i>	alyptus	porrecta	9									
	J	F	М	Α	М	J	J	Α	S	о	N	D
Flower			****									
Fruit												
2977 Euc												
	J	F	М	A	М	J	J	A	\$	0	N	D
Flower										1		
Fruit									C. The second second	ىلىرىنى ۋەرىيىلىغۇرىدۇ. ئىلىرىنى ئۆلۈرىكى ئۇلغۇرىدۇ بىل	┟───┤	

1606 <i>Eu</i>	calvptus	tectifica	1									
	J	F	м	А	м	J	J	А	s	o	Ν	D
Flower											e strene i Nas	
Fruit												
	20 00922 - 242-209					F					.1	ngan tan ta
1602 <i>Eu</i>	calyptus	tetrodor	nta									
	J	F	М	Α	М	J	J	Α	S	0	Ν	D
Flower												
Fruit												
9154 <i>Eu</i>	calyptus	tintinnai	าร									
	J	F	м	A	M	J	J	A	S	0	N	D
Flower												
Fruit												
2916 Fic	us oppo	sita										
	J	F	М	Α	М	J	J	Α	S	0	N	D
Flower												
Fruit												
2506 Ga	lactia me J	egalophy F	/lla M	A	м	J	J	A	s	0	N	D
Flower	1911년 1811		808 80733	an a								
Fruit												
1614 Ga	rdenia m	negaspe	rma									
	J	F	м	Α	м	J	J	А	s	о	N	D
Flower												
Fruit												
		666666666666666666666666666666666666666										
8385 Gre	əvillea de	ecurrens	•									
	J	F	м	Α	м	J	J	Α	s	о	Ν	D
Flower												
Fruit	<u>r</u>								· ·			
8391 Gre				_					~	~	••	-
	J T	F	M	A	M	J	J I AAA	A	S	0	N	D
Flower												
Fruit								lan e		ş		
1636 Gre	evillea pl	eridifolia	9									
	J	F	м	Α	М	J	J	Α	s	0	Ν	D
Flower										1		
<u> </u>	1	+		ł	 	 	<u>, a la compensión</u>					├ ───┤

Fruit

8639 Gr	ewia sp a	1										
	J	F	м	Α	м	J	J	А	S	0	N	D
Flower												
Fruit												
8398 Ha	kea arbo											
	J	F	М	A	М	J		A	S	0	N	D
Flower								-	saidis sing	a hore of the		
Fruit												
0500 (ma	lizaforo a	avioala										
2522 Ind	ilgorera s J	F	м	A	м	J	J	A	s	0	N	D
Flower		•		r —		Ļ	•					
Fruit												. (à.)-
[• · uit												
2528 Jac	cksonia o	lilatata										
	J	F	м	Α	м	J	Ŀ	Α	S	0	N	D
Flower												
Fruit												
8037 <i>Ja</i> s	sminum r											
r	J	F	М	A	м	J	J	A	S	0	N	D
Flower			555555555555555555555555555555555555555									
Fruit												
4007 1 -												
1627 LOJ	phopetalı J	um arnn F	emicum M	A	м	J	J	А	s	о	N	D
Flower		•	141								1	
Fruit												
												381112323388
1801 Loj	phostem	on lactifl	uus									
•	J	F	М	Α	м	J	J	Α	S	0	Ν	D
Flower										- -		
Fruit												
1623 <i>Me</i>	elaleuca a											_
	J	F	М	A	м	J	Ĵ	A	S	0	N	
Flower								1. J. 2.				
Fruit						l						
1645 Ma	Jalaussa	ainanti										
1043 1/16	elaleuca d J	F F	м	А	м	J	J	A	S	о	N	D
Flower	-	Na del		••		- 			-	-		_
Fruit			<u> </u>	2	na ka							
	600000000000000000000000000000000000000			I				an na stan is	255,5575,59499			28954 - 1 (Spinster) - 1

1620 <i>M</i> e	elaleuca l	euc'adei	ndra									
	J	F	м	A	м	J	J	Α	S	0	N	D
Flower												
Fruit							States and a second					···
1635 <i>M</i> e	elaleuca r ,			•				•	~	~		_
	J	F	M	A T	<u>м</u>	J	J Factoria	A	S	0	N	D
Flower						-						0-5-5-5-8
Fruit						l					. Ang	
1621 <i>Me</i>	elaleuca v	/iridiflora	,									
	J	F	M	А	м	J	J	А	s	о	N	D
Flower			n sed									
Fruit												
2802 On	venia ven	nicosa										
	J	F	м	A	M	J	J	A	S	0	N	D
Flower												
Fruit												
9444 Pa	chynema ,					J	J	•	s	ο		D
	J	F	м	A	M	J		A	<u> </u>		N	
Flower												
Fruit						I	L					
2331 Pa	chynema	iunceu	m									
	J	F	M	Α	м	J	J	А	s	о	N	D
Flower												
Fruit												
1630 <i>Pa</i>	ndanus a	nquaticu	s									
	J	F	м	A	м	J	J	A	S	0	N	D
Flower			аникимини тал									
Fruit												
8452 <i>P</i> a	vetta bro					J	J	А	S	о	N	D
Elevis	J	F	M	A 	M		J	~	3			
Flower	+											
Fruit		L	L			1				1		
8401 Pe	rsoonia f	alcata										
2.3.70	J	F	м	А	м	J	J	Α	s	о	N	D
Flower												
Fruit	1						na na sector de la composición de la co La composición de la c				 	
										_		

