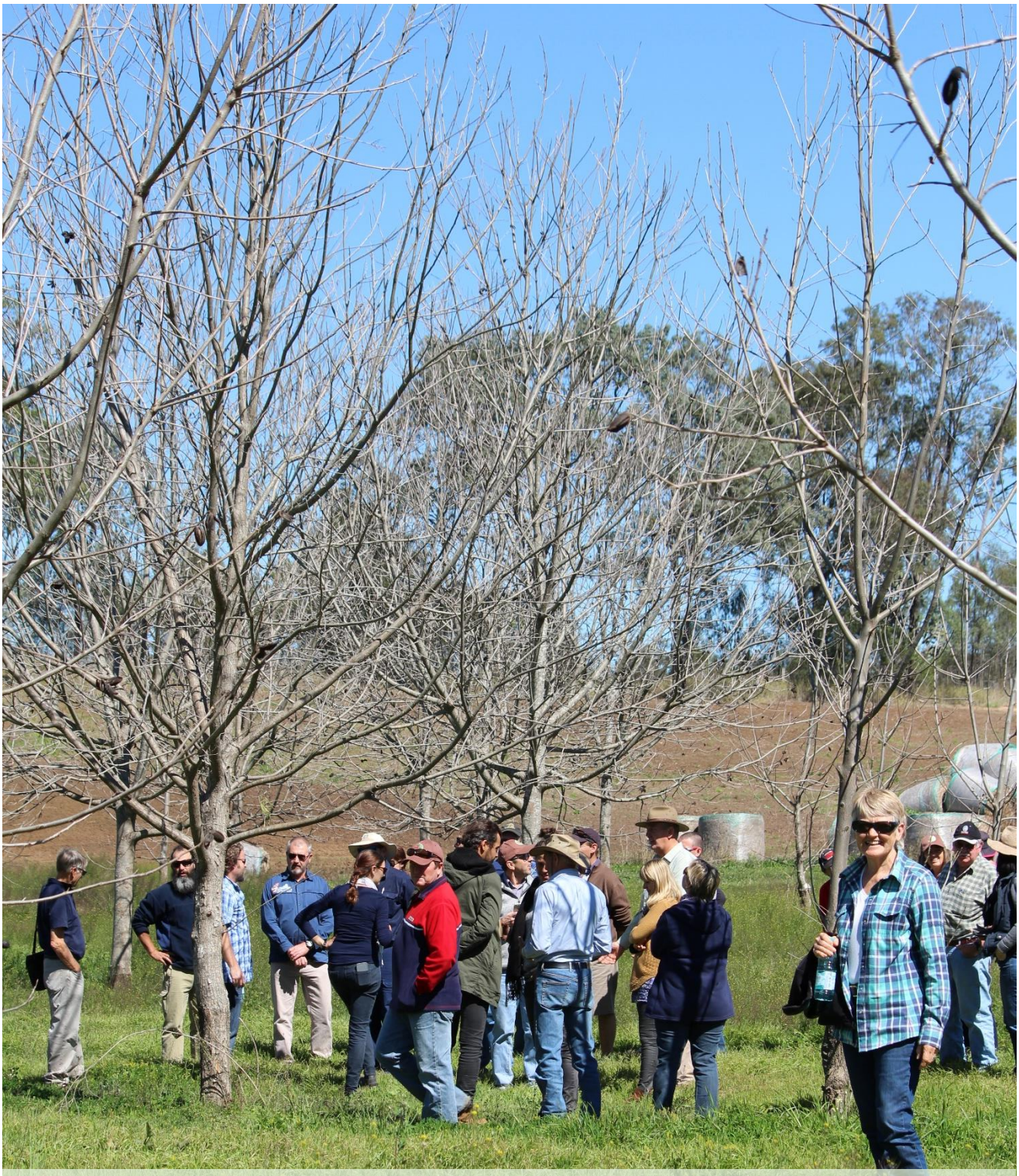


Australian Pecan Growers' Association

Spring newsletter 2016

A note from the editor…

Buds are breaking, and we are just about to enter the new season of pecans. This is a crucial time for pecan trees as any stress experienced in the early on is visible on the tree for the duration of the season, and the tree will sacrifice nut production in favour of vegetative growth. I'm sure you are all regularly monitoring your trees to see what crop the 2016-17 will bring!

