

伍、附錄

Australia-Taiwan's Promising Cooperation on Tropical Fruit Business 15 Sep 2017



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Outline

- **Background of the Australia-Taiwan agricultural trade**
- **Why we need each other?**
- **Production of Taiwan's tropical fruit in Australia**
- **What benefits for both sides?**
- **Conclusion and vision**



Background of the Australia-Taiwan agricultural trade



Agricultural trade between Taiwan and Australia

- In 2016, the Australia was **the ninth-largest market** for **Taiwan's agricultural exports** of a total amount **USD 95,974 thousand**. Our main exports included **frozen bass, tilapia and *Phalaenopsis* orchids** etc.



➤ Australia is **the second** import country of **wheat, beef, milk powder** to Taiwan, and **the third import country of corn, raw and fined sugar**. As to the horticultural products importation is shown in the table:

Item	Tons	USD thousands	Products (ton)
Fruits	6,853	16,057	Citrus (3,081), Grape (1,851), Orange (1,340), Cherry (496)
Vegetable	4,474	2,638	Carrot (2,022), Onion (1,405), potato (1,047)
Flower	14	131	Flower seeds(8), cutflower (Protea, 6)



- **2.08 million liter of wine** was imported from Australia to Taiwan which was accounting for **10.12%** of the imports in 2016 and ranked Australia as **the fourth** import country.
- Compared with the local production **1.96 million liter** of wine was produced in Taiwan in 2016 accounting for **0.9%** of of the consumption.



Photo copied from <http://austw387.blogspot.tw/>



Expanding agricultural trade between Taiwan and Australia (1/3)

1. Cooperating on **anti-season fruits and vegetables supply**: eg. import of Taiwan's summer fruits and winter vegetables to Australia and export of Australia's cherry to Taiwan in summer.



Expanding agricultural trade between Taiwan and Australia (2/3)

2. ***Phalaenopsis* orchids**: Australia has been our **third export market** and reached a value of USD 7,000 thousand (6 tons). Now, we are discussing the work plan with Australian government to **waive cutflower fumigation** after importing



Expanding agricultural trade between Taiwan and Australia (3/3)

3. New items for Australia' market

1) Mushrooms:

- ✓ So far as only few mushroom species could be imported to Australia. We request market access to Australia for more mushroom species such as **Buna shimeji (鴻喜菇)**.

2) Tropical fruits:

- ✓ Currently Taiwan's mango and lychee could be imported. **Pineapple** (de-drowned), papaya, guava and jujube still on the list for market access





Why we need each other?



Why select AU?

	South Africa	New Zealand	Brazil	Chili	Australia	Data Source
GDP (Billion USD)	3,501 ★★★	1,981 ★	23,530 ★★★★★	2,579 ★★	14,442 ★★★★★	IMF (2014)
GDP (PPP) per Capita (Int\$)	13,094 ★	35,305 ★★★★★	16,155 ★★	23,057 ★★★	46,550 ★★★★★	IMF (2014)
Agri. Value (Billion USD)	209 ★★★	111 ★	2,194 ★★★★★	140 ★★	410 ★★★★★	FAO (2013)
Agri. Export Capacity (%)	29 ★	81 ★★★★★	86 ★★★★★	49 ★★	68 ★★★	(exp.-imp.)/ exp.*100%
Veg-fruit import value (Million USD)	492 ★★	577 ★★★	2,279 ★★★★★	474 ★	1,859 ★★★★★	FAO (2013)
Veg-fruit export value (Million USD)	3,499 ★★★★★	1,795 ★	3,410 ★★★	6,288 ★★★★★	2,169 ★★	FAO (2013)
Veg-fruit export capacity (%)	86 ★★★★★	68 ★★★	33 ★★	92 ★★★★★	14 ★	(exp.-imp.)/ exp.*100%
Land obtained ability	Total land 1.21 million km ² . 0.3 mil. ha for fruit cultivation in 2011. ★★★	Total land 0.27 million km ² . 70,000 ha for fruit in 2011. ★	Total land 8.51 million km ² . 2.56 million ha for fruit in 2011. ★★★★★	Total land 0.76 km ² . 0.37million ha for fruit in 2011. ★★	Total land 7.69 million km². 0.3 million ha for fruit in 2011. ★★★★★	FAO
IP (UPOV agreement)	1978 Act ★★★	1978 Act ★★★	1978 Act ★★★	1978 Act ★★★	1991 Act ★★★★★	TIER

