
Understanding the drivers of climate change – part two.

Introduction

The previous edition of this newsletter (December 2018) discussed climate change and humanity’s emission of gases causing this problem. The article used the term radiator gases, rather than the more common term, greenhouse gases, as a more accurate description of the process that is warming our planet. This is because the additional gases now residing in our atmosphere behave like a giant radiator, rather than a greenhouse. Since the beginning of the industrial revolution, humanity’s pollution has installed an additional 2,000 billion tonnes of gas molecules in our atmosphere\(^1\). These molecules, or radiator gases (RGs) are emitting infrared radiation, day and night, and it is the heat from this radiation that is warming our planet.

Despite sustaining humankind for the past 10,000 years, the agricultural industry has been criticised in recent years for the impact it has on the environment. It is the largest user of land, the cause of much deforestation, the largest consumer of water and one of the largest polluters of our atmosphere through emission of RGs. Some would say that this is to be expected, given the task of feeding seven billion people. However, if the industry is to provide sustenance to a projected 10 billion people by the year 2050, it is necessary to ask how things can be done better.

Globally, the agricultural industry contributes 11% of total RG emissions, with emissions amounting to 5.4 gigatonnes (Gt) per annum\(^1\). In Australia, the agricultural industry is responsible for 13% of total emissions, or 0.07 Gt per annum.

Each of the RGs has different radiative power, and differing residence time in the atmosphere. Given the need to quantify emissions, scientists have standardised the radiative power of each gas to carbon dioxide (CO\(_2\)) equivalent, as set out in Figure 1.

The purpose of this article is to identify the RGs emitted by the agricultural sector, quantify them, and examine the means by which they can be reduced. For this reason, each major source of RG emissions will be explained and explored, with particular reference to the agricultural sectors relevant to the Rural Funds Group (RFF) and other entities operated by Rural Funds Management (RFM).

Figure 1 – Radiator gases (RG) standard radiation potential\(^2\)

<table>
<thead>
<tr>
<th>Radiator Gas (RG)</th>
<th>Lifetime</th>
<th>CO(_2) equivalent over 100 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon dioxide (CO(_2))</td>
<td>Up to 30,000 years(^3)</td>
<td>1</td>
</tr>
<tr>
<td>Methane (CH(_4))</td>
<td>12 years</td>
<td>28</td>
</tr>
<tr>
<td>Nitrous oxide (N(_2)O)</td>
<td>121 years</td>
<td>265</td>
</tr>
</tbody>
</table>


**Methane (CH$_4$)**

CH$_4$ constitutes 16% of global RG emissions and 21% of Australia’s emissions. It is the primary form of RG emissions from agriculture. Figure 1 notes that the radiative power of CH$_4$ is 28 times that of CO$_2$ standardised over 100 years (as set out by the Intergovernmental Panel on Climate Change). However, CH$_4$ only has a residence time of 12 years, as it is broken down in the lower atmosphere and converted to ozone. For this reason, permanently reducing CH$_4$ emissions would cause an immediate and significant reduction to the amount of radiation coming from our atmosphere.

One of the main sources of CH$_4$ emissions in agriculture is ruminant digestion. Ruminants such as sheep and cattle break down fibrous material like grasses with the aid of microorganisms in the rumen. These microorganisms produce digestible molecules such as protein while producing CH$_4$ as a by-product.

RFF owns nine grazing properties and three feedlots, and is awaiting settlement of a further two feedlots. These assets are collectively capable of carrying 220,000 head of cattle. While all these properties are leased to entities who operate cattle businesses, it is estimated that the combined emissions from these farms is approximately 13,200 tonnes of CH$_4$ per annum, or approximately 369,600 tonnes of CO$_2$ equivalent measured over a 100-year time frame. This is estimated to be the largest source of RG emissions from the assets owned by RFF.

Given the large quantity of emissions and the fact that reducing CH$_4$ emissions has a larger immediate benefit, it makes sense to prioritise the reduction of these emissions where possible. For these reasons RFM is in the process of engaging experts who will more accurately calculate emissions for all RGs from our cattle enterprises over the past three years, then provide a list of steps that can be taken to reduce them.