	J	F	M	A	м		J	A	S	0	N	D
Flower												
Fruit												
2406 Pe	talostign	na quadr	ilocular	9								
	J	F	м	Α	м	J	J	Α	s	o	Ν	D
Flower												
Fruit												
1610 DI	anchonel	la oobla	aniana									
1010 - 16	J	F	M	А	м	J	J	Α	s	о	N	D
Flower												
Fruit												
											_	-
1632 <i>Pla</i>	anchonia	careya										
	J	F	M	A	M	J	J	A	S	0	N	D
Flower												
Fruit												
8435 Po	gonolobi								-	_		_
	J	F	м	A	M	J	J	A	s	<u> </u>	N	D
Flower												
Fruit												
9665 Dr	əmna acı	iminata										
0000	J	F	м	А	м	J	J	А	s	о	N	Ď
Flower							Ţ					La Y
Fruit												98) <u>9, 1995.</u>
	1					I						
8402 Ste	enocarpu	s acacio	oides									
	J	F	M	А	м	ł	Ĵ	Α	s	о	N	D
Flower												
Fruit					, , <u>,</u> .							
<u> </u>			I	L	h	.		<u></u>		A,	1	•
1626 Sy	zygium a	rmstron	gii									
	J	F	м	Α	м	J	J	А	s	0	N	D
Flower												
Fruit												
			-		-							
1624 Sy	zygium fo		potamo	philum								
	J	F	М	A	м	J	J	A	S	0	N	D
	-											
Flower												

1625 Syz	zygium s	ubórbic	ulare									
	J	F	м	Α	м	J	J	Α	S	0	Ν	D
Flower												
Fruit												
		•	•			•						
9071 <i>Tep</i>	ohrosia r	nematop	ohylla									
	J	F	М	Α	M	J	J	Α	S	0	N	D
Flower	10 A.	12										
Fruit												
2083 Ter	minalia	canesce	ens									
	J	F	М	Α	М	J	J	Α	S	0	N	Ð
Flower												
Fruit		[
2084 Ter	minalia	carpenta	ariae									
	J	F	М	A	м	J	J	Α	S	0	N	D
Flower	and an Tara a											
Fruit												
2087 Ter	minalia	ferdinan	diana									
	J	F	М	Α	м	J	J	Α	S	0	N	D
Flower												
Fruit								-				
2089 Ter	minalia	grandiflo	ora									
	J	F	М	A	M	J	J	Α	S	0	N	D
Flower												
Fruit												
2090 Ter	minalia	latipes										
	J	F	М	Α	М	J	J	Α	S	0	N	D
Flower												
Fruit								an a				
1611 <i>Тө</i>	minalia	pteroca	rya									
	J	F	М	Α	М	J	Ĵ	Α	S	0	N	D
Flower												
Fruit					Richard Pilipica	V. Hom						
	•											
8022 Ve	rticordia	cunning	ghamii									
	J	F	М	Α	М	J	J	A	S	0	N	D
Flower												
Fruit		1					ľ					

8672	Vitex	glabrata
------	-------	----------

	L	F	М	Α	М	J	J	Α	S	0	Ν	D
Flower												
Fruit												
8588 Wa	ltheria ir	ndica										
	J	F	м	Α	М	J	J	Α	S	0	Ν	D
Flower												
Fruit												
1794 <i>Wri</i> j	ghtia sa J	ligna F	М	A	M	J	J	A	S	0	N	D
Flower												
Fruit												
4000 \	thestor	ion nara	adoxus									
1608 Xar	J	F	М	А	м	J	J	А	s	о	Ν	D

1608 Xar	ntnosten	ion par	adoxus									
	J	F	М	Α	м	J	J	Α	S	0	Ν	D
Flower						n A						
Fruit										iggers g Norsen de		

,

Appendix B Flowering and fruiting of grasses

	J	F	м	Α	м	J	J	Α	S	0	Ν	D
Flower												
Fruit												
9498 Alla	oteropsis J	sp F	м	А	м	J	J	А	s	0	N	D
Flower			•			-	_	[-		
Fruit												
9179 Ari:	stida hol J	a <i>ther</i> a F	М	А	м	J	J	А	S	o	N	D
Flower						J	5	<u> </u>				
Fruit										· · · · · ·		
_	A State St			and the second second second							L	
8111 <i>Ari</i> :												
	J	F	М	A	M	J	J	A	S	0	N	D
	1		11 11 11 11 11 11 11	1								
		falt songe										ļ
Flower Fruit 8123 <i>Br</i> a	achiaria I											
Fruit 8123 <i>Bra</i>	achiaria f J			A	M	J	J	A	S	0	N	D
Fruit 8123 <i>Bra</i> Flower		noloseria	sea	A	M	J	J	A	S	0	N	D
Fruit 8123 <i>Bra</i> Flower Fruit	J	noloseric F	ea M	A	M	J J	J	A 	S	0	N	D
Fruit 8123 <i>Bra</i> Flower Fruit 8147 <i>Ch</i>	J rysopogo J	noloseric F on fallax F	eea M									
Fruit 8123 Bra Flower Fruit 8147 Ch Flower	J rysopoge	noloseric F on fallax F	eea M	A								
Fruit 8123 Bra Flower Fruit 8147 Ch Flower Fruit	J rysopogo J	noloseric F on fallax F	eea M M	A	M							
Fruit 8123 Bra Flower Fruit 8147 Ch Flower Fruit	J rysopogo J	noloseric F on fallax F	eea M M	A	M							
Fruit 8123 Bra Flower Fruit 8147 Ch Flower Fruit 8148 Ch	J rysopogo J rysopogo	noloseric F on fallax F on latifol	eea M M	A	M	J	J	A	S	0	N	D
	J rysopogo J rysopogo	noloseric F on fallax F on latifol	eea M M	A	M	J	J	A	S	0	N	D
Fruit 8123 Bra Flower Fruit 8147 Ch Flower Fruit 8148 Ch Flower Fruit	J rysopoga J rysopoga J	on fallax F Don fallax F Don latifoli F	ius M	A	M	J	J	A	S	0	N	D
Fruit 8123 Bra Flower Fruit 8147 Ch Flower Fruit 8148 Ch Flower Fruit	J rysopogo J rysopogo J	on fallax F on fallax F on latifol F	eea M M ius M	A	M	J	J	A A A	S	0	N	D
Fruit 8123 <i>Bra</i> Flower Fruit 8147 <i>Ch</i> Flower Fruit 8148 <i>Ch</i> Flower	J rysopoga J rysopoga J	on fallax F Don fallax F Don latifoli F	ius M	A	M	J	J	A	S	0	N	D