	South Africa	New Zealand	Brazil	Chili	Australia	Data Source
Latitude	S.L. 22-35°	S.L. 33-53°	N.L. 5° - S.L. 33°	S.L. 18-57°	S.L. 10-43°	
Weather	Tropical Savannah, Monsoon and Mediterranean climate ★★★★	Subtropical and Temperate climate ★	Tropical and Subtropical climate ★★★★★	North: Desert climate Middle: Mediterranean South: Temperate ★★★	North: Tropical climate (Abundant rainfall at Cains) South: Temperate ★★★★★	TIER
Global economic performance ranking	49 ★★	37 ★★★	51 ★	32 ★★★★	28 ★★★★★	IMD WORLD COMPETITIV ENESS YEARBOOK 2015
Government Efficiency Global Ranking	40 ★★	6 ★★★★★	60 ★	26 ★★★	14 ★★★★	
Business performance Global ranking	52 ★	15 ★★★★★	51 ★★	35 ★★★	17 ★★★★	
Information obtained ability	★★★	★★★★★	★	★★★	★★★★★	
Public safety	★	★★★★★	★	★★★★★	★★★★★	WIKIPEDIA
Score	46 ★	51 ★★★	51 ★★★	51 ★★★	65 ★★★★★	



Taiwan's Niche Tropical Fruit Products



Guavas

- ✓ 2 new variety has been registered
- ✓ 1 new variety under review
- Improvement of Fruit
- Development of Seedlessness
- Postharvest Storage Technology
- Fertilizing /Soil Management
- Farming Mechanization
- Control of Fruit fly etc.



Jujubes

- ✓ 8 new varieties have been registered
- Integrated Pest Management for Jujube
- Soil management /Fertilizing management
- Postharvest procedure
- Export Orchard

Niche Products

Lychee

- ✓ 6 new varieties have been approved
- ✓ *Rose Red*
- Rose fragrance, rose-red color of peel,
- 17.4-20.2 Brix, Firm-fleshed
- Easy to rep the peel of the aril from the suture, "Zipper", Late maturing



Mangos

- ✓ 3 new varieties have been approved
- ✓ 1 new variety under review
- ✓ *Summer Snow*
- Strong and long lasting aroma
- Silky smooth flesh
- 12-15 Brix
- ✓ *Honey Snow*
- High sugar content, 15-18 Brix, slightly aromatic



Source: TIER, 2014

Strengths of Taiwan's Fruit Industry

- An attractive market of a 23 million population with high consumption ability
- Leading in tropical agriculture R&D, especially in tropical fruit, vegetable and rice
- Advanced agricultural material industry (seed, seedling, bio-fertilizer, etc.)
- Well developed novel cultivars, field management and post harvest technologies
- Skillful and diligent growers



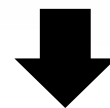
Strengths of AU's Fruit Industry

- **Southern hemisphere: favorable producing seasons**
- **Diversified growing regions and environmental conditions**
- **Skillful and diligent growers**
- **Excellent linkage between research and industry**
- **Integrated supplying and marketing chains**
- **Well developed plant variety right protection (PVR) system**

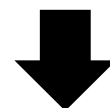




Farms extend down the east coast of Australia for almost **2,500 km** from Cooktown in Far North Queensland to Coffs Harbour in New South Wales, which include tropical and subtropical area.



Longest harvest season in the world



Taiwan's fruit cultivar can **find its best place to be planted**



Production of Taiwan tropical fruit varieties in Australia



Why select Lychee as the first case of cooperation?



