

THE ADVANTAGES OF NEW DIPLOMATIC RELATIONSHIPS WITH CHINA – CAN THE LITCHI INDUSTRY BENEFIT?

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ABSTRACT

The establishment of diplomatic relationships between South Africa and eastern countries, such as China, has created exciting new scientific opportunities for the subtropical fruit industry. Recent information on litchi cultivation obtained from China revealed an opportunity to obtain cultivars previously unknown and unavailable to the South African litchi industry.

The litchi originated in China, which has a cultivation history of more than 2000 years. As the native home of litchis, China has the most abundant germplasm resources in the world. There are over 200 cultivars in Guangdong province alone, of which 40 are grown commercially. With the early, mid and late season cultivars combined together, the marketing season of fresh litchis can last more than 3 months in China.

Considering a history of inferior strains and misnamed cultivars imported from secondary sources, the litchi industry in South Africa now has the opportunity to obtain a variety of cultivars from its source of origin. Furthermore, new methods of propagation like grafting / budding onto seedling rootstocks, have the benefit that large quantities of budwood can be introduced for rapid establishment and evaluation in our local industry. The best cultivars available in China are discussed in this paper.

OPSOMMING

Die vestiging van diplomatieke betrekkinge tussen Suid-Afrika en Oosterse lande soos China het opwindende, nuwe wetenskaplike geleenthede vir die subtropiese vrugtebedryf ontsluit. Onlangse inligting oor lietsjieverbouing wat in China bekom is, wys dat daar geleenthede bestaan om kultivars te verkry wat voorheen onbekend en onbekombaar was vir die Suid-Afrikaanse lietsjiedryf.

Die lietsjie kom oorspronklik van China waar dit al vir meer as 2000 jaar verbou word. As die inheemse tuiste van lietsjies het China die grootste bron van oorspronklike genetiese materiaal in die wêreld. Daar is meer as 200 kultivars in die Guangdong provinsie alleen, waarvan 40 kommersieel verbou word. Die bemarkingseisoen in China strek oor 'n periode van meer as 3 maande wanneer die produksietyd van vroeë, mid-en laat seisoen kultivars gekombineer word.

Met 'n geskiedenis van minderwaardige genetiese lyne en verkeerde benaming van kultivars wat van sekondêre bronne ingevoer is, het die Suid-Afrikaanse lietsjiedryf nou die geleentheid om 'n verskeidenheid van kultivars vanaf die oorspronklike bron te verkry. Die beste kultivars beskikbaar in China word in hierdie artikel bespreek.



Figure 1 A litchi orchard in China.

INTRODUCTION

The establishment of diplomatic relationships between South Africa and eastern countries, such as China, has created exciting new opportunities for the subtropical fruit industry. Recent information on litchi cultivation, obtained from China has revealed an opportunity to obtain cultivars previously unknown and unavailable to the South African litchi industry.

CULTIVAR SITUATION IN SOUTH AFRICA

In spite of a cultivation history of more than 100 years, only two cultivars are currently grown commercially on a large scale in South Africa. Various efforts have been made since 1928 to import cultivars but, with few exceptions, these cultivars failed to be commercially accepted. Poor adaptation to local environmental conditions was believed to be the reason for not releasing these cultivars to the industry. New evidence indicates that the source of the problem most probably lies with inferior strains and misnamed cultivars being imported from secondary sources. Furthermore, cultivars were frequently imported under the wrong name. Due to the unfamiliar Chinese names and pronunciations, other names were often given to Chinese cultivars when the litchi spread to the rest of the subtropical world at the end of the 17th century. Various synonyms therefore exist for the same cultivar in different parts of the world, leading to a great deal of confusion among researchers, growers and nurserymen. It was further impossible to import large amounts of material, because air layers had to be imported. That proved to be very expensive and impractical. With other methods of multiplication, like grafting onto seedling rootstocks, a better headstart can be made with new cultivars.

What can China offer to the South African litchi industry?

When the Chinese and South African industries are compared, the magnitude of the Chinese industry is evident (Table 1). The litchi originated in China, where it has a cultivation history of more than 2000 years. As the native home of litchis, China has

the edible portion is 67 to 70 %. This cultivar is known as Third Month Red in South Africa.

Tiny seed Sanyuehong

This cultivar has a degenerated seed percentage of over 95%. This strain has better fruit quality than the conventional Sanyuehong.

Table 1 Perspective on SA litchi industry vs Chinese litchi industry

Litchi	SA Industry	Chinese Industry
Cultivation history	100 years	2000 years
Annual production	10 000 ton	950 000 ton
Production area	2 000 ha	530 000 ha
Cultivars	33	300
Commercial cultivars	2	40
Marketing season	2 months	3-4 months

Table 2 Harvesting season in Guangdong province, China

	May	June	July	August
Sanyuehong	-----			
Baitangying		-----		
Baila		-----		
Feizixiao		-----		
Yuanzhi		-----		
Zhangyuanhong		-----		
Dazao		-----		
Heiye		-----		
Hexiachuan		-----		
JianjiangHongnuo			-----	
Guiwei			-----	
Nuomici			-----	
ZengchengGualu			-----	
Huaizhi			-----	
Xuehuaizi			-----	
Majili				-----
	May	June	July	August

the most abundant germplasm resources in the world. There are over 200 cultivars in Guangdong province alone, of which 40 are grown commercially. With the combined early, mid and late season cultivars, the marketing season of fresh litchis can last more than 3 months in China (Table 2). The total production area is over 530 000 hectares and an output of 950 000 tons was achieved during the 1999 season.

