

Lesson learned from American nut farmers

The Valley Macadamias Group recently embarked on a fact finding mission to nut farms in California to search for methodologies that could improve the profitability and sustainability of macadamia nut farms in South Africa.

The Californian agriculture sector is world renowned for their almond, pistachio and walnut production. Many of the farms have been in existence for over 100 years and have fine tuned their production.

“The sheer size and scope of the farms brought home the message of the importance of economies of scale in tree nut farming,” said Alan Sutton, chairperson of the Valley Macadamias Group.

“The Americans have fine tuned their methodologies and as such can show a far greater level of efficiency. Even if you take the high cost of mechanisation and that of land into account, they are still achieving a higher rate of efficiency than us South Africans.”

Mechanisation

Carriere Family Farms have been in existence for 125 years. On their 1900ha walnut farm they have just seven labourers. The farm is fully mechanised with tree shakers releasing the nuts from the trees and a harvester sweeping the nuts together and collecting them into bins.

Sutton remarked that while there were tree shakers being tested in South Africa for the macadamia industry, none were as successful. “Our models cause severe damage to the bark of the tree and have a detrimental effect on the following year’s crop. The nut industry in California has developed a shaker that has a rubber tube filled with water around the mechanism that clamps the tree, so there is no damage to the bark. This small modification has meant the difference between making the shakers viable or not.”

Californian farmers are currently paying an hourly rate of US\$10,50 per hour. Later this year they are expecting it to increase to \$15 per hour, making labour somewhat unaffordable.

“The Americans have had no choice other than to mechanise and they have been forward thinking enough to start factoring it in over the last few years. Labour is never going to stay the same price all the time and us South Africans need to find ways to mitigate the risk of an ever increasing labour wage bill. We need to bring in different techniques to increase the bottom line just like the Americans.”

Valley Macadamias also visited Sun-Maid raisins – a cooperative in the Great Central Valley of California that has been growing and processing raisins for 104 years. While raisin production in California still utilises a fair amount of labour, the farmers are gradually switching their vineyards to cultivars that are conducive to mechanical harvesting. “The farmers are planning far in advance how they will grow raisins in the most cost effective manner. Some 15 years ago there was no mechanical harvesting of raisins in California and today the ratio stands at 60% mechanical ,” said Sutton.

He however lamented that fully mechanising the local macadamia sector could prove problematic due to the topography. “The sub-tropical regions of South Africa are traditionally very mountainous and whether any of these machines can operate on a 45° angle remains to be seen. I believe this will impede full mechanisation in South Africa.”

“Either way South Africa has got a lot of catching up to do. On the one side you have the American sophistication but on the other we hear of the Kenyans who are able to produce their nuts far cheaper as their labour costs are half of ours. So there will always be someone that has cheaper labour or more mechanisation but we need to find a happy medium between the two before we stagnate.”

Although South Africa has a challenge to create jobs, Sutton said that mechanisation would not necessarily result in poorer communities. “You are never going to get away from labour in the nut industry. You will always need human supervision on a sorting belt or in the orchard,

whether they are doing the work themselves or overseeing a machine. The difference is you use less labour with the mechanised process but the labour is more skilled so you are upskilling your labour force. You will need to invest in your people so that they can run the technology and this will attract a higher wage. So it will create an empowerment process by giving someone a specialised skill.”

Water management

Drought and water restrictions are also issues that plague Californian farmers, but careful planning and regular dialogue has prevented the scarcity of water from crippling farms. Sutton explains, “California has a very dry climate and they are dependent on water that is in the catchment area of the Sierra Nevada Mountains. This water is channelled down two rivers and then to various dams and canals for agricultural use. The canals are impeccably run and the planning that they have put into the water distribution systems is impressive.”

“Furthermore they have implemented modern technologies and metering systems that are not even available in South Africa. These systems can, with very little labour, control exactly how many millimetres of water each tree is getting and when. This means that no tree in the orchard is ever over or under irrigated and they experience no stress so can produce nuts optimally.”

Sutton said that South Africa was in a climate where farmers are desperate for water yet the wastage seen on farms and canal boards was problematic. “We can learn a lot from how the Americans run their water systems.”

Collaboration

The Californians have made great strides in collaborating across sectors to find solutions to industry problems. Almond farmers are for example working with strawberry farmers to ensure a pest-free crop.

“All almond orchards need soil fumigation before trees are planted, but the only substance available – methyl bromide – is being phased out due

to consumer concerns. However it is still acceptable for strawberry nurseries so almond farmers lease their land to strawberry nurseries for two years before they plan to convert it into an almond orchard. This way the soil has already been fumigated for the strawberries and is clean to use. The approach kills two birds with one stone and is testament to their forward thinking and planning.”

Increasingly stringent food safety laws are a reality for South Africans and Americans alike, but South Africa is still somewhat behind in implementation. “The Americans are on top of their game in terms of how the products are handled and which chemicals are used. Farms are audited right down to the bone by the Department of Food Administration (DFA) in California. There is a reason for all this compliance as it gives them the key to open up all the markets,” said Sutton.

He added that if the market dictates what food safety requirements they want then farmers will have to comply or they won’t have a market for their nuts. “I don’t see how we will get away from that. Food safety is becoming a major issue and the American and European consumers are notorious for the demands they place on food manufacturers. The nut industries in America are ahead of the curve and they have multiple systems in place to ensure absolute food safety.

“Global GAP is a good start for South Africa but we are behind even in that implementation as it is not across the board. It can be done but it is a case of getting the famers to commit to having the audits done. Our industry falls far behind as we don’t have the structure and finances like that of the DFA to regulate and audit the nut industry. South Africans are paying an industry levy and as the growth of the product is getting bigger we need to channel the funds into serving a purpose like that of the DFA or we will be behind the curve,” said Sutton.