8172 Digitaria gibbosa

8172 Dig	yitana gi. J	bbosa F	м	А	м	J	J	Α	s	o	N	D
Flower		• •				5						
Fruit				rtites			1					
				gelfiger eig			I	L	1		1	1
1731 Ec	trosia ag	rostoide	s									
	Ĵ	F	м	Α	м	J	J	Α	S	0	N	D
Flower												
Fruit												
1565 Era		-		•					<u> </u>	~	N	
Flames	J	F	M	A	М	J	J	A	S	0	N 	D
Flower Fruit					889.0							
Fruit	1				808502 909099						<u> </u>	
1561 Era	arostis	cuminaii										
	J	F	м	А	м	J	J	A	s	о	N	D
Flower			1				_					
Fruit												
8212 <i>Eri</i> a	achne ag	grostide	a									
	J	F	М	A	М	J	J	A	S	0	N	D
Flower												
Fruit												
1741 <i>Eri</i>	achne a' J		м	А	м	J	J	A	s	ο	N	D
Flower		F F			IVI	J	J	<u> </u>				
Fruit		nak nikere I		83						<u></u>		
riuk				Star offe								
8214 <i>Eria</i>	achne bi	asedowi	i									
	J	F	м	А	м	J	J	Α	s	о	N	D
Flower	J		M	A	м	J	J	A	S	0	N	D
Flower Fruit	J			A	м	J	J	A	S	0	N	D
	J		M	A	м	J	J	A	S	0	N	D
		F	M	A	M	J	J	A	S	0	N	D
Fruit		F	M	A	<u>м</u>	J	J	A	S S	0	N	D
Fruit 8217 <i>Eria</i>	achne ci	F 	M									
Fruit 8217 <i>Eria</i> Flower	achne ci	F 	M									
Fruit 8217 <i>Erid</i> Flower Fruit	achne ci J	F liata F	M 									
Fruit 8217 <i>Eria</i> Flower	achne ci J	F liata F	M	A	M	J	J	A	S	0	N	D
Fruit 8217 Eria Flower Fruit 8222 Eria	achne ci J	F liata F	M 									
Fruit 8217 <i>Erid</i> Flower Fruit	achne ci J	F liata F	M	A	M	J	J	A	S	0	N	D

1745 Eria	achne so	chultziai	na									
	J	F	М	Α	м	J	J	A	s	0	N	D
Flower	I		1									
Fruit												
				Salar and a second								
1585 <i>Eria</i>	achne s	o Simon	3007									
	J	F	М	A	м	J	J	A	S	0	N	D
Flower												
Fruit												
8227 Eria									_	•		~
	J	F	<u>M</u>	A	M	J	J	A	s	0	N	0
Flower					y ka spoling av an angal				<u> </u>	 	ļ	
Fruit			<u> </u>									L
4700 5-1	- #											
1763 Eul	alla ann J	ua F	М	А	м	J	J	A	S	о	N	D
							<u> </u>	~				
Flower												
Fruit	1		1									
8233 Eul	elia mar	kinlavi										
0200 20	J	F	М	А	м	J	J	Α	S	о	N	D
Flower									-			
Fruit												
	I		200000000000000000000000000000000000000	96494×802064 .				L	L	1		
8241 Het	teropogo	on tritice	us									
	J	F	М	Α	м	J	J	Α	S	0	Ν	D
Flower			I.									
Fruit												
	· · · · · ·											
9210 Mn	esithea	formosa	1									
	J	F	M	A	M	J	J	A	S	0	N	D
Flower			2000000000									
Fruit												c
8152 <i>Mn</i>					14			^	s	о	N	D
	J Istan	F	м	A	<u>М</u>	J	J	A	<u>১</u>			
Flower			·									
Fruit		[<u> </u>	I]	l	
		indone										
1559 <i>Pai</i>	nicum m J	indanae F	ense M	A	м	J	J	А	s	o	N	D
Flower						<u> </u>		I T	-	-		-
Fruit								<u> </u>				
1 1 4 1	l						1	1		L	l	

8301 Pseudopogonatherum irritans М J J s 0 Ν D Ĵ F Α м А Flower Fruit 88.88 1768 Schizachyrium fragile s 0 Ν D F М J J Α J А М Flower Fruit 8313 Sehima nervosum J F М А М J J Α s 0 Ν D Flower Fruit 8314 Setaria apiculata s 0 D А Ν J F М A М J J Flower Fruit 9636 Sorghum brachypodum s 0 D F Ν J М А М J J А Flower Fruit 8323 Sorghum intrans J F Α М J J Α s 0 Ν D М Flower Fruit 8326 Sorghum plumosum var plumosum s D J F М А м J J Α ο Ν Flower Fruit 8333 Sporobolus pulchellus D s 0 J Ν J F M А Μ J А Flower Fruit 8336 Thaumastochloa major s 0 Ν D Ĵ J Α J F М М А Flower Fruit

0341 ///6	emeda t	riandra										
	J	F	М	Α	м	J	J	Α	S	0	N	D
Flower												
Fruit		1997 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 -										
8346 Tric	odia pro	cera										
	J	F	<u>M</u>	A	М	J	J	A	S	0	N	
Flower												
Fruit												
r ruit											l	<u>L</u>
9229 Yak	 kirra nul J	la F	M	A	M	J	J	A	S	0	N	D
			M	A	Μ	J	J	A	S	0	N	D
9229 Yak			M	Α	М	J	J	A	S	0	N	D
9229 Yak Flower	J	F	M	A	M	J	J	A 	s s	0	N 	D
9229 Yak Flower Fruit	J kirra pau	F J uciflora										