An effective solution relating to reducing CH$_4$ emissions is to use natural feed additives to alter the fermentation process occurring in the rumen. An added benefit of this approach is feed conversion becomes more efficient as the energy rich CH$_4$ emissions are prevented and instead utilised by the animal. Trials conducted by the CSIRO have reduced CH$_4$ emissions by more than 80% using a common seaweed called Asparagopsis taxiformis supplied as a feed additive at less than 2% of total dietary intake. While these results are very promising, commercialisation of the technology and cultivation of large quantities of seaweed will take years.

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Land clearing

Land clearing creates RG emissions as carbon-rich forests are replaced with grasslands or fields that are harvested annually. Prior to the period of industrialisation fuelled by the oil and gas industries, land clearing was the largest man-made source of RG emissions\(^1\). It is estimated that since 1850, 160 billion metric tons of carbon from forests and soils have been emitted worldwide as a consequence of land use and land use changes\(^2\).

Nitrous oxide (\(\text{NO}_2\))

\(\text{NO}_2\) emissions are the second largest form of RGs emitted by agriculture. Globally the sector contributes around 60% of total \(\text{NO}_2\) output\(^3\). The main causes of these emissions are the application of nitrogen fertilisers and manure management in intensive livestock industries.

\(\text{NO}_2\) can be released into the atmosphere when excessive amounts of nitrogen-based fertilisers are applied, or during water-logging caused by excessive irrigation. These are issues that best management practice avoids on RFF’s cotton and almond properties, but nevertheless will be the subject of future review and measurement.

Carbon dioxide (\(\text{CO}_2\))

\(\text{CO}_2\) emissions are the next most significant form of RGs contributed by agriculture, accounting for less than 1% of Australia’s \(\text{CO}_2\) emissions\(^4\). Two activities commonly associated with \(\text{CO}_2\) emissions are land clearing and energy consumption in the forms of electricity and diesel.

Land clearing

Land clearing creates RG emissions as carbon-rich forests are replaced with grasslands or fields that are harvested annually. Prior to the period of industrialisation fuelled by the oil and gas industries, land clearing was the largest man-made source of RG emissions\(^5\). It is estimated that since 1850, 160 billion metric tons of carbon from forests and soils have been emitted worldwide as a consequence of land use and land use changes\(^6\).

Land clearing is no longer a significant source of
Energy consumption in the form of electricity and particularly diesel fuel is a major source of carbon emissions in Australian agriculture. Energy production contributes 53% of national emissions and 35% globally. On RFF-owned cotton and almond orchards, electricity and diesel consumed for pumping water is one of the largest operating costs and the largest single source of RG emissions from these particular assets.

RFM has been working with electrical engineers to quantify the cost and carbon reductions that could be achieved through the installation of reasonably large-scale solar energy systems that can be used to drive pumps. This analysis includes calculations of the many variables that can affect the financial returns on these investments, such as scaling the systems to match the seasonal demands of the crops’ water requirements, options for selling electricity into the grid, and utilisation of battery storage. The cost of solar electricity systems has reduced tenfold over the past two decades, and it is likely that the installation of a system will begin on at least one of RFF’s almond orchards in the coming year.

No clearing of remnant vegetation occurs on RFF farms, because it has already been done and it is now illegal. More positively, best management practice through minimum tillage makes it possible to increase soil carbon, thereby creating a carbon sink. Quantification of the gains from this practice will also occur in the studies to be conducted on RFF farms.

Conclusion

In recent years, community expectations regarding the environmental impact of industries have become more focused. Consumers are demonstrating preferences for products that have less impact on the environment, businesses are working to reduce their carbon footprints and governments around the world are legislating to reduce national emissions to meet emissions reduction targets. Until now, agriculture has largely been excluded from these programs, but this will not continue.

RFM is working with experts in a number of fields to quantify the emissions from assets owned by RFF and where farming enterprises are operated by RFM, it is developing measures to reduce these emissions. Once baseline emissions have been quantified, step by step trials will be measured and the knowledge gained from these initiatives will then be deployed more widely, so that RFF assets and hopefully the wider industry can play its part in reducing our nation’s RG emissions.

15. Image courtesy of C-Lock Inc. Used with permission.
Rural Funds Group (ASX: RFF) is a specialised real estate investment trust (REIT) that leases properties to agricultural operators. It currently owns a $923m portfolio of diversified assets across six agricultural sectors.