For those of you that joined us at the AGM in August, we had a great time hearing from the various speakers and wandering through David's farm at Helidon QLD. There was a general feeling excitement in the pecan industry; possibly from the estimated 200ha of plantings, the sustained higher price, or renewed interest in our crop. Regardless of the reason, it's a good time to be in pecans!

As an association we are looking to direct this momentum through creating an industry strategic plan. The committee have met and begun defining the objectives and goals of the association, and this will be shared with you over the coming months as we seed feedback.

In the meantime, your spring edition is packed with articles from across the pecan industry, so I hope you enjoy

Eryn Wrigley
APGA Secretary

In this issue…

In the news

Are Americans about to go nuts for pecans?

21st September 2016

An article discussing some of the health benefits found in pecans.

Read more: http://modernfarmer.com/2016/09/health-benefits-pecans/

$4.4 million grant to help NMSU better understand pecans

9th August 2016

Clonal rootstocks for pecans are coming! NMSU has just received a grant to study the genetics of pecans so they can begin to screen for properties like salt tolerance and dwarfing, allowing the screening of developing cultivars before planting. This will significantly reduce the release time, by allowing researchers to scan genetics rather than rely on growth habit after a number of years.

Read more: http://www.kvia.com/news/4-4-million-grant-to-help-nmsu-better-understand-pecans/89193410

Upcoming field days:

4th February 2017 in Coffs Harbour, NSW.
Feedback from members on the objectives of the APGA

Late March in Lismore, NSW
Visit the NSW DPI's variety trial now in its 3rd leaf

Down on the farm

Geoff Bugden, Wilson River Pecans

Bud break here on the Northern Rivers within the Shoshoni variety. Note the date on the photo, 12.09.2016. Now note the size of the bud. Possibly one day old which would make the date of emergence 11.9.2016, or using the American style 9.11. Is this a good omen or a bad omen? Well I suppose it depends on whether you believe in omens or not. I don't so I suppose it is just bud break and just the start of another season. The question is do we or do we not foliar spray with Boron to enhance flowering to assist with nut and seed formation? And when is the correct time to start spraying? I refer to the pecan grower's bible 'Pecan production in the Southeast'

New season growth. Catkins usually appear around early October with pistillate flowers not long after that. Boron spray around this time.

"Pecan trees produce two types of flowers, male and female. The male flowers contain pollen and are located along new branches. They appear in clusters or catkins of two or three stalks. The female flowers are usually at the end of the new branches in clusters of three to seven flowers. As a rule the two types of flowers do not mature at the same time, so a tree usually does not fertilize itself. ***Staminate*** *flowers "the male flowers" are the first flowers to appear after spring growth begins. The catkins that contain them usually grow on either side of the elongating vegetative shoot.* ***Pistillate*** *flowers appear soon after the male flowers and farther toward the end of the new shoot. Stigmas on the female flowers are receptive to pollen when they are glossy. They are past receptivity when they begin to dry and turn brown. Not all of the female flowers become pecans. Some never mature and some fall off the tree. Flowers tend to fall either because they are not pollinated or because the tree is not vigorous enough to support flowering".*

Historically on our farm here on the banks of the Wilson River Lismore, the Caper Fear trees usually start to produce catkins in early October with the pistillate flowers coming out not long after that. Research within the Avocado industry and then adopted by the Macca boys is to have the Boron molecule sitting next to the stigma of the flower. This will assist in producing a longer and stronger pollen tube. An agronomy note from the producers of Solubor states,

"Boron is actively involved in pollen germination and nut formation. Boron can become limiting at critical periods during seed set due to drought periods which may reduce root activity, or when heavy rainfall has leached available boron from the root zone in soil."