Appendix C Flowering and fruiting of non grass herbaceous species

	J	F	М	Α	м	J	J	Α	S	0	N	D
Flower		a fi y		a di se							ľ	
Fruit				an a								
8679 An	npelociss J	sus acet F	osa M	A	м	J	L	A	s	0	N	D
Flower												
Fruit												
1873 Ari	istolochia J	a holtzei F	м	A	м	J	J	A	s	0	N	D
Flower			- 1.45 	nepiline, kur George (1997)								
Fruit												L
Flower	J	F	M	A	М	J	J	A	s	<u> </u>	N	D
				1999 2 50 (1997) - 1136	20.011 - 224223							
Fruit												
Fruit 2441 <i>Au</i>	strodolic, J	hos erra F	abundus M	A	M	J	J	A	S	0	N	D
Fruit 2441 <i>Au</i>					M	J	J	A	S	0	N	D
Fruit 2441 <i>Au</i> Flower					M	J	J	A	S	0	N	D
Fruit 2441 <i>Au</i> Flower Fruit	J	F	M	A								
Fruit 2441 <i>Au</i> Flower Fruit 1924 <i>Blu</i>	J	F			M	J	J	A 	S	0	N N N	D
Fruit 2441 <i>Au</i> Flower Fruit 1924 <i>Blu</i> Flower	J	F	M	A	M	J						
Fruit 2441 <i>Au</i> Flower Fruit 1924 <i>Blu</i> Flower	J	F	M	A	M	J						
Fruit 2441 <i>Au</i> Flower Fruit 1924 <i>Blu</i> Flower Fruit	J Imea ten J Inamia br	F ella F	M M	A 	M	J	J	A	S	0	N	D
Fruit 2441 <i>Au</i> Flower Fruit 1924 <i>Blu</i> Flower Fruit 2105 <i>Bo</i>	J Imea ten J Inamia br J	F ella F evifolia	M M M	A	M	J		A				<u></u>
Fruit 2441 <i>Au</i> Flower Fruit 1924 <i>Blu</i> Flower Fruit 2105 <i>Bo</i> Flower	J Imea ten J Inamia br	F ella F	M M	A 	M	J	J	A	S	0	N	D
Fruit 2441 <i>Au</i> Flower Fruit 1924 <i>Blu</i> Flower Fruit	J Imea ten J Inamia br J	F ella F	M M M	A 	M	J	J	A	S	0	N	D
Fruit 2441 <i>Au</i> Flower Fruit 1924 <i>Blu</i> Flower Fruit Flower Fruit	J Imea ten J Inamia br J	F ella F evifolia F	M M M	A 	M	J	J	A	S	0	N	D
Fruit 2441 <i>Au</i> Flower Fruit 1924 <i>Blu</i> Flower Fruit Flower Fruit	J Imea ten J namia br J	F ella F evifolia F	M M M	A 	M	J J	J	A 	S	0	N	D
Fruit 2441 <i>Au</i> Flower Fruit 1924 <i>Blu</i> Flower Fruit Flower Fruit	J Imea ten J namia br J	F ella F revifolia F	M M M	A A	M	J J	J	A 	S	0	N	D

1586 Bon	reria bre	eviflora										
	J	F	М	Α	м	J	J	A	S	0	N	D
Flower												a. 93
Fruit												
1588 Bon									_	_		_
	J	F	M	A	м	J	J	A	S	0	N	
Flower					· 22							
Fruit					às Sa	rt.						
		<u>^</u>										
1592 Bon	<i>rena</i> sp J	з F	м	А	м	J	J	А	s	ο	N	D
	J		111				, I		3			
Flower		ata ka da										
Fruit				3								<u> </u>
8431 Bon	ra <i>r</i> ia en	А										
0401 200	J	F	м	А	м	J	J	А	s	о	N	D
Flower												
Fruit				Balanda ang ang ang ang ang ang ang ang ang an								X.A 81
			888399 Z	1978-1115-1973							L	
9250 Bon	re <i>ria</i> sp	5										
	J	F	м	Α	м	J	J	А	S	о	N	D
Flower												
Fruit												
			90000000000000000000000000000000000000									
9503 Bon	re <i>ria</i> sp	8										
	J	F	М	А	М	J	J	A	S	0	N	D
Flower												
Fruit												
8898 Brui	noniella		olia									
	J	F	M	A	M	J	J	A	S	0	N	D
Flower		Sauroscos do dano										an er sig
Fruit												2. Suran
8506 Buc								٨	s	ο	N	D
r "1	J	F	м 	A 	M	J N D	J I I I I I I I I I I I I I I I I I I I	A	3			
Flower							a da ana ang ang ang ang ang ang ang ang an					<u> </u>
Fruit					8		2					
2164 Bull	hostulia	harbata										
ZIVH DUIL	J	F	м	А	м	J	J	А	s	ο	N	D
Flower	-			`		-	-			<u> </u>		
Fruit	542.N158									<u> </u>		
, run				8		l	l	I			L	

1988 Byblis liniflora F А М J J Α s 0 Ν D J М Flower Fruit 1542 Calandrinia uniflora F s 0 J М А Μ J J Α Ν D Flower Fruit 1820 Cartonema parviflorum F J М А М J J А s 0 Ν D Flower Fruit 8943 Cartonema sp 2 s 0 Ν D J F М А М Ĵ J Α Flower Fruit 1821 Cartonema spicatum J F М Α М J J А S 0 Ν D Flower Fruit 9093 Cassytha aurea s 0 Ν D J F м Α М J J Α Flower Fruit 2683 Cassytha filiformis 0 J F М А J J А S Ν D М Flower Fruit 8510 Centranthera cochinchinensis \$ 0 Ν D J Α J F М А М J Flower Fruit 1825 Chamaecrista mimosoides F Α М Ĵ J Α s 0 Ν D J М