The main Chinese cultivars and selections will be briefly discussed:

A MAIN CHINESE CULTIVARS

Sanyuehong

The earliest cultivar in China, harvested from late April to mid May. Average weight of fruit is 37 – 42 g and

Baitangying

Early season cultivar, harvested from late May to early June. Recommended for large scale planting in China. Average fruit weight: 24.8 g. Edible portion: 71.6%. Excellent fruit quality.

Baila

Early season cultivar (one week later than Baitangying). Average fruit weight: 24.1 g. Edible portion: 72%. Excellent fruit quality, mainly exported.

Zhuangyuanhong

Early maturing (early to mid June). Average fruit weight: 31 g. Edible portion: 65%. High yielding. Crisp flesh with a rough texture.

Yuanzhi

Early season cultivar (early to mid June). Average fruit weight: 22 g. Edible portion: 68%. High, stable yields with medium quality fruit. Locally known as Souey Tung. Considered to be a midseason cultivar in South Africa.

Feizixiao

Early to midseason cultivar (early to late June). Average fruit weight: 30 g. Edible portion: 79.4 to 82.5%. High and stable yield potential. In South Africa the cultivar is called Fay Zee Siu, and this is currently the earliest local commercial cultivar.

Dazao

Early to midseason cultivar (early to mid June). Average fruit weight: 23.8 g. Edible portion: 61.5 to 70%. Widely grown but not large areas. High yielding cultivar. The cultivar is also known as Tai So which is probably the same as HLH Mauritius in South Africa.

Heiye

Midseason cultivar (mid June to early July). Average fruit weight: 18 - 28 g. Edible portion: 70%. Precocious and widely planted. Known as Haak Yip in South Africa.

Hexiachuan

Midseason cultivar (mid June to early July). Parthenocarpic property (seedless). The cultivar can be used a germplasm for litchi breeding. High and stable yielding.

Jianjianghongnuo

Mid to late season cultivar (late June to mid July). Average fruit weight: 25 - 30g. High yield, superior quality. Golden award in China in 1995 for excellent quality.

Guiwei

Mid to late season cultivar (late June to mid July). Average fruit weight: 17 g. Excellent fruit quality with tiny seed and crisp flesh. Consumer favourite in Guangdong and Hong Kong. Probably the same as Kwai May Pink in South Africa.

Nuomici

Mid to late season cultivar (early to mid July). Average fruit weight: 25 g. Edible portion: 84%. Excellent fruit

Table 3 Litchi supply calendar

Country	Month											
	10	11	12	1	2	3	4	5	6	7	8	9
China								■	■	■	■	■
Thailand								■	■	■	■	■
Vietnam								■	■	■	■	■
Taiwan									■	■	■	■
Australia		■	■	■	■	■	■					
India								■	■	■	■	■
Mauritius		■	■	■	■	■	■					
Reunion		■	■	■	■	■	■					
Madag		■	■	■	■	■	■					
SA		■	■	■	■	■	■					
Zimbabwe			■	■	■	■	■					
USA									■	■		
Israel											■	■

quality and tiny seed. Four Selections are available in China. Known as No Mai Chee in South Africa, but an inferior strain was probably imported.

Gualu

Late season cultivar (mid to late July). Average fruit weight: 20 g. Edible portion: 72%. Crips flesh with elegant fragrance. Not widely planted because of unstable yielding.

Huaizhi

Late season cultivar (mid to late July). Average fruit weight: 22 - 25 g. Bumper and stable yielding. Stress resistant. Widely planted cultivar. The cultivar is known as Wai Chee in South Africa, which is the latest commercial cultivar.

Xuehuaizi

Late season cultivar (late July, after Huaizhi). Average fruit weight: 25 - 28 g.

Edible portion: 70 to 76%. Widely planted, easy to manage.

Majili

Late season cultivar (late July to late August). Average fruit weight 35 g, maximum mass up to 50 g. TSS: 16% Acid: Plain. Coarse flesh. Large fruit and seed.

B PROMISING SELECTIONS IN CHINA

Shuangbaili

Early season selection (Early June). Edible portion: 85%. Degenerated seed, tender flesh and thin skin. Winner in competition for early season cultivars in China.

Shuangjian Yuhebo

Mid to late season selection (early to mid July). Average fruit weight: 27 g. Crisp flesh with ruby skin colour. Marketed at higher prices.



Figure 2 Feizixiao litchi fruits ready for harvest.

Xianpoguo

High yielding selection. Average fruit weight: 30 g. Brightly coloured fruit. Two fruit types are available.

Dajiangjun

A selection suitable for extensive cultivation. Average fruit weight: 28 g. Scarlet skin colour. Thick skin, rather tough flesh.

WORLD LITCHI SUPPLY

Table 3 shows that a gap in worldwide litchi supply occurs during the period mid March to end of April and from mid November. With earlier and later cultivars to lengthen the South African production season, the local industry is capable of filling this gap. A serious effort should therefore be made to negotiate with countries such as China to obtain cultivars to lengthen our very short harvesting season of 6 to 8 weeks in all production areas.

CONCLUSION

The 1999 South African litchi census showed that there is an increase in HLH Mauritius plantings as opposed to a decrease in McLean's Red. This will inevitably lead to an even greater peak in production during December, something that the SA-Industry can ill afford. Considering a history of inferior strains and misnamed cultivars imported from secondary sources, the litchi industry in South Africa now has the opportunity to obtain a variety of cultivars from its source of origin. Furthermore, with alternative propagation techniques such as grafting / budding onto seedling rootstocks, the distribution of new material in our industry can be accelerated.

With the doors to China wide open, the Industry in South Africa should utilise this opportunity to the benefit of all its growers.

REFERENCES

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