This information is particularly interesting to us here on the Northern Rivers. Pecan nut trees usually require between 30 ppm and 50 ppm of Boron. Historically my leaf analysis during October/November are down as low as 27.6 ppm and rising month by month up to 85.4 ppm in March/April. The question still is, should I spray Boron in early October when the pistillate flowers are just starting to grow or not? Research carried out by Michael Kilby, specialist, plant science publication AZ1051 found during a controlled research project that, and I quote:

Close up photo of a receptive female pecan flower taken by Dawn Thornton on their Organic pecan nut farm in Nov 2011. Personally I don't think any amount of Boron could improve this flower.

"*Boron was applied as a foliar spray to pecan trees in a pecan orchard located in Cochise County. Single or repeated application prior to pollination* ***did not affect nutlet set.*** *Leaf analysis indicated that the boron levels in all trees were in sufficient range for optimum growth and production".*

This research indicates that if your Boron levels in the leaf are adequate then there is evidence that putting more boron on will not assist. But, if the trees were low or deficient in Boron COULD additional boron assist with increased fruit set. Most information around the traps suggests it could.

The question still is, do we or do we not folia spray soluble Boron at the appropriate time. In these situations when I am in a dilemma of this type I usually defer to the CEO, my wife Debbie. And as usual if it won't hurt, it generally comes down to cost in her department.

Soluble boron is generally put out at the rate of about 1g/L. On our farm we generally use about 2,000L/ha, which equates to 2kg/ha. Soluble boron or "Solubor" costs about $3.40 p/kg or $6.80/ha. I got the ok from the CEO who said, "Just do it".

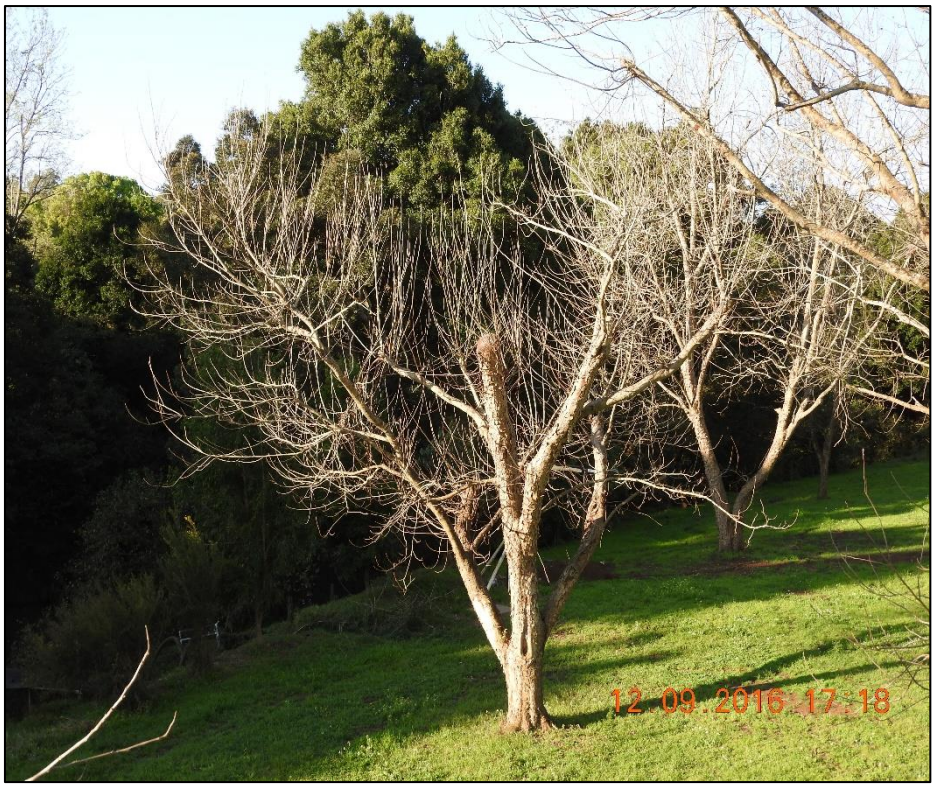
DID YOU KNOW?