Flower Fruit

2716 Ch	lorophyt	um laxu	m									
	J	F	М	А	м	J	J	А	s	0	N	D
Flower												
Fruit				ji sarty Ve								
1546 Cle												
r	J	F	M	A	M	J	J	A	\$	0	N	D
Flower											<u> </u>	
Fruit												
2097 Co.	mmolina	onnifali	~									
2097 00	J	F	a M	A	м	Ŀ	J	А	s	ο	N	D
Flower												
Fruit												
L	(All Contract and			990 8 8 22 1 1 2 23								I
9537 Cro	otalaria L	orevis										
	J	F	М	Α	м	J	J	Α	S	0	Ν	D
Flower												
Fruit												
2472 Cro												
	L I	F	M	A	M		J	A	S	0	N	
Flower					5 ⁰							
Fruit					8							
2474 0-	otolo <i>m</i> ia n	nontono										
2471 Cro	Juliana n	<i>nontana</i> F	м	А	м	J	J	А	s	o	N	D
Flower		itister.					_		-	-		
Fruit												
	1			1999 - 1997 -								<u></u>]
9106 Cu	rculigo e	ensifolia										
	J	F	м	Α	м	J	J	А	s	ο	Ν	D
Flower												
Fruit												
8919 <i>Cy</i> i					_			c.	-	-		-
r	J	F	<u>M</u>	A	M	J	J	A	S	0	N	D
Flower	<u> </u>											
Fruit	1	L										
1726 Cy	norie ri	ilchallus										
1720 Cy	perus pu J	ricnenus F	м	А	м	J	J	А	S	о	N	D
Flower			 			-	-			_		
Fruit	<u> </u>							 ,				
L	1	I			L	l	1		l	L		1

8963 Cy	perus sp	porobolu	ıs									
	J	F	M	A	м	J	J	A	S	0	N	D
Flower												
Fruit												
2489 De	o mo di u											
2409 De	smoaiun J	n brown F	" M	А	м	J	J	А	s	о	N	D
Flower	1	T :					-		<u> </u>	<u> </u>		
Fruit										<u> </u>		
							1		1	I ,		d
1538 De												
	J	F	M	A	M	J	J	A	s	0	N	D
Flower			3888888980-22888	-88588489238238238								
Fruit												
9494 De	smodium	กรถอบ	ar 2									
57 57 DB	J	n spav F	ar∠ M	А	м	J	J	А	s	0	N	D
Flower	-				,	-	-		-	-	1	<u> </u>
Fruit												
	1			\$5.118368835-8481	l	1						
2490 De	smodiun	nspc										
	J	F	М	Α	М	J	L	Α	S	0	N	D
Flower												
Fruit												
1832 <i>Dr</i>							_			-		_
	J	F	M	A	М	J	J	A	S	0	N	D
Flower	<u> </u>											
Fruit												
8012 Du	nharia ai	ingulifia										
	nbana si J	riguilloi F	a M	А	м	J	J	А	s	ο	N	D
Flower		•				-	-		-	-		_
Fruit												
	.l	I				I						1
8013 <i>Eri</i>	osema c	hinense										
	J	F	M	Α	М	J	J	A	S	0	N	D
Flower												
Fruit												
9030 Euj								-	_	_		_
	ل ۲	F	M	A	М	J	J	A	S	0	N	D
Flower	<u> </u>										oran yang bagan dar Uning sayar Tanan sayar	
Fruit												

9031 <i>Eu</i> j	phorbia s	schizole	pis									
	J	F	м	Α	м	J	J	Α	S	ο	N	D
Flower					Ś							
Fruit												
1808 <i>Eu</i> j	phorbia :											
	J	F	M	A	M	J	J	A	S	0	N	D
Flower				5 - 8								
Fruit												
1805 <i>Eu</i> j								۸	c	~	N	D
 .	J	F	<u>м</u>	A	М	J	J	A	S	0	N Starvisti	
Flower						<u></u>						
Fruit												
2111 Ev	olvulue e	Jeinnida	ç									
2111 200	J	F	з М	А	м	J	J	А	S	ο	N	D
Flower						1						
Fruit			5. S.A.		<u>8408,</u>							
	1	L	I								L	
8970 Fin	nbristylis	calopte	ra									
	J	F	м	Α	м	J	J	Α	s	о	Ν	D
Flower												
Fruit												
L		Berlin Contractory										
2230 Fin	nbristylis	cinnam	ometon	um								
	J	F	м	A	M	J	J	A	S	0	<u>N</u>	D
Flower												
Fruit						<u>, "</u>						
1775 Fin									_	-		5
	J I. s. 2 s	F T	M	A	м	J	J	A	s	0	N	D
Flower												
Fruit									<u> </u>			
1700 Ei-	nhrintı din		the									
1780 Fin	nonstylis J	F F	M	А	м	J	Ŀ	А	s	о	N	D
Flower		•		1		<u> </u>	-		-	-		_
Fruit						<u> </u>						
L	1					<u> </u>	l	I		L	L	
2250 Fin	nbristylis	; pachyp	tera									
	J	, ,, F	м	Α	м	J	J	A	s	0	Ν	D
Flower									Γ			
Fruit						1						
L	u				a					A	•	•

2254 Fimbristylis pterygosperma

223411	nbristyli: J	F	ыреппа М	А	м	J	J	A	s	о	N	D
Flower							r		[I	T
Fruit												
L										•	•	•
2257 Fir												
	J	F	M	A	M	J	J	A	S	0	N	D
Flower												
Fruit												
2250 54	an harin di di d											
2259 Fir	nonstylis J	s schuitz F	" M	A	м	J	L	А	s	ο	N	D
Flower							Ţ		L	Ŭ		
Fruit				Alerten din di A								
	C 1995-032-1995-1995-19	<u></u>	20000000000000000000000000000000000000	1987 B. A. B. M. B.			l	I	<u> </u>			
9627 Fir	nbristylis	spb										
	J	F	М	Α	М	J	J	Α	S	о	Ν	D
Flower												
Fruit												
2270 Fir												
	J	F	M	A	M	J	J	A	S	0	N	
Flower				sa ka sa sa sa								
Fruit												
2503 Fle	minaia r	aniflari										
2000176	J	F	M	А	м	J	J	А	s	o	N	D
Flower												
Fruit												
	1	I		9009940(200-11-22)	1 1					1		
9492 Ga	<i>lactia</i> sp	1										
	ſ	F	М	A	M	J	J	A	S	0	N	D
Flower												
Fruit			C.									
2508 Ga				A					~	~	N 1	~
F la	J	F	M	A	M	J	J	A	s	0	N	D
Flower												
Fruit		1		an a								
1671 Go	mohrens	a caneso	ens									
	J	F	M	А	м	J	J	Α	S	о	N	D
Flower												
Fruit												
		1		000000000000000000000000000000000000000	A							