In this section:

- 2019 weather events
- Half yearly financial results
- New trade deal for Australia and Indonesia
- History of Cobungra

2019 weather events

The first months of 2019 have featured reports of drought and flooding across parts of Australia which has led to investor queries regarding RFF’s assets.

Northern Queensland experienced the extensive effects of a monsoon trough in February, which produced heavy rains. Some areas of Queensland recorded their highest February rainfall on record. Western and central Queensland also felt the effects of cyclone Trevor in March. While these weather events and subsequent flooding were devastating to many properties in the region, they did not adversely affect Mutton Hole, Oakland Park or the Natal aggregation. RFF’s properties received beneficial rainfall which assisted in planting forage crops, promoted pasture growth and replenished water points.

As at May, central Queensland had received over 350 millimetres of rainfall for the calendar year (as measured at the Rewan Bureau of Meteorology weather station). This has been an advantage for cattle properties Comanche, Cerberus and Rewan, which had been experiencing dry conditions before the break. As a result, the lessee on Rewan has planted 1,000 hectares of oats, to be utilised as a grazing crop for cattle over the winter months when the growth of native pastures slows down dramatically.

Cotton properties Mayneland and Lynora Downs have also benefited through sub-soil moisture, sufficient to plant winter crops such as wheat and chickpeas. After recent rain, water storages on Mayneland and Lynora Downs are over 50% full. This water will be used to support summer cotton plantings.

In the south-east, conditions continue to be warmer and drier than average. Some industries have reported difficulties as a result, such as the wine grape sector, with many wine-growing regions reporting lower yields and an earlier harvest. For other agricultural sectors, such as almonds, a dry autumn has enabled the harvest to start sooner and continue with minimal interruptions.
Strategies to manage climate volatility

RFF is not directly exposed to agricultural risk, but the effects of extreme weather events may affect our lessees. For this reason RFM, as manager of the Rural Funds Group, utilises several strategies as a defence against climate volatility, including:

- Water security: Almond, poultry and vineyard assets have access to a combination of water resources, including highly reliable groundwater and river water entitlements. Because these assets are supported by irrigation entitlements, they are less likely to be adversely affected by extreme weather events such as drought.
- Climate diversification: Purchasing assets in different regions and rainfall zones can alleviate the effects of prolonged weather events, such as El Niño, and reduce the likelihood of multiple lessees experiencing wetter or drier conditions at the same time. For further reading on the topic, see RFM’s discussion paper Climatic Diversification (2016), which can be found on our website.

Half yearly 2019 financial results

In February, RFM provided the half yearly financial results for the period ending 31 December 2018 (HY19).

The period reported multiple acquisitions including three cattle feedlots, three cattle properties (Comanche, Cerberus and Dyamberin), and a cotton property (Mayneland).

The results incorporated pro forma adjustments to include four additional acquisitions which had not settled by 31 December 2018. The properties are two cattle properties (Woodburn and Cobungra), and two remaining feedlots. Since the publication of the results Woodburn and Cobungra settled in January and March respectively.

Figure 5 provides the lease expiry profile for assets within the group, culminating in a weighted average lease expiry profile of 11.4 years.

Figures 6-9 outline the impact on the portfolio following the acquisitions both completed and contracted. These are presented in the context of RFM's strategy to diversify the portfolio by sector, sector type, climatic zone and to increase the predominance of market rent reviews within the portfolio.

Figure 10-12 presents key financial metrics for the last two half yearly financial results. Highlights from the HY19 results include earnings of 7.73 cents per unit (cpu), an increase of 17% from the six months ended to 31 December 2017; adjusted funds from operations (AFFO) of 6.4 cpu, up 7%, and distributions per unit (DPU) of 5.22 cents. This is an increase of 4%, which is in line with our stated growth target.
18. Assumes poultry, feedlots (and guarantee fee) are infrastructure predominant, vineyards and cattle are natural resource predominant, and almond/macadamia orchards split equally.
19. CPI linked indexation refers to RFM Poultry which is 65% of CPI, capped at 2%. Fixed indexation is 2.5%.
### Figure 10 – Key metrics