	Banana	Carambola	Oriental Pear	Wax apple	Pine apple	Sugar apple	Pitaya	Jujube	Guava	Mango	Lychee
Potential market (US, EU, Asia)	★	★	★★	★	★	★★★★	★	★★★★	★★★★	★★★★	★★★★
Seasonal production	★	★★★★	★★★★	★★	★★	★★	★★	★★★★	★	★★	★★★★
IP right (PBR)	★★★★	★	★	★★★★	★★★★	★★	★★★★	★★★★	★★★★	★★★★	★★★★
Suitable for Tropical	★★★★	★★★★	★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★
Exportable for TW	★★★★	★★	★★	★	★★★★	★★	★★	★	★★★★	★★★★	★★★★
Long- distance transportation	★★★★	★	★★★★	★	★★★★	★	★★★★	★★	★★★★	★★★★	★★★★
High value	★	★★★★	★★	★★★★	★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★
Score	15	14	14	14	16	16	17	18	19	20	21





Rose Red



肉厚核小 & 味甜清香

高雄大樹玉荷包

鳳荷日荔

<http://www.facebook.com/tw840/>

限量
預購中



Why Australian Lychee Industry needs to cooperate with Taiwan

- **Harvested earlier, diversified cultivars**
- **Attractive appearance (e.g. large fruit)**
- **Longer shelf life (storage under low temperature)**
- **New taste experience**
- **Complementary production season, expanding market**



Lychee Varieties in Australia

Souey Tung



- Very early
- Good tasty
- Alternative bearing

Fay Zee Siu



- Early
- Excellent tasty
- High price
- Generally poor fruit set

Tai So



- Early
- Fair tasty



Kwai May Pink



- Mid-late
- Excellent quality
- Stable yield
- Fruit size not big enough
- Short shelf life

Wai Chee



- Late
- Good quality
- Fruit size not big enough



Strengths of Taiwan's Lychee Industry

- **Excellent linkage between research and industry**
- **Novel cultivars**
- **Well developed field management and post harvest technologies**
- **Skillful and diligent growers**



Lychee Varieties of Taiwan- Early-maturing cultivars

‘Tainung No. 7 (Early Big)’ 早大荔



‘Yu Her Pau’ 玉荷包
‘(Fay Zee Siu)’



- Early harvested during mid to late May (similar to Souey Tung’)
- large (f.w. 30 g)
- Easy to be cultivated



Late-maturing cultivars

'Tainung No. 3 (Rose Red)'



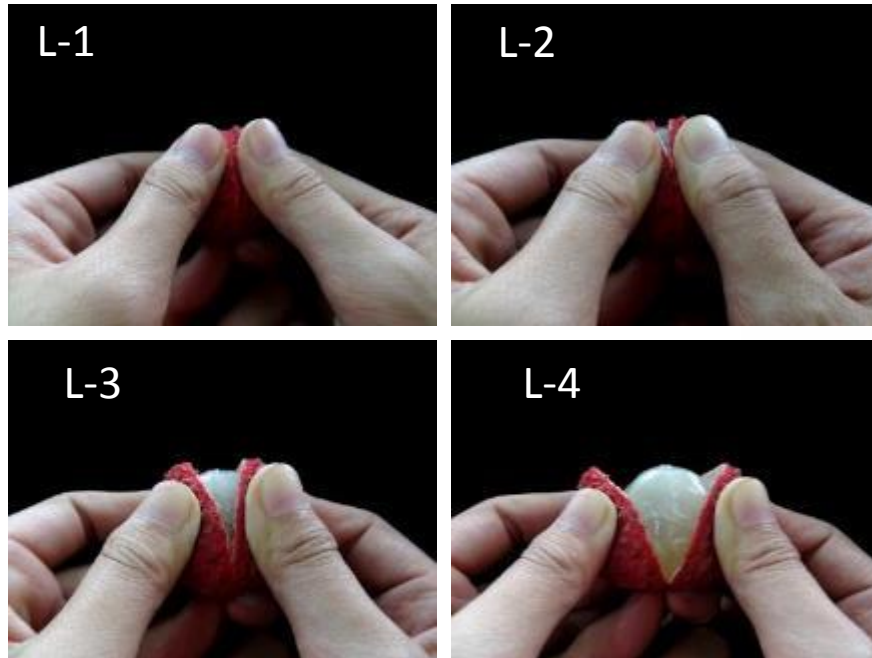
'Kwai May Pink'



- Attractive appearance
- Best quality
(firm, crisp, juicy, fragrant)
- Most popular

- Yield may not stable among regions

Late-maturing cultivars



the 'Rose Red' lychee is also named 'zipper lychee'