8907 Go	mphrena	a diffusa	1									
	J	F	м	Α	М	J	J	A	S	0	N	D
Flower												
Fruit												
1675 Go			a									
	L ,	F	M	A	M	J	J	A	s	0	N	D
Flower												
Fruit		<u> </u>		é s Faci								
2647 Go									<u> </u>	~		~
	J.	F 1	M	A	M	J	J	A	\$	0	N	D
Flower				Entra Al								
Fruit												
2615 Go						ı		А	s	о	N	D
	J 1	F	M	<u>A</u>	M	J	J	A	<u> </u>		N 	U
Flower				an an crit								
Fruit												
0004 0												
9621 Go				А	м	J	J	A	S	о	N	D
	L	F	M	A			J	~	3			
Flower	r Harvel David		fapturte -	Bara (Mir Bilin and I I I I B								
Fruit												
4500 0-	-donia l		_									
1569 Go	odenia r J	F	a M	А	м	J	J	А	s	ο	N	D
Flower	Т			<u></u>		.	-		<u> </u>			
				(S. 44) -								
Fruit												
2620 Go	odonia i	anamha										
2020 00	J	F	м	А	М	J	J	А	S	о	N	D
Flower		·	T I						_	-		
Fruit												
	<u>_</u>	I	1	ndjug e n	A started at the				<u> </u>		I	
2622 Go	odenia l	eiosnen	па									
00	J	с.03 <i>рс.1</i> F	M	А	м	J	J	А	s	о	N	D
Flower			<u> </u>			.:						
Fruit			rieta da d	an a							<u> </u>	
	.l	1	i		Misti	7		L			L	
9463 Gy	mnema	trinerve										
· /	Ĵ	F	м	Α	м	J	J	Α	S	o	N	D
Flower												
Fruit	1		<u> </u>									
	<u> </u>	1	1		1		L	L		I	1	l

2639 Ha	aemodor	um brev	icaule									
	J	F	м	Α	М	J	J	Α	s	о	N	D
Flower												
Fruit							1			1		
		•			•	•		•	- -	L	L	
2640 Ha	aemodor	um cocc	ineum									
	J	F	м	A	M	J	J	A	s	0	N	D
Flower	Britstein Philosoph					<u> </u>						
Fruit				2								
2643 Ha	emodon								-	-		_
Г <u>–</u> .	J	F	M	A	M	J	J	A	S	0	N	D
Flower			an a	ku es d	at e te							
Fruit				S Sayin A								
9485 He	liotomo	2										
3403776	J	sp 5 F	м	A	м	J	J	А	s	ο	N	D
Flower	Ţ	T					,			La		
Fruit												
						<u> </u>			I			
9548 He	licteres	sp 4										
	J	F	м	А	м	J	J	A	s	о	N	D
Flower												
Fruit												
L	n. l											
9497 He	liotropiu	m alcyor	niu m									
	J	F	м	Α	М	J	J	Α	S	0	N	D
Flower	Alexandra a											
Fruit												
1973 He												
	J T	F	м	A	М	J	J	A	S	0	N	D
Flower				an a								
Fruit		<u> </u>										
9000 U-	liater-i	n fallat										
8929 <i>He</i>	iiotropiui J	m follatu F	m M	А	м	J	J	А	s	ο	N	D
Flower	.	•		~ []	171	, 	, 	~	3		14	
Fruit				in the second								
TTUR												
1983 <i>He</i>	liotroniu	m ventrid	cosum									
	J	F	M	А	м	J	J	А	s	ο	N	D
Flower									· · · · · · · · · · · · · · · · · · ·			
Fruit												
		0.0000000000000000000000000000000000000	ANNAL CONTRACTOR	A		L				I		

9429 Hib	<i>bertia</i> s	p 13										
	J	F	М	Α	м	J	J	A	S	0	N	
Flower												
Fruit												
8676 Hyl	b anthus J	enneasµ F	oermus M	A	м	J	L	A	S	o	N	D
Flower												
Fruit												
2677 Hy	otis suar J	veolens F	M	A	м	J	J	A	S	0	N	D
Flower				ste - de - de								
Fruit												
2517 Ind	ligofera I J	linifolia F	м	A	м	J	J	A	S	0	N	D
Flower			66.									
Fruit												
9055 Ind	ligofera J	parviflora F	a M	A	м	J	J	A	s	0	N	D
Fruit												
2720 lph	igenia ir J	ndica F	M	A	м	J	j	A	S	0	N	D
Flower												
Fruit			[
1860 <i>Ip</i> a	moea a J	<i>brupta</i> F	м	A	м	Ŀ	J	A	S	0	N	D
Flower												
Fruit										<u> </u>		
2116 <i>lpc</i>	omoea d J	iversifolia F	a M	А	м	J	į	A	S	o	N	D
Flower	Ţ					-		1	r –			
Fruit							<u>†</u>			†		
8780 lpc	J moea e J	riocarpa F	м	A	м	J	J	A	s	0	N	D
Flower	Ţ				141	1	Ţ					T
	<u> </u>			<u> </u>						<u> </u>		
Fruit	<u> </u>					<u> </u>	1		l	1		