<table>
<thead>
<tr>
<th>Metric</th>
<th>31 Dec 2018</th>
<th>30 June 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pro forma adjusted total assets[^20,^21]</td>
<td>$923.1m</td>
<td>$637.8m</td>
</tr>
<tr>
<td>Pro forma adjusted Net Asset Value (NAV)[^20,^21]</td>
<td>$584.3m</td>
<td>$428.6m</td>
</tr>
<tr>
<td>Pro forma adjusted NAV per unit[^20,^21]</td>
<td>$1.75</td>
<td>$1.68</td>
</tr>
<tr>
<td>Market capitalisation[^22]</td>
<td>$752.8m</td>
<td>$534.2m</td>
</tr>
<tr>
<td>Pro forma number of properties[^20]</td>
<td>49</td>
<td>38</td>
</tr>
<tr>
<td>Pro forma Weighted Average Lease Expiry (WALE)[^20,^23]</td>
<td>11.4 years</td>
<td>12.4 years</td>
</tr>
<tr>
<td>Pro forma gearing[^24]</td>
<td>32.7%</td>
<td>37.7%</td>
</tr>
<tr>
<td>Forecast distribution yield (paid quarterly)[^26]</td>
<td>4.9%</td>
<td></td>
</tr>
<tr>
<td>Units on issue</td>
<td>333.1m</td>
<td>255.6m</td>
</tr>
</tbody>
</table>

[^20]: Pro forma includes feedlots (Beef City and Riverina Beef) and cattle properties (Woodburn and Cobungra) which were not settled at 31 December 2018.

[^21]: Assets adjusted for the independent valuation of water entitlements which are recognised at the lower of cost or fair value on balance sheet.

[^22]: Using $2.26 per unit for 31 December 2018 and $2.09 per unit for 29 June 2018.

[^23]: Lease expiries weighted by forecast FY19 rental income, expressed in years from 30 June 2018.

[^24]: Gearing calculated as external borrowings/adjusted total assets.


[^26]: Key financial covenants for FY19: LVR <50%, ICR >3.0x, with distribution permitted at >3.15x, NTA including water entitlements >$400m, 40% hedging requirement. Security: Real property mortgages, general security agreement, cross guarantees between RFF and subsidiaries.

[^27]: LVR calculated as term debt drawn plus limited guarantee of $75m divided by directly secured assets based on independent valuations.

### Figure 11 – Pro forma debt facility[^20]

<table>
<thead>
<tr>
<th>Metric</th>
<th>31 Dec 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Term debt facility limit[^26]</td>
<td>$335.0m</td>
</tr>
<tr>
<td>Term debt drawn</td>
<td>289.4m</td>
</tr>
<tr>
<td>Loan to value ratio (LVR)[^27]</td>
<td>43.5%</td>
</tr>
<tr>
<td>Effective cost of total debt</td>
<td>4.5%</td>
</tr>
<tr>
<td>Debt Facility expiry</td>
<td>FY22: $225.0m</td>
</tr>
<tr>
<td></td>
<td>FY24: $110.0m</td>
</tr>
</tbody>
</table>

### Figure 12 – Forecasts

<table>
<thead>
<tr>
<th>Metric</th>
<th>31 Dec 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY19 AFFO per unit</td>
<td>13.2 cents</td>
</tr>
<tr>
<td>FY19 payout ratio</td>
<td>79%</td>
</tr>
<tr>
<td>FY20 distributions per unit</td>
<td>10.85 cents</td>
</tr>
<tr>
<td>Target distribution growth p.a.</td>
<td>4%</td>
</tr>
</tbody>
</table>
Indonesia-Australia Comprehensive Economic Partnership Agreement

On 4 March 2019, Australia and Indonesia signed the Indonesia-Australia Comprehensive Economic Partnership Agreement (I-A CEPA). The I-A CEPA presents an increase in export opportunities for RFF’s lessees, as the agreement eliminates or reduces tariffs from 99% of goods entering Indonesia.

In addition to the removal or reduction of tariffs on citrus, dairy and sugar, all tariffs will be removed from imports of frozen beef. Tariffs have also been removed or are expected to be removed in the next five years from feed grains, sheep meat and tree nuts. For example, tariffs on live cattle, frozen beef and almonds were previously taxed at 5%.

Indonesia will also guarantee automatic issue of import permits for some key products. These include live cattle, frozen beef, sheep meat, grains, citrus, carrots and potatoes. The live export trade is also set to benefit, with annual growth at 4%, projected to reach 700,000 cattle by year six.