Late-maturing cultivars



- Very large (f.w. > 40 g)
- Great appearance
- Easy cultivated

- Cool temperature requirement

Late-maturing cultivars



- Heart shape ♥
- Chicken tongue seed
- Long shelf life

- Cool temperature requirement



'Ruby' also has long shelf life

stored under 4 °C

'Tainung No. 5 (Ruby)'

'Tai So (Mauritius)'

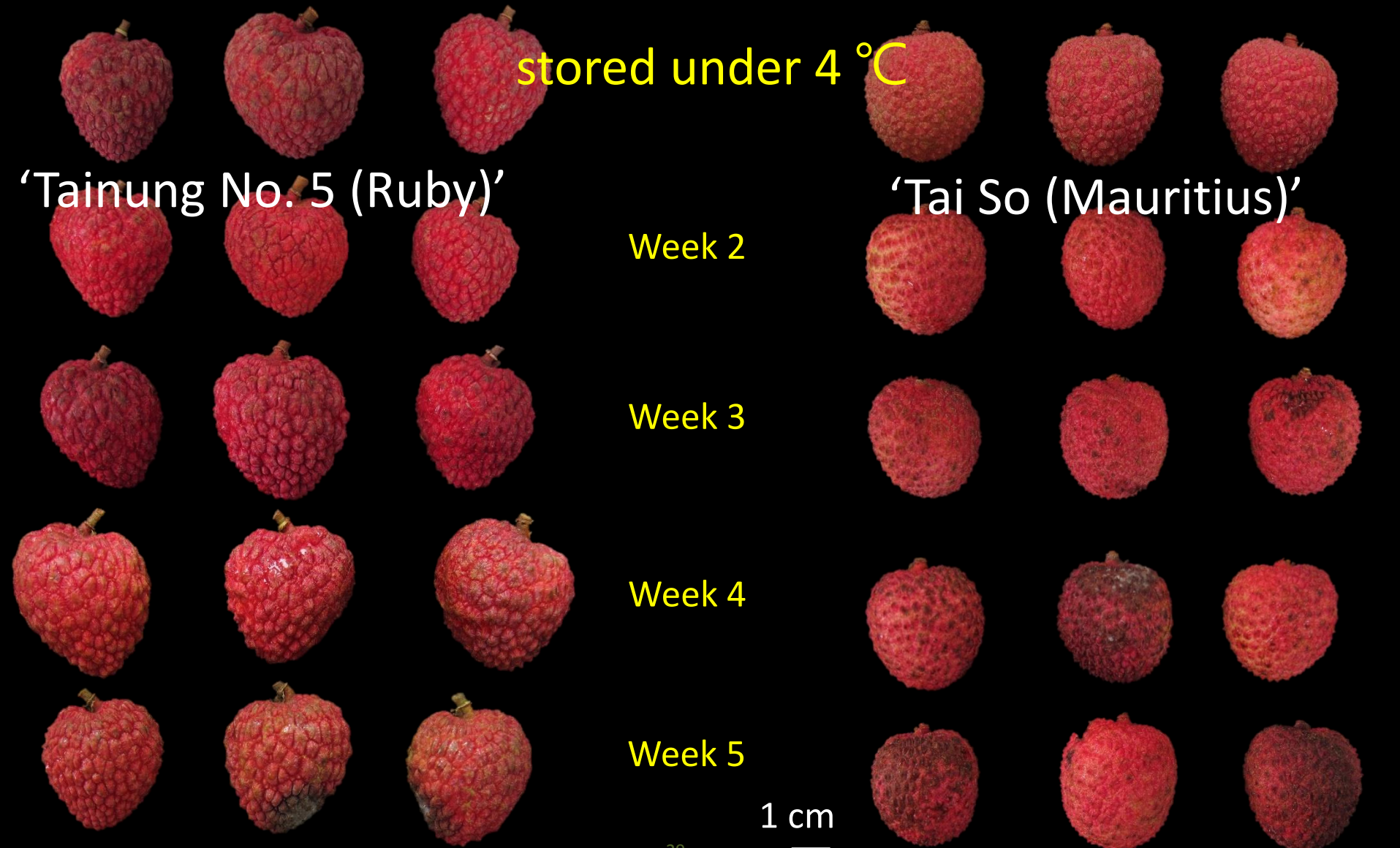
Week 2

Week 3

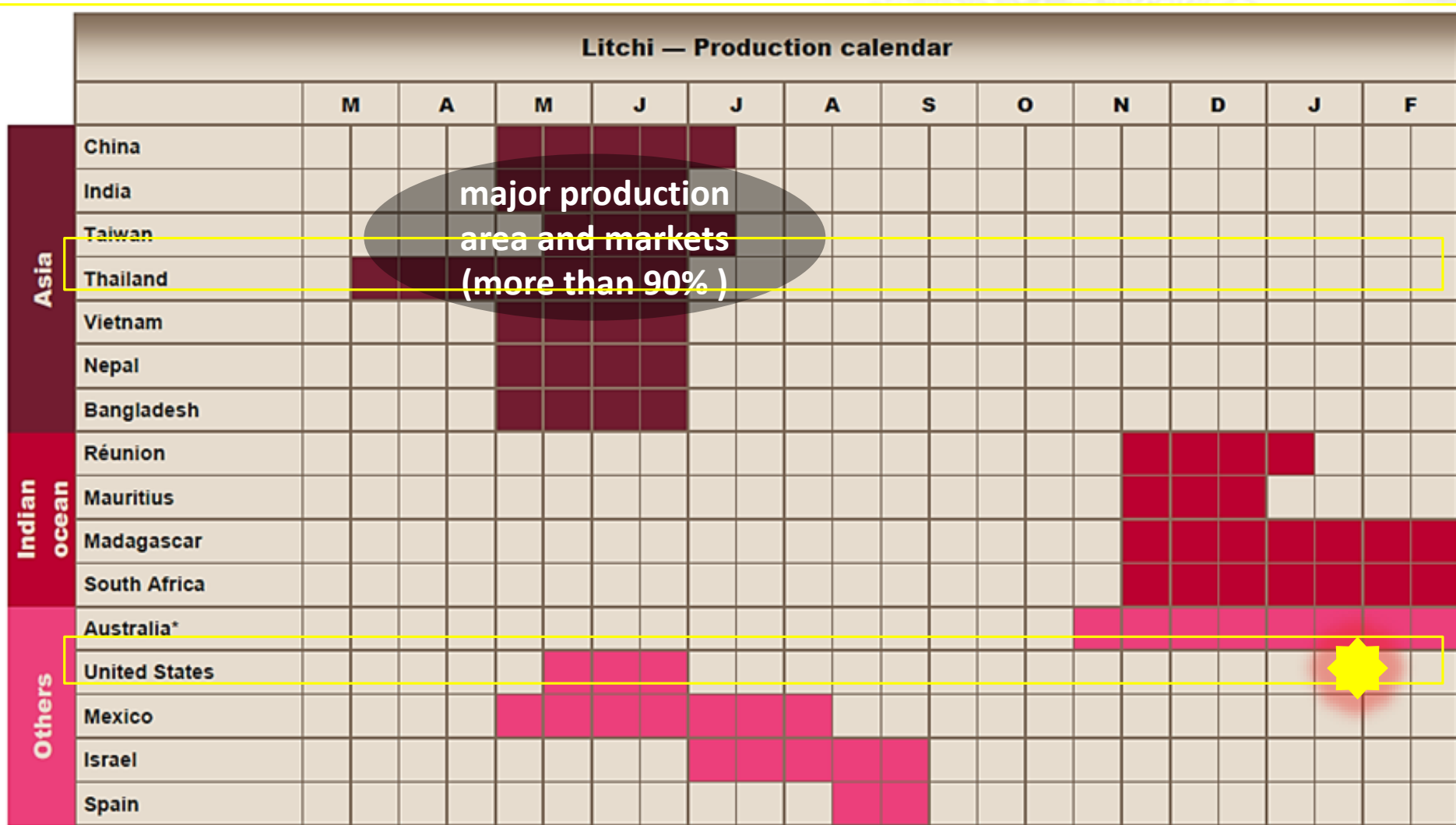
Week 4

Week 5

1 cm



Complementary for Global Lychee Production



major production area and markets (more than 90%)

Chinese new year



Chinese new year

(FRuitROP, 2011)



Comparison of Lychee Harvest Seasons in AU

AU varieties



Early

Late

TW varieties





Taiwan side will deliver 4 lychee seedlings to Australia for the quarantine isolation and further field test in October 2017.