2121 <i>Ipo</i>	moea gi	raminea										
	J	F	м	Α	м	J	J	Α	s	0	N	D
Flower	1			[[
Fruit												
		•	- Actor and a construction of the construction									
8446 Kai	larsenia	suffrutio	cosa									
	J	F	M	A	M	J	J	Α	S	0	N	D
Flower												
Fruit												
8514 <i>Lin</i>									~	~	N 1	~
	J	F	M	A 	м 	L	J	Α	S	0	N	D
Flower												
Fruit			1									
8690 Lor	nandra i	Imnica										
5550 LUN	J	F	м	А	м	J	J	А	s	о	N	D
Flower	-						_		-	-		
Fruit		an a										
, run										1		
8918 <i>Ma</i>	rsdenia	annae										
	J	F	м	Α	м	J	J	Α	s	o	Ν	D
Flower												
Fruit												
						•						
2140 <i>Me</i>	rremia q	uinata										
	J	F	М	A	м	J	J	Α	S	0	N	D
Flower												
Fruit												
1934 Min								_				_
	J	F	M	A	M	J	J	A	\$	0	N	D
Flower				ļ								
Fruit		<u> </u>										ба — <u>.</u>
0504 44%		4	_									
8561 <i>Miti</i>	rasacme J	e connat F	a M∍	А	м	L	j	А	S	0	N	D
Elower	, 		141	~				~			, , , , , , , , , , , , , , , , , , ,	
Flower Fruit					and the second							
	I			<u> </u>		l				L		
8563 Miti	rasacme	exsert:	9									
5555 1110	J	F	, M	Α	м	J	J	A	s	ο	N	D
Flower		l — — —										
Fruit				 						···		
	I			1	t					I	1	

9519 <i>Mi</i> i	trasacme	alatiflora	1									
	J	F	м	Α	м	J	J	A	s	о	Ν	D
Flower												
Fruit												
9114 <i>Mi</i> t	trasacme	e nudical	ulis									
	J	F	М	A	М	J	J	A	S	0	N	D
Flower												
Fruit												
9115 <i>Mi</i> l				_								_
	<u>ј</u>	F	M	A	M	J	J	A	S	0	N	D
Flower				Sort cristical	e a sta							
Fruit		<u> </u>		New Constants								<u> </u>
0404.84			_									
2101 Mu	<i>irdannia</i> J	gramine F	a M	А	м	J	J	А	S	о	N	D
Flower	y Parata	F Pathalana	ivi Salati ini					~	0	<u> </u>		
Fruit		600000000000000000000000000000000000000								I		
8065 Ne	n <i>iilia h</i> ol	ochila										
0000 ///2	J	F	м	А	м	J	J	А	s	o	N	D
Flower	T	<u> </u>										
Fruit												1.0.2
		I	[<u> </u>				L	.	I
9716 Ok	denlandia	a laceyi										
	J	F	м	Α	м	J	J	Α	S	о	Ν	D
Flower												
Fruit												
9008 <i>Pa</i>	chynema	-										
	J	F	М	A	М	J	J	A	S	0	N	D
Flower	al an Anna - A				č.,							
Fruit												
2669 Pa				-				-	~	~	L+	~
	J Telefor of a	F	M	A	M	J	J	A	S	0	N	
Flower											-	
Fruit		1								1	L	
0633 04	ullanth											
9632 Ph	yllanthus J	ssp.2 F	м	А	м	J	J	А	s	ο	N	D
Flower	, 				191							Le
	21 - 10 - 1036 4. sp. 632 - 1053											
Fruit				<u> </u>			1	L			1	L

1884 <i>Ph</i>	yllanthu:	s virgatu	s									
-	J	F	М	Α	м	J	J	Α	S	Ò	N	D
Flower												
Fruit												
		- 6-11		•								
2030 Pol	iycarpae J	e rallax F	м	А	м	J	J	А	s	o	N	D
Flower			÷.,									
Fruit												
2031 Pol	lycarpae J	a holtze. F	/ M	A	м	J	J	А	s	0	N	D
Flower			Al actual				-					
Fruit					сал ў У у							
2033 Pol									6	0	М	-
Flavor	J	F	M	A Instances (M	J	J	A	s	0	N	D
Flower				5. S ²								
Fruit												
8364 Pol	lvaala lo	naifolia										
	J	F	м	Α	м	J	J	А	s	ο	N	D
Flower												
Fruit												
8365 Pol	iygala ol J	<i>bicularis</i> F	м	A	м	J	J	А	S	0	N	D
Flower			141									
Fruit												
L		2020202020000	569868 24333.". : 3	opaparal-ser-						L		I
8359 Pol												
	J	F	М	A	M	J	J	A	S	0	N	
Flower			35555322			•						
Fruit				sterio de la po en este								
8361 Pol	lvaala sr	2										
	J	F	м	Α	м	J	J	A	S	ο	N	D
Flower									<u> </u>			
Fruit												
8362 Pol			**	*		,			c	о	N	Ď
Flower	J	F	M	A	M	J	J	A	S		N	
Flower Fruit												
	I				te i e se							

8818 Pol	<i>lygala</i> sp	5										
	J	F	м	А	м	J	J	Α	s	0	N	D
Flower												
Fruit												
2422 Poi									•	~		_
	J T	F	M	A	M	J	J	A	S	0	N	
Flower												
Fruit												
8376 Por	rtulaca b	icolor										
	J	F	м	А	м	J	J	А	s	о	Ν	D
Flower												
Fruit												
		• <u>•</u> ••••										
1681 Ptil	lotus cor											
	J	F	M	A	M	J	J	A	S	0	N	D
Flower				8999 999920-440-15								
Fruit	<u> </u>											<u> </u>
4000 00	P.											
1683 Ptil	otus disi J	tans F	м	А	м	J	J	А	s	о	N	D
Flower		•	141			5						
Fruit							ninga (gr. 1975) - 1 - 1 galandara (gr. 1976) - 1 - 1					
,							ana si i			an ann an Ar		
1739 Rhj	ynchosp	ora										
	J	F	м	Α	м	J	J	Α	S	ο	Ν	D
Flower												
Fruit												
2280 Rhy												
							_			_		_
	ynchosp J	ora long F	pisetis M	A	м	J	J	A	S	0	N	D
Flower				A	M	L	J	A	S	0	N	D
Flower Fruit				A	M	J	J	A	S	0	N	D
Fruit	J	F	M	A	M	L	J	A	S	0	N	D
	J uropus b	F	M		M 	J	L 	A	S	0	N N	D
Fruit	J	F	M	A								
Fruit 2423 Sat	J uropus b	F	M		M							
Fruit 2423 Sau Flower	J uropus b	F	M		M							
Fruit 2423 Sau Flower	J uropus b J	F runonis F	M 		M							
Fruit 2423 Sau Flower Fruit	J uropus b J	F runonis F	M 		M							
Fruit 2423 Sau Flower Fruit	J uropus b J	F runonis F	M M M les	A	M	J	J	A	S	0	N	D

