Australian Pecan Growers' Association

Autumn 2011 Newsletter

Australian nuts continue success story

The nut industry in Australia continues its phenomenal success story. The nation's commercial value of tree nut industries - almonds, macadamias, pecans, walnuts, pistachios, chestnuts and hazelnuts - is on track to hit the forecast value of $700 million by 2012, a growth of 200% in four years. It has become one of Australian horticulture's largest exporters, and is tipped to take the top spot within a few years.

Nuts for Life on Twitter and Web

Nuts for Life have enjoyed their first year chatting on Twitter. Follow them at www.twitter.com/NutsForLife to view the latest news and research about tree nuts and health plus a few recipes thrown in for good measure. Take a look at their growing nut resources online at www.nutsforlife.com.au

Two new pecan research papers

January 2011 saw two new research papers on pecans published. The first analysed pecans for their antioxidant compounds.(1) High concentrations of phenolics, flavonoids, and proanthocyanidins were found in pecan kernels but there was a much higher concentration (5-20-fold) found in pecan shells. Antioxidant activity was strongly linked with the phenolic compounds particularly: ellagic acid, gallic acid, protocatechuic acid, p-hydroxybenzoic acids and catechin. Antioxidants play an important role in the body by contributing to cell protection against free radical damage.

The second paper determined if antioxidant compounds in pecans actually get absorbed by the body.(2) Sixteen healthy men and women aged 23-44 years and with a healthy body weight were randomly assigned to 3 sequences of test meals composed of whole pecans, blended pecans, or a meal of equivalent energy level and composition but made up of refined ingredients. Each person trialled each meal in a crossover design with a one week washout period between treatments. Regular blood tests were taken at the start and up to 24 hours after each meal. Following the whole and blended pecan test meals, blood levels of gamma-tocopherol doubled at 8 hours (gamma tocopherol is a form of vitamin E) and ORAC - a measure of antioxidant capacity - increased by around 10% after 2 hours. After the whole pecan test meal oxidized LDL cholesterol decreased by 30% after 2 hours, 33% after 3 hours, and 26% after 8 hrs. When LDL cholesterol is oxidised it becomes sticky and more likely to attach to blood vessel walls, clogging them and leading to atherosclerosis. These results show that bioactive compounds in pecans whether whole or blended are absorbed by the body and contribute to antioxidant defences up to eight hours after eating. More good reasons to eat pecans and to use the shells to extract these compounds rather than waste them!

References

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Hudthagosol C, Haddad EH, McCarthy K, Wang P, Oda K, Sabaté J. Pecans acutely increase plasma postprandial antioxidant capacity and catechins and decrease LDL oxidation in humans. J Nutr. 2011 Jan;141(1):56-62.

Equity shift sees management take stake in nut industry leader Stahmann Farms - Company Announcement 11 April 2011

Toowoomba-based Stahmann Farms Enterprises has moved to share business equity, with three senior managers each taking a nine per cent position in the company that last financial year turned over nearly $20 million.

Stahmann Farms Enterprises operates Australia's largest pecan orchard, with 700 hectares of trees on the Gwydir River near Moree in northern New South Wales. In addition, Stahmann Farms shells and packs pecans, macadamias and walnuts at its Toowoomba processing plant for global manufacturing and retail distribution under its own Riverside and Ducks brands and through a range of retailer house brands.

The company was established by industry pioneer Deane Stahmann in 1968, and purchased in 2008 by current shareholders Matthew Durack and Jeff Dodd. Across its operations it counts more than 120 full time staff, making Stahmann Farms a major employer in regional Qld and NSW.

Mr Durack said the decision to shift nearly 30 per cent of the company's equity to its three key management personnel - Kevin Norman, Ross Burling and Richard Genest – was engineered to share risk, increase reward, build continuity, and provide long-term stability to the company.

Mr Durack said, "Stahmann Farms started as a family enterprise – we still bear the founder's name – and for Jeff and me, that sense of family has remained fundamental. However, our long-term intent was always to pursue other equity partners to help growth, and particularly to target quality people who bring an everyday commitment to making us better and more successful."

Mr Dodd welcomed the three new company shareholders. He said there were no secrets about the challenges for Australia's nut industry in recent years: water availability, currency fluctuations and a shortage of capital. "I'm very optimistic about this business and the tree nut industry at large, based on continuing global demand for kernel on the back of first world demand for healthy products and Chinese demand for just about anything. The signal in this agreement is very clear and very positive for Stahmann Farms. We have great product, a strong brand, market presence and – most importantly - excellent people."

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Grower Profile – Trevor and Mary Day

Prepared for the Australian Pecan Growers Association Newsletter by Kaye McNaught

Mylneford Pecans is owned and managed by Trevor and Mary Day and is situated on the banks of the Clarence River, about 12 km due west of Grafton. The farm is only small, 67 hectares, and they have lived here for 28 years.