A single 13 year old 'Mantura' pecan tree was reported to produce pollen sufficient for the production of 29 Billion nuts! (Woodroff & Woodroff 1924)

TREE PRUNING

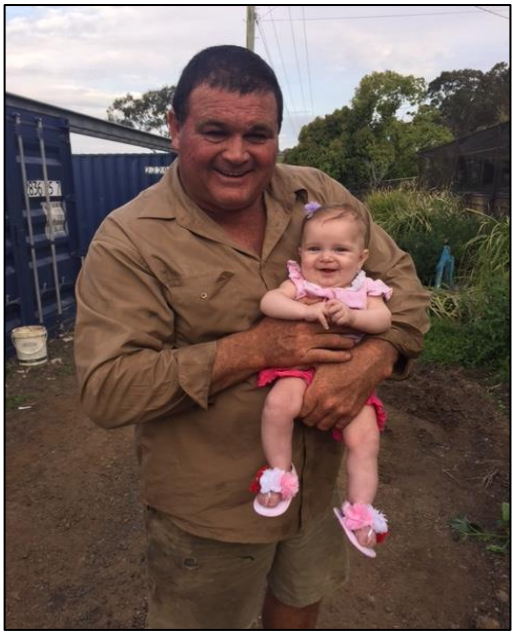
Or selective limb pruning to be more precise. This photo was taken on the 12th of September 2016 but the tee was heavily pruned last September 2015. What is evident is the heavy growth of water

sprouts. This might not be such a good thing as a large amount of water sprouts may inhibit lateral shoots. Once again I refer to our pecan bible.



"The buds at the ends of the previous year's shoots dominate the growth of pecan shoots. Only these buds tend to develop while the lateral buds break and then abort or remain dormant. If the tip of the shoot is broken off, the buds closest to the end will begin to swell and form vegetative or fruiting shoots. You can influence the growth of lateral buds to a certain degree. Additional lateral buds develop into shoots when growth regulators such as cytokinins, gibberellins or dikegulac are applied. High nitrogen applications, high light intensity, and a change from water stress to adequate water levels may also stimulate lateral shoots to grow."

We are chopping the trees (selectively) down from about 30m high to about 8m. The biggest mechanical hedger available in our area will top the trees at 10m. This will give me about 2 m of regrowth where we hope to produce some nuts in the future. The trees might take between 2 to 4 years to start producing again but there are many up sides to this type of heavy pruning, some being easier management. Easier foliar spraying along with better spray coverage. More light into the orchard. Pushing the nut crop closer to the trunk of the tree. It is a huge job but one we are prepared to carry out, hopefully with lots of benefits in the near future.



Finally…

I would like to introduce you to the latest member of our family. Her name is Gracie Gurney. Born on the 4th of May, 2016. Grandchild number 6. A little harvest baby and Deb and I couldn't be prouder. Oh boy is poppy going to spoil her.

Importance of drying after harvest

Miriam Villen Rodriguez, quality analyst at Stahmann Farms.

The moisture content of pecans at harvest time could be up to 20%, and at high moisture levels rapid spoilage is likely to occur (see photo at the right). Harvested nut in shell (NIS) at these levels should be reduced as soon as possible to a safe moisture of 6.7-7.5 % NIS (3.5- 4.5% kernel). This reduces the water activity, or potential for growth of microbes, below the critical point of 0.6 and therefore maintains the quality of kernel during storage. When harvesting nuts at a moisture level greater than 7.5%, then moisture reduction is achieved through drying.

Drying is one of the oldest and most common engineering units to manage moisture. There are several methods; from old school sun drying to an automatized system. If using a mechanical drier or dehumidifier, then the sizing of the unit should be chosen in accordance with the budget, on farm infrastructure, and production tonnage. A drier needs the capacity to handle product coming in from the field during harvest, but is not so large that the cost of purchase is not feasible.

When drying, it is important to understand the relation between relative humidity (RH), temperature and moisture. Pecans dry in response to RH of the air, or difference in vapour pressure between product and air. The lower the RH, then the quicker the drying process. Heating will help reduce the RH of the air, but high temperatures will affect the kernel and reduce quality. Ambient temperatures between 20-22°C have been found to be effective with pecans in maintaining quality, but should not exceed 25°C. Airflow is also important through the nuts to ensure moisture is evenly removed, then expelled through vents.