9383 Sa	uropus s	sp 1										
	J	F	м	Α	М	J	J	Α	s	0	N	D
Flower	4											
Fruit												
9381 Sai									_			_
r	J	F	M	A	M	J	J	A	S	Ó	N	D
Flower				800-300								
Fruit					1999 - A.M.						6	
9387 Sa	umnus s	en 4										
3007 08	J	ν F	м	А	м	J	J	Α	s	0	N	D
Flower											<u> </u>	
Fruit				9000 - 1 1 - 1 								
	49999999999		222222222222 2255		2669387132.5×1133					nga si shi karir		4
2294 Scl	leria ann	ularis										
	J	F	М	Α	м	J	J	Α	S	0	N	D
Flower			1.448									
Fruit												
9002 Scl												
	J	F	М	A	M	J	J	A	S	0	N	D
Flower												
Fruit												
0.404.0		,										
2431 Sel	oastiania J	a <i>cnama</i> F	elea M	А	м	J	J	А	s	ο	N	D
Flower		<u>,</u>	141		141							
Fruit										}		<u></u>
				804883-3	88 Sec. 28							
9501 Sei	nna heo	tanthera										
	J	F	м	А	м	Ŀ	J	Α	s	о	N	D
Flower												
Fruit												
L	I	1			L <u>.</u> ,	L	L	1				L
8932 Sei	nna oligo	oclada										
	J	F	м	A	м	J	J	A	S	0	N	D
Flower												
Fruit												
2721 Sol									_	_		-
1	J	F	M	A	M	J	J	A	S	0	N	
Flower		<u> </u>				ļ						\mid
Fruit					•							

8820 Sta	ackhousi	a interm	edia									
	J	F	М	Α	м	J	J	Α	s	о	N	D
Flower												
Fruit												
8572 Ste	emona a		na									
	J	F	M	A	M	J	J	A	S	0	N	D
Flower												
Fruit			<u> </u>									
0504 04	·	D										
8531 Sti	nga curvi J	<i>nora</i> F	м	A	м	J	J	A	S	ο	N	D
Flower							, 	~				
Fruit		Standard I										
TTUR	1	l							1			
8601 Sty	/lidium flo	oodii										
,	J	F	м	А	м	J	J	А	s	о	Ν	D
Flower	-			er ek ek								
Fruit												
				ł								<u>. </u>
8603 Sty	/lidium in	riguum										
	Ĵ	F	М	Α	M	J	J	Α	S	0	N	D
Flower												
Fruit												
8604 Sty										_		-
~.	L	F	M	A	M	J	J	A	S	0	N	
Flower										.		. .
Fruit					\$65	ntra Di Korolia						
8814 Sty	losanthe	s hama	ta									
001100	J	F	M	A	м	J	J	А	S	о	N	D
Flower				a ja kaja s								
Fruit						:						
				20. Xindia - 111	1				.,		, , , ,	<u> </u>
8620 Ta	cca leont	opetalo	ides									
	J	F	м	А	м	J	J	Α	S	о	N	D
Flower												
Fruit												
9070 Tej					_							-
	J 1	F	M	A	M	J	J	A	S	0	N	
Flower												
Fruit												

2583 Te	phrosia	remotific	ora									
	J	F	м	А	м	J	J	А	S	о	N	D
Flower								-		Γ		Τ
Fruit							1					
								-	• • • •	***	•	•
2584 Te												
	J T	F	M	A	M	J	J	A	S	0	N	D
Flower							ļ			ļ		
Fruit			8							<u>i.</u>		
8626 Th	ecanthe	s nunice	a									
0020 77	J	F	M	А	м	J	J	Α	s	o .	N	D
Flower			. : :		I				_			-
Fruit					San kan ka sin ili							
	.1	1	1	00000000000000	an eas area a			1				
2722 Th	ysanotu	s banksi	ï									
	J	F	М	Α	М	J	J	Α	S	0	N	D
Flower				a en el file.								
Fruit												
8699 Tril				_						_		_
	L Table	F	M	A	M	J	J	A	S	0	N	D
Flower												
Fruit												
1828 Typ	honium	المععبية	smithii									
1020 / 90	J	F	M	А	м	J	J	A	s	ο	N	D
Flower			<u> </u>						-	-		 [
Fruit												
												1
2590 Ura	nia cylin	ndracea										
	J	F	М	Α	М	J	J	A	S	0	N	D
Flower												
Fruit												
2591 Ura												
	J	F	M	A	M	J	J	A	S	0	N	
Flower		<u>-</u>										
Fruit	l											
1015 14/-	dolio -··	nninet -	mii									
1915 We	della cu J	<i>nningna</i> F	mii M	A	м	J	J	А	s	ο	N	D
Flower	,		141		141					T	14	
Fruit	Berre I											
i i ult	L			\$£.						<u>i</u>		

2593 Vig	gna lance	eolata										
	J	F	м	Α	М	J	J	Α	S	0	N	D
Flower												
Fruit												
2141 Xe	enostegia	tridenta	ata									
	J	F	м	A	M	J	L.	A	S	0	N	D
Flower												
							1 1					
Fruit										<u> </u>		
	ris comp	lanata F	M	Α	м	J	L L	A	\$	0 0	N	D
			M	A	M	J	J	A	s	0	N	D
8691 Xy			M R R R R R R R	A	M	J	L	A	S	0	N	D
8691 Xy Flower Fruit		F			M		L					
8691 Xy Flower Fruit	J	F			M	J	J	A	\$ 	0	N N N	D
8691 Xy Flower Fruit	J	F	r prostra	ta								