"We have a mixed farming business consisting of beef cattle, pecans and farm forestry.

The pecans were planted 12 years ago and although we originally planted about 540 trees we

now only have about 420 productive trees. About 120 trees, planted on poor shallow soils, were sacrificed as they failed to thrive.

The majority of our trees are Wichita and about a quarter are Western Schley.

We had not used chemicals on our farm for a number of years so about 4 years ago we applied for certification to organic status. We have been certified organic for the past 12 months.

The trees are grown on deep alluvial soils beside the river.

One of the benefits of living in a flood prone area is the build-up of flood mud, up to about 8m over the last 100 years.

The trees planted on the best soil have grown the quickest and much larger than those on the poorer sandy soils.

One of the disadvantages of the floods is the damage caused by the weight of fast flowing water carrying floating logs that snap off branches or completely knock trees over.

We were half the way through the harvest when the flood of May 2009 carried off about half the crop. No doubt there will be a lot of new pecan seedlings growing in the wild somewhere down-river.

The Jan 2011 flood came too soon after the 2009 flood to give the damaged trees a chance to recover. So it's back to square one for these trees.

This year will be our 5th harvest.

For the first few years we packaged and marketed our pecans as kernel. We also sold bulk nuts in shell to a few other growers.

Last year we sold our complete harvest, about 5 tonnes, to Geoff and Debbie Bugden for the Chinese market.

Our future challenge is to find a market in order to take advantage of the organic status of the product."

Two photos of flood damage and debris at Mylneford Pecans after the January 2011 floods.

Tweed River Pecans – APGA Field Day 5th February 2011

About 25 people attended the field day at David and Kaye McNaught's farm near Murwillumbah on a beautiful, hot, summer day.

The 50 hectare property has a variety of soil types from the red basalt soils of the pecan orchard to heavy clays in lower lying areas used for cattle grazing to steeper, former banana plantation slopes planted to farm forestry.

The pecans were planted between 8 and 10 years ago with a few areas of younger trees. Trees are planted on an approximately 12 x 15 metre grid, aligned north-south and with mixed varieties in the rows. The main varieties planted were Pawnee, Shoshoni, Cheyenne, Wichita and Desirable. Production is gradually increasing as the trees mature, with 3 tonnes produced last year. David and Kaye sell their kernel and in-shell pecans at local markets and shops, sending the rest of their crop to nut buyers Geoff and Debbie Bugden in Lismore.

The final product for sale at local markets and shops

The orchard floor is managed by slashing; followed by mowing with a "zero-turn" to distribute the grass to the base of the trees. This forms an excellent mulch. Cattle strip graze in the orchard in winter. David and Kaye are establishing legumes in the orchard to provide nitrogen. Irrigation water from a spring fed dam is applied through one 140 litre/hour sprinkler per tree, with careful monitoring using tensiometers. In 2010, David applied compost at about 2 tonnes/acre - this appears to be having a beneficial effect greater than other products he had tried previously. Certainly the trees looked extremely healthy, with a good crop of nuts on the more mature trees.

David McNaught explains how mulch is distributed to the trees using a mower

A tractor mounted shaker is used to harvest the nuts onto shade cloth, the nuts are accumulated in 20 kg field bins and then cleaned and sorted in the shed using a separator designed and built by David and Kaye's son. Trees are mainly shaken twice and sometimes three times. David and Kaye are gradually building up their harvesting equipment as the crop increases and emphasised to participants at the field day the importance to the small grower of not overcapitalising. This year, for example, they will be trialling a pin wheel harvester. Nut drying occurs in a converted shipping container; bins of nuts are placed in the container and fans and dehumidifiers dry down the nuts. David's experience suggests temperatures of less than 30 degrees C, followed by refrigerated storage (i.e. less than 4 degrees C) gave the best nut quality results. Jeff Dodd from Stahmann Farms stated that they have found that consistency of drying temperature is also a critical factor (not allowing the temperature to drop at night).

David described his experience with the pecan varieties in the orchard: Shoshoni yields well but the trunks seem a little vulnerable to damage by the tree shaker; Pawnee is the first to be harvested and is a nice nut; Cheyenne is prolific, good nut but subject to limb breakages; and Desirable is a lovely nut but because it is harvested much later than the other varieties is more work to clean and sort due to leaf drop. Wichita is David's least favoured variety due to high nut drop and low yields to date. A number of other growers with coastal farms described similar problems with this variety.

Shaker damage on a Shoshoni trunk

David outlined some of the problems that he and Kaye have come across so far. Hail is a relatively frequent occurrence which knocks off nuts, strips leaves and /or damages the branches and trunks. Wet weather too can make access to the orchard difficult and followed by high winds has led to some trees being blown over – such trees have been pulled up straight and staked. Mistletoe is pruned out of the trees when it appears. White cockatoos scouts are scared away. This January and February an abnormal nut drop has occurred – a number of other growers mentioned a similar problem. The group discussed potential causes of nut drop including fungal infection, fruit-spotting bug or green vegetable bug (or both!), plus climatic factors (particularly the long relatively cool, cloudy spring and early summer). Growers were reminded that the mowing regime can drive insect pests up into the canopy. Anthracnose has been identified in an orchard near Lismore and could also be a cause of nut drop.