Once the desired moisture is achieved, the temperature of storage should be monitored. Moulds normally causing spoilage of pecans thrive between 20° to 35°C (Charles R. Santerre). An indication of the relationship between shelf life and storage temperature is shown in the table below:

Storage temperature (°C)	Shelf life (month)
0	18
10	9
22	6

It is also important to monitor the moisture of stored pecans after drying. Nuts kept in high humidity environments will pick up moisture to reach equilibrium, while storage in low humidity environments result in the reduction of moisture. Both scenarios affect the quality of pecans, but can be mitigated be using a moisture barrier package such as vacuum sealed bags and foil packaging.

Famous 5 fails of pecan sales

Richard Sampson Genest, Stahmann Farms Enterprises

1. **Selling what you can't deliver!**

Pecans are famously hard to predict and every novice pecan seller (and occasionally a more experienced one!) will run into trouble selling a crop before it's harvested or selling a kernel specification before it's cracked. Forecasts are infamously unreliable and sampling doesn't always tell the whole story. It's never fun trying to explain to a buyer why you can't ship the load they booked 6 months ago, and sometimes that comes at a financial cost, so tread very carefully…

2. **Winding up with stock you can't sell…**

On the flipside, pecans don't have the greatest shelf life among nuts and markets can be notoriously fickle. A product that was hot (metaphorically) in September can be hard to shift in January; prices can move by 20-30% in the course of few weeks, and as the clock ticks value typically ebbs away. So it's important to have a good a handle of what you've got to sell, make a plan and execute with discipline – even if the results aren't as good as you might have hoped. Pecans don't improve with age.

3. **Not properly explaining to the buyer what you are selling**

Pecans ain't pecans – every season, every variety and every grade is different, different in some way from any you've ever sold before and if you're selling to a new customer for the first time and you don't want your new relationship to end in tears then you should take case to communicate very clearly exactly what it is you are selling. This should start with a specification that details the physical, sensory, chemical and microbiological parameters of your product. You should then have a means of validating your compliance with your own spec. For the avoidance of doubt it's usually a good plan to send a sample so the buyer can see and taste your goods – and take care that the sample fairly represents the goods you are shipping.

4. **Not controlling to supply chain to market**

Pecans are sensitive types, they don't like heat or light or moisture, so they need to be well packaged and shipping very carefully – preferably under refrigeration. Almost every time we export something from Australia it's going to cross the equator, so even if goods are loaded in mid-winter they are going to wind up somewhere much hotter. And Australia being where it is, there's a very good chance that a container load of pecans will be transhipped in the port of Singapore – which is right on the equator! Pecans do not like sitting in a metal box for 2-3 days in the equatorial heat without temperature control. In my experience (!) it takes about 48 hours under those conditions for them to wind up inedible…

5. **Failing to dot the "I"s**

If you've managed to cook a container load of pecans – probably worth around $200,000 – on the wharf in Singapore then the first phone call you'll make is likely to your insurance company, and they will ask you for your contract documentation. Your contracted terms of sale should specify insurance liability for the account of the buyer or the seller. Unless you are absolutely certain that the buyer has insurance (or you've been paid in advance for the goods) then you will be praying your contract says "CIF" and not "CFR"!

Recipe ideas

Pork, Pecan and Avocado Stir-fry

Ingredients

- 2 tablespoons vegetable oil
- 2 cloves garlic, crushed
- 500g pork fillet, thinly sliced
- 1 capsicum, chopped
- 100g snow peas
- 1 cup pecans
- 4 shallots, chopped
- 2 tablespoons sweet chilli sauce
- 2 tablespoons hoi-sin sauce
- 100g bean sprouts
- 1 avocado, sliced

Method

Heat oil in wok or deep-sided plan, add garlic and stir fry for 1 minute.
Add pork strips and capsicum. Toss and cook for 3 minutes.
Add snow peas, pecans, shallots and sauces and cook for 1 minute.
Add bean sprouts with avocado, toss gently to mix through and serve immediately.