Other Promising Tropical Fruits for Future Cooperation



Guava production in Australia and Taiwan



<http://www.kaofarmers.tw/newsFlash/26>



Guava in Australia

- **Production region: North of New South Wales, Queensland and Northern Territory.**
- **Fresh eat, made into jam, juiced and used as a flavouring for other foods.**



Northern Gold



Some Guava Varieties in Australia



Guava Hawaiian - Pink Supreme (C)

A cutting grown selection of Hawaiian. Fruit is large, yellow skinned and pink fleshed fruit. Very hardy prolific cropper. Can be eaten fresh or juiced. Can be pruned to keep compact. Grown from Cuttings.



Guava Hawaiian

A seedling of the Hawaiian Supreme commercial variety. Fruit is large, yellow skinned and pink fleshed fruit. Very hardy prolific cropper. Can be eaten fresh or juiced. Responds well to pruning to keep compact.



Guava - Brazilian

Pear-shaped fruit, with yellow skin, thick, pale-yellowish flesh surrounding the white central pulp, excellent strawberry-like flavor. It contains numerous small, hard seeds and is quite firm even when fully ripe.



Guava - Starlings Seedless

A firm guava with crisp, clean white flesh that if not cross pollinated will produce seedless fruit that can be eaten fresh out of hand like an apple. Cross pollinated fruit will produce extremely small central cavities dotted sparsely with soft seeds. Fruits are large and heart shaped, green skinned and highly aromatic. Superior flavour to that of Thai varieties. A must have for those who tend to avoid guavas owing to high seed content



Guava - Thai White

Large greenish skinned Asian type with white flesh and few seeds. Mild flavour and very popular in Asian markets. Easy to grow in frost free climates, and can be a weed in some regions.



Guava - China Pear

White fleshed guava with exceptional flavour. Pear shaped large size. Trees are ornamental and can be pruned to size making them a versatile addition to small backyards.



Guava in Taiwan

- Production region: all island, year round production.
- Fruit: major for fresh eat, , few for dried fruit or made into juice.
- Leafs: herb tea

Health Benefits of Guavas

- High Contents of Vitamin C, iron, antioxidant and lycopene.
- No-cholesterol and low-carbohydrate.
- Helps to eliminate Nitrite (NO_2^-)



Guava Varieties in Taiwan



高雄2號-珍翠
2014/6/17



珍珠拔
2012/9/13



帝王拔
2012/9/13



圓葉無籽拔
2014/6/17



世紀芭樂
2014/6/17



香拔
2013/9/16



斑葉紅肉拔
2013/9/16



無子水蜜拔
2013/4/22



草莓番石榴與檸檬番石榴
2013/2/6



巴西捲葉拔
2012/9/28



印尼紅皮紅肉拔
2012/9/28



東山月拔
2012/9/28



水晶拔
2012/9/13



彩虹拔
2012/9/13




宜蘭紅心拔
2012/9/13



紅肉番石榴介紹
2012/9/13



* concentration times dry weight of fruit

Vit.c		=70		or	20	
Antioxidant Power (FRAP)		=20		or	20	
Total Phenolic Compounds (TPC)		=13		or	12	
Proteins (N)		=13		or	3	
Minerals (P)		=3		or	1	
Minerals (Mn)		=20		or	20	
(Zn)		=15		or	7	



Department of Horticulture National Chung Hsing University Lab of Plant Nutrition, Taichung Taiwan.