The field day was rounded off with a beautiful lunch showcasing local produce and – of course – David and Kaye's pecan nuts. The Association wishes to thank David and Kaye for their hospitality and sharing their knowledge and experience with other growers.

Tree staking is necessary in parts of the orchard to rectify damage from strong winds

In the orchard, David showed some leaves with brown spotting, other growers reported seeing similar symptoms in their own orchards, and the consensus was that the spotting was a fungal infection.

David McNaught in the drying shed, addressing participants at the field day

A good crop of nuts on a very healthy Shoshoni

Stahmann Farm Enterprises (SFE) Harvest – Richard Genest

Harvest in underway at Trawalla despite intermittent rain and, although this is theoretically an "off-year", after last season's woeful result we are hopeful of a crop of up to 2,000MT. We have installed new on-farm sorting which is reducing the manual labour requirement and substantially speeding up our handling time in the factory. The first nuts should shortly be heading to Toowoomba where we have also installed new equipment to sort for pods which should also reduce on-farm handling.

Pecan Market – Richard Genest (SFE)

The world pecan market shows no signs of softening with halves still trading close to USD7.00/lb ex-factory, although the strong Australian dollar is keeping a lid on local pricing. We continue to receive numerous international enquiries from all corner of the globe indicating the shortness of supply and ongoing strength in demand, notwithstanding the prices. Chinese interest is also high although at this stage we don't see in-shell pricing matching the rates for kernel.

ANIC

The Australian Nut Conference was widely acclaimed to have been a great success with nearly 150 delegates gathering for two days at the Sydney Marriot to discuss production and demand numbers as well as marketing case studies and information. Five members of Stahmann Farms attended as well as Geoff and Debbie Bugden.

Early this year ANIC made its first professional appointment with Gold Coast-based Chaseley Ross taking up the position of Executive Officer. Chaseley is already proving her worth keeping an active agenda on the go and following up on a range of issues such as market access representations and ministerial deputations on the proposed cuts to HAL VC grants which ANIC is doing its best to oppose.

Review of Pecan South harvest and nut quality articles

Geoff and Debbie Bugden have pointed out two Pecan South articles of great relevance for growers. These are, "Sorting through the cull pile" by Monte Nesbitt (Pecan South November 2010) and "Problems with quality and shuckspilt in the SE" by Bill Goff (Pecan South December 2010). Both articles are 'must reads' however space does not allow reproduction here, a brief summary must suffice.

Bill Goff reviewed reasons for the poor quality and shucksplit in the SE USA crop in 2010. Nut quality was down with many thin and light kernels. By reviewing weather data he concluded that the period leading up to and throughout the kernel filling process was very dry (based upon average data) and very hot leading to higher than average evapotranspiration levels. He also reviewed much research proving that rainfall during kernel filling improves quality and reduces sticktights. He demonstrated that irrigation dramatically improves yield and quality and reduces sticktights provided adequate irrigation is provided to the end of the season.

Fungal disease was also high and Bill Goff showed that the spring was wet and cool which set up fungal disease problems for the season regardless of the hot and dry conditions in the summer. Fungal disease expressed itself as damage to the nuts when they were under stress

later in the season, adequate irrigation reduced the stress and therefore damage. Crowded orchards compounded the problems. Shucks turning black happened rapidly and disastrously in poorly irrigated orchards.

Other observations were that kernel weight in drip irrigated orchards was considerably higher than other irrigation methods and that sprinkler irrigation may have increased humidity and made fungal problems worse. Orchards with high levels of sunlight and with younger trees had better quality.

Monte Nesbitt made many observations about sorting through your cull pile. These include:

- Lightweight nuts or 'pops' may reveal irrigation problems or excess crop load
- Green shucks may mean shaking too early or too vigorously
- Black reject nuts may reflect fungal disease
- Lightweight kernels may reflect late season fungal disease attack or poor irrigation
- Frequent rain and cloudiness increase fungal disease problems
- All mature orchards have a cull pile but it is important to sort through and determine the possible source of problems leading to nuts in the cull pile.

Retirement of Denise Kitchin as Treasurer

Denise had done a great job as Treasurer over the last two years and will retire from the position at the next AGM. Please consider nominating for the post as a way of contributing to the industry success. Many thanks.

For Sale Champion LC Cracker

The Champion pecan nut cracker is similar to a Myer cracker and can crack up to 60 lbs an hour. Price is $1200 including GST. Please contact Rose or Mark Nowland on 02 6654 3502 or 0412387477 for further details.

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