Indonesian President Joko Widodo negotiated the deal, which also allows for Australian investment in education and health.

Two-way trade between the countries was worth $16.5 billion in 2017, making Indonesia one of Australia’s largest trading partners. President Widodo’s expected return to power, after one of the biggest democratic elections in history, has secured an opportunity for Australia and Indonesia’s trade partnership to grow.

The introduction of I-A CEPA is expected to benefit many Australian industries, including beef exports.
History of Cobungra

Since June 2018, RFF has contracted to acquire five cattle properties, five feedlots and one cotton farm.

The most recent acquisition is Cobungra, a 6,486 ha breeding and backgrounding property in East Gippsland, Victoria (see page 15 for key details). Cobungra was purchased in March 2019.

Cobungra, situated at the foot of Mount Hotham, has a long history in the Victorian high country.

The original Cobungra lease was applied for by George Henry Gray in 1851, after a cattle drive brought the Gray family to the Omeo area. The stockmen on the drive were credited with finding the Bogong High Plains, which were valuable for alpine grazing. They were shown the way to Cobungra by a local Aboriginal man, who was known to them as Larnie. Larnie also told them the location of the Bogong High Plains.

Cobungra changed hands at least seven times in the 19th century, until it was bought without inspection by the Naughton family in 1919. Even then, Cobungra had a reputation for producing quality cattle, which was a deciding factor in the Naughton’s choice to buy the station.

Cobungra was also once famous for its horse breeding, which were predominantly sold to the Indian Army.

In 2001 the property was concentrated on building a fullblood and crossbred Wagyu herd at the station. Wagyu are a breed of cattle originally from Japan, known for their high quality meat and marbled fat.

RFF’s purchase of Cobungra is only the third time the property has been on the market in 100 years.

Pasture improvements, investment in water infrastructure and quality infrastructure – including under-cover cattleyards big enough for 500 head – have enabled Cobungra to consistently produce high-quality cattle for the domestic and international market.

Cobungra is also RFF’s only Victorian cattle property.

The property has been leased to Stone Axe Pastoral Company (Stone Axe), a Wagyu producer. Along with the property itself, the sale incorporated Cobungra’s herd, including 500 head of fullblood Wagyu cows. These were purchased by Stone Axe.

Stone Axe has operated since 2014, when it was founded by Mathew Walker and James Robinson. Mathew’s father, Chris Walker, was integral to building Australia’s Wagyu herd by exporting Japanese Wagyu to North America and bringing embryos to Australia.

In 2017 private firm ROC made an equity investment into Stone Axe. Other investors in Stone Axe include First State Super and the NSW State Government.

Stone Axe’s long-term goals are to build the world’s largest fully-integrated Wagyu enterprise, with plans for the business to expand to include a feedlot and abattoir.

Stone Axe also leases two other RFF owned properties, Dyamberin and Woodburn, both located in the New England region, NSW.

Cattel muster on Cobungra, Omeo, Vic, October 2018 (prior to RFF’s acquisition).
### Cobungra station - key details

<table>
<thead>
<tr>
<th>Area</th>
<th>6,486 ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average yearly rainfall</td>
<td>911 mm</td>
</tr>
<tr>
<td>Adult equivalent (AE)</td>
<td>5,744</td>
</tr>
<tr>
<td>Lessee</td>
<td>Stone Axe Pastoral Company</td>
</tr>
<tr>
<td>Lease term</td>
<td>10 years</td>
</tr>
<tr>
<td>Indexation / market review</td>
<td>2.5% with a market review in year 5</td>
</tr>
</tbody>
</table>
RFM Poultry (RFP) is a large-scale chicken broiler farm operator. RFM, the responsible entity, has managed the assets since 2003.

**HY19 financial results**
On 27 February 2019, RFM delivered the RFP financial results for the half year to 31 December 2018 (HY19).

During this period revenue was impacted by the annual grower fee review, a reduction in Efficiency Rating System discounts, and lower grower fees as birds were not placed on three farms in December. The result was a net increase in revenue of $0.4m compared to the prior period.

The increase in revenue was offset by expenses which increased by $1.2m, largely due to higher direct grower costs, wages and labour, and repairs and maintenance (R&M). As a result, RFP experienced a net loss of $0.2m. RFM announced it will reduce its management fees by 50% in FY19.

