

## CHINA; CROUCHING DRAGON OR PAPER TIGER?

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In 2018 the AMS led a study tour of farmers and other industry participants to China, where they visited farms and processing facilities. This article summarises the insights and possible implications of the rapid growth of the industry in China for the rest of the world, particularly Australia.



Figure. The main macadamia growing provinces of China.

It is the fifth time that I have been to China and the country still fascinates and confounds me. As has been said by others before, it is a land where everything is possible - even apparently contradictory facts at the same time. While it is hard to make coherent sense of what we saw, one thing is certain and that is that the Chinese are planting tens of thousands of hectares and developing a macadamia industry that will be the largest in the world. They have made huge progress over the six years I have been visiting, with there being possibly as many as 100,000 growers and 100,000 planted hectares of which about 20,000 ha is bearing with average yields of around 1 t/ha, probably in-shell at field moisture.

These figures are my best estimates and do not agree with the official government statistics for each of the three main producing provinces. Those figures are provided in

Table 1 for balance and to give some idea of the discrepancies there are with statistics in a country as large and yet undeveloped as China.

### Production

Two confusing aspects of macadamia production in China are the apparently huge number of planted hectares yet the small number of visible orchards, and the high nutset per racemes seen on visited orchards compared with the low apparent yields. It appears that most plantings are part of mixed farming carried on by small landholders, rather than the discrete orchards common here. Much of this is on very steep slopes unsuitable for annual crops.

It also means there are many growers, possible more than 100,000, with diverse levels of education and skills all applying their own management to their plots. This will make achieving high, consistent quality a challenge.



Many plantings are on very steep slopes.

	Age of tree	1 - 3	4 - 5	6 - 10	11 - 20	Total
YUNNAN	Area (ha)	92,820	66,700	13,300	2,000	174,820
	No. of trees	27,400,000	20,000,000	4,000,000	600,000	52,000,000
	Production (t)			8200	6,800	15,000
GUANGXI	Area (ha)	10,400	5,100	882	294	16,667
	No. of trees	3,087,159	1,520,541	262,351	87,450	4,957,501
	Production (t)			3,000	1,000	4,000
GUANDONG	Area (ha)	200	67			267
	No. of trees	59,490	19,830			79,320
	Production (t)					

Table 1. Official statistics on the macadamia industry in China for the three main producing provinces.



Some orchards have a distinctly Australian look about them.



High nutset on individual racemes.

While we saw the presence of phytophthora and other diseases, there was little evidence of widespread pest pressure, despite many orchards undertaking little or no pest control. This was put down to high natural predator populations and low pest numbers. It also may be that pests have not yet built up on small dispersed orchards. Given the experience with other emerging crops in China, pest management is likely to become a major issue over time.

Conventional control using tractor-drawn sprayers will be very difficult on many orchards.

It is worth remembering that all the established origins have failed to meet their initial growth targets. Australia would be producing over 60,000 t if the forecasts I inherited 10 years ago were correct, and South Africa was forecast to be over 70,000 t by now. This is not a criticism of the forecasts, just a fact. It is likely that China will face the same disappointments as orchards mature, pests and diseases establish, and management gets more complicated.

**Post harvest**

Much of the post-harvest infrastructure we saw was low tech but appeared mostly to be effective and relatively efficient. Some facilities, including some smaller processing plants, were the equal of plants in established origins. There appeared to be little systematic quality control, which may compound issues with an already variable product.

The level of ingenuity and a “make-it-happen” ethic was impressive, yet most processes seemed labour intensive, and the distances between orchards, processing and value-adding points were long. There will need to be some serious investment in logistics and post-harvest systems if the projected volumes of crop are to move through the value chain at a pace required to maintain quality.

The overall quality of the Chinese product is hard to judge; we certainly saw quality to match anything produced in Australia or South Africa, but I suspect this is the exception rather than the rule. This said, we should not underestimate the capacity and determination of the Chinese industry to improve and to do so rapidly.

**Products and marketing**

While much of the crop is sold in local provincial markets with minimal packing, in major cities we saw some very high quality packaging and sophisticated marketing. Government encouragement of the population to eat more nuts has seen the development of a “Daily nuts” segment of one-serve sachets in larger packaging that has become a huge volume seller. Current prices mean few



All farm activities, including harvesting, are still managed using manual labour.

Province	Hectares planted	Hectares planned
Yunnan	174,820	266,700
Guanxi	16,700	33,300
Guandong	560	
Guizhou	266	6667
Sichuan	133	
<b>Total</b>	<b>192,500</b>	<b>306,700</b>

Table 2. Expected growth in macadamia plantings.

contain macadamias, but this segment offers potential both to consume significant volumes of macadamias and to popularise the consumption of kernel.

There are a lot of local macadamia brands, but most volume retail brands covered all nuts. Brands are big in China and it may be that the absence of any high-profile Australian macadamia brands has meant Chinese brands now dominate the macadamia market. This contrasts to products like beef, wine and milk powder where Australian brands are strongly established in major Chinese cities.

We saw a lot of innovation in packaging, design and products. What functional chemicals can be isolated from



The government in China is encouraging people to eat nuts every day, leading to marketing in one-serve sachets like this.

macadamia wood, bark, leaves, husk shell and kernel is being investigated and some promising “nutricuticals”, products that potentially have nutritional and/or beauty uses, have already been identified. And, while they were clearly in the concept development phase, we were shown some potential value-adding uses of macadamia components in batteries and other electronic components.

**Implications**

So, what might all this mean to Australian growers?

First some caveats and words of caution. My observations and conclusions are just my best guess; no better or worse than anyone else’s. The Australians who attended the tours and international symposium also have valuable insights into what is happening in China and I encourage anyone interested to talk to as many participants as possible to gather alternative perspectives.

It is obvious that production will rise but perhaps not as quickly as China expects. Lifting productivity may prove a harder challenge than planting more hectares. All the established origins have experienced unforeseen issues and complexities, including soil loss, internal canopy dieback or excessive early nut drop. China will undoubtedly face both similar and new challenges as it strives to develop its industry. I suspect that the value of the Chinese crop may not rise as quickly as the volume, in part because of the complexity of maintaining quality across 100,000 growers. Kenya has experience of this.

This emphasises the importance of maintaining and lifting the quality and consistency of Australian product.

The positivity and vision of the Chinese is breathtaking, and we could learn a lesson or two there. They talk about Lincang becoming the Silicon Valley for macadamias, and the respect and value that is attached to the industry by government, researchers and the community was very impressive.

On balance, what we saw was positive, not negative. A huge new market is opening for macadamias and their perception is of a new, exciting product full of health and



Some truly innovative uses of macadamia by-products.

status. Chinese production will help grow and satisfy this market while at the same time allowing Australian product to be focussed on the highest value markets demanding the highest quality and safety. Ultimately China may not be as important for Australian macadamias as the rest of Asia, India and other value-add kernel markets.

Because of the hard work of Australian marketers and the AMS, Australia and our macadamias are highly regarded and respected in China. We are still able to influence what the future looks like through our global leadership, and initiatives like the Global Macadamia Council will be important in this regard.

As the Chinese say; we are blessed to live in challenging times.

**More Information**

For more information on this topic visit the Australian macadamia industry website [www.australianmacadamias.org/industry](http://www.australianmacadamias.org/industry) or contact the Industry Development Manager at the AMS on 1800 262 426.

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