Pecan coffee cake

Voted best edible delight for 2016, as made by Matthew Durack and associates

Ingredients

- 2 cups (250g) plain flour
- ¼ teaspoon salt
- 1 tablespoon baking powder
- 250g butter, softened
- 1 cup (250mL) sour cream
- 1 ½ cups (345g) white sugar
- 2 eggs
- 1 tablespoon vanilla essence

Pecan topping

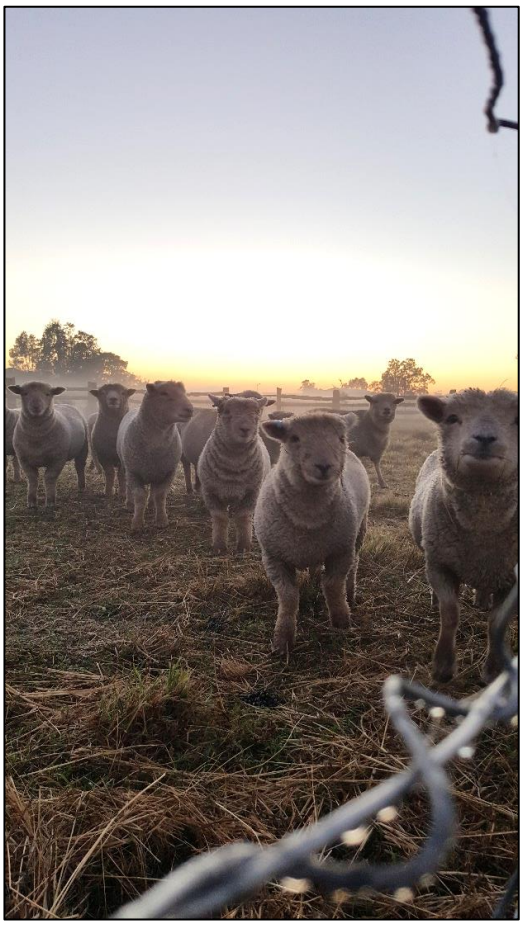
- ½ cup brown sugar
- 1 cup chopped pecans
- 1 teaspoon ground cinnamon
- 2 tablespoons butter, melted

Method

Preheat oven to 180°C. Line a 23x33cm cake tin with aluminium foil and lightly grease with vegetable oil or cooking spray.
Cake: Sift together the flour, baking powder and salt; set aside.
In a large bowl, cream the butter until light and fluffy. Gradually beat in sour cream then the sugar.
Beat in the eggs one at a time then stir in the vanilla.
By hand, fold in the flour mixture until just incorporated. Spread batter into prepared tin.
Pecan topping: In a medium bowl, mix together the brown sugar, pecans and cinnamon.
Stir in melted butter until crumbly. Sprinkle over cake batter in pan.
Bake in the preheated oven for 30 to 35 minutes or until a toothpick inserted into the centre of the cake comes out clean.
Let cool in pan for 10 minutes then turn out onto a cake rack and remove foil.

Classifieds

Miniature sheep flock



Location: near Yamba, NSW
Price: $5,700 plus GST

Owing to a move, we have a small flock of Babydoll sheep (miniature sheep) that we bought to graze underneath the pecan trees. They are too short to eat the trees and are great little lawn mowers and fertilizer machines!

There are 2 rams and 9 ewes, with 4 ewes currently pregnant most likely with twins. They are all exceptionally friendly, including the rams who are not at all aggressive, having been hand fed by my 4 and 2 year old kids. This is a purebred breeding flock and can be registered if desired. We would like $5,700 plus GST for the flock, which can include all their 'equipment' (drench guns, vaccinators, hoof trimmers, etc).

For further details contact:
Emily Barber
0429057011
bite_produce@outlook.com

Machinery for sale

Location: Lismore, NSW.
Contact is John Davis 0411 100 265 for further information, or for photos see Geoff Bugden 0410 531 561.

Mc Cormick International Baler	$3,000
Mower	$500
Hay conditioner	$800
Rake	$1,200
Irrigation pump and pipes	Make an offer
Mobile irrigation and hose	Make an offer
Rippers	$800
16ft plate disc	$1,000
Hammer mill	$1,000
12ft stump jump harrows	$850
Chaff cutter, grain grinder	$1,200
Jib	$100
Carry all	$220
Blade	$500

2016-17 APGA Committee

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