Taiwan's guava export

Country	2012		2013		2014		2015		2016	
	MT	Thousand USD	MT	Thousand USD	MT	Thousand USD	MT	Thousand USD	MT	Thousand USD
UAE	-	-	-	-	-	-	64	87	60	84
Canada	1,826	2,892	2,350	3,564	1,619	2,630	1,071	1,765	952	1,631
China	469	422	1,088	861	1,314	1,397	1,477	1,729	1,065	1,712
UK	-	-	-	-	6	10	-	-	-	-
Hong Kong	447	472	674	868	541	934	454	796	540	843
Malaysia	1	1	5	12	5	10	4	9	0	0
Philippines	-	-	-	-	5	9	0	0	-	-
Singapore	299	427	573	646	576	726	421	558	168	255





無添加防腐劑 無添加人工色素 無添加人工香料 純素 素食可用 天然烘焙 無糖化處理

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Jujube-

is a noble and expensive winter fruit in Taiwan and for all oversea Chinese but is considered a invasive species in Australia



Ber vs. Chinese jujube



***Ziziphus mauritiana* Lam.**



***Ziziphus jujuba* Mill.**



蜜棗富含超高的 **維生素C**
超過蘋果的**20倍!**



好實選果
www.MrGood.com.tw





As big as an apple



Press conference- Jujube varieties



Through the efforts of farmers and agricultural research scientists, new cultivars and cultural practices have been greatly released. Unlike the small, sour and astringent Indian jujubes, **the Taiwan varieties are large, juicy, sweet and crispy.**



Destination of Taiwan Jujube exportation

Year (mt)	2011	2012	2013	2014	2015
Country 					
China	101	113	136	154	262
Canada	29	4	6	5	17
Singapore	19	23	8	11	7
Hongkong	0.4	2	2	26	37
Malaysia	10	8	11	7	4
Others	1	1	2	1	3



Jujube Varieties

Kaohsiung 5 (Green)



- 2007
- Green skin
- Fruit weight: 95-135 g
- Soluble solid content: 12-14° Brix
- **Processing variety**

Kaohsiung 6 (Sweet)



- 2007
- Light green skin
- Fruit weight: 90-130 g
- Soluble solid content: 12-13° Brix
- Late maturing variety



New Jujube Varieties



Kaohsiung 7 (Cherry)

- 2011
- Small and cute; Yellow skin
- Fruit weight: 57-93 g
- Soluble solid content: >14° Brix
- Juicy good taste of sweetness and crispy texture



Kaohsiung 8 (Treasure)

- 2011
- Large in shape; High quality
- Late maturing variety
- Soluble solid content: >14° Brix
- Good taste of sweetness





50 USD/ Box

What Benefits for Both Sides



For AU

- **Gain new tropical fruit varieties and producing techniques from Taiwan**
- **Creating global market channel in tropical fruit industry especially for global Chinese market**
- **Facilitating the northern even all the Australia's tropical agricultural industry development**
- **For people of Australia could enjoy the diversified delicious and nutritious tropical fruits**



For Taiwan

- Establishing a **oversea production base** will help to resolve the limited arable land in Taiwan
- Taking the advantage of anti-season production in Australia it will **increase the visibility of Taiwan tropical fruit varieties** to the world
- Building the partnership with the Australian agri-business will **enhance the capacity in R&D** more
- **Youth farmers and graduates** exchange and join agricultural production in Australia will help them **to skill up**



Conclusion and Vision



1. We are convinced that the future global **trade** trend is still a **liberalism**.
2. The **land area** of Australia is **213.6 times** to Taiwan, but the two countries have a **considerable population**. Each side is good at different agricultural fields and has **complementary resources**.
3. In response to the **climate change**, as a starting point, the cooperation between Taiwan and Australia to **strengthen the supply chain of tropical fruits** will **bring benefits to both sides**.





Thanks for your attention

陸、附錄-參訪照片及說明





106年9月15日「第31屆台澳經濟聯席會議」開幕典禮貴賓合影(左起)：澳台工商委員會前主席 Rt. Hon. Ian Sinclair AC、澳洲前國防部長及現任聯邦眾議員Hon. Kevin Andrews MP、國經協會澳洲委員會主委及台電董事長朱文成博士、澳洲辦事處雷家琪代表、我國駐澳代表處常以立大使、澳台工商委員會現任主席Mr. Ross Maddock





106年9月15日大會團體照





106年9月16日，紐卡索港口參訪，圖前方白色倉庫為特製倉庫，可用於儲存巴西出口之濃縮柳橙汁





106年9月16日，紐卡索港口參訪，台電公司的煤炭船「電昌七號」，正在港內裝煤炭。





106年9月17日雪梨台商座談會出席者





106年9月17日雪梨台商座談會致詞及演講