Figure 13 details the key financial metrics as at 31 December 2018. Distributions for FY19 are detailed in Figure 14.

**Operational update**
RFP operates 17 farms which undertake five to six bird growing cycles per annum. All farms are fully operational, following an isolated event in December which led to three farms not being placed for one cycle.

As part of the HY19 financial results, RFM outlined a program of improving facility standards and restructuring operational staff, as part of a strategy to improve RFP’s profitability.

Improvements to facility standards included the planned installation of four water sanitation systems. Two systems, servicing 40 sheds, are now installed and operational. The two remaining systems are on track to be installed by 30 June 2019.

In addition, upgrades to the floors and insulation of 110 sheds are being conducted between bird growing cycles. Approximately 30% of the required works have been completed to date.

Ongoing R&M is also being undertaken on sheds as required, including to shed sealing and internal components.

A major component of the restructure of operational staff included the transition of all contract farm managers to direct employees of RFP. This is now complete.

Additional managers, such as an Operations Training Manager, have also been employed. This has resulted in an additional 59 RFP employees, with much of this cost offset by the elimination of contractor fees. The staff restructure is expected to provide several benefits, including greater control over operations.

**Figure 13 – Key financial metrics**

<table>
<thead>
<tr>
<th></th>
<th>31 Dec 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total assets</td>
<td>$8.7m</td>
</tr>
<tr>
<td>Net Asset Value (NAV)</td>
<td>$7.2m</td>
</tr>
<tr>
<td>NAV per unit</td>
<td>$1.05</td>
</tr>
<tr>
<td>Net (loss)/profit after tax</td>
<td>($0.2m)</td>
</tr>
</tbody>
</table>

**Figure 14 – FY19 total distributions (excl. franking)**

<table>
<thead>
<tr>
<th>Record date</th>
<th>CPU</th>
</tr>
</thead>
<tbody>
<tr>
<td>28 September 2018</td>
<td>2.69</td>
</tr>
<tr>
<td>28 December 2018</td>
<td>2.60</td>
</tr>
<tr>
<td>29 March 2019</td>
<td>1.30</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>6.59</strong></td>
</tr>
</tbody>
</table>
A new chapter for Turosi

Turi Foods hold a long-term growing contract with RFP, securing the supply of chickens from 20 sheds in Lethbridge, Victoria.

On 4 May 2018 Turi Foods merged with OSI International Foods (Australia) to create Turosi Pty Ltd.

Turi Foods’ brands include La Ionica, Golden Farms and Bannockburn. The company also owns two processing plants: Breakwater at Geelong, Victoria, and the Thomastown plant in Melbourne, Victoria.

Turi Foods began in 1976 when Sam and Maria Cuteri rented a shed in South Morang and began processing 300 birds a week by hand.

The business grew rapidly, and in the late 1980s the company built their main plant in Thomastown. The Thomastown plant was the first in Australia to use the European method of air-chilling.

In 1998 the company began growing birds, and following the acquisition of several brands the decision was made to corporatise the business.

OSI International Foods began in 1909 as a butcher shop, Otto and Sons, in Chicago, US. The family business began supplying meat to locals and opened new branches. In 1955, the company gained the contract to supply beef patties to McDonalds, which quickly became a staple of the business.

OSI Foods grew as McDonald’s expanded internationally, and is today one of the biggest privately-held companies in the US.

Turosi is the largest poultry processor in Victoria, and the third largest in Australia.

There are six fully-integrated poultry companies in Australia, which make up 90% of chicken production in Australia. Two of these, Inghams Enterprises and Baiada Poultry, supply 70% of Australia’s meat chickens. The remaining four – Cordina Chicken Farms, Hazeldene’s Chickens, Golden Cockerel and Turosi – each supply between 3% and 9% of the national market.

Turosi now employs over 1,200 people at over 20 sites, including 100 farmers.
Almond fast facts

• The Australian almond industry has grown substantially in the last ten years. Australia is now the world's second biggest producer of almonds - the 2019 harvest is estimated to be 93,000 tonnes.

• Victoria is the country's largest producer by a substantial amount. In 2017, 22,390 ha of plantings were located in Victoria, or 56% of orchards in the country. New South Wales and South Australia have the second largest area of plantings, with just shy of 8,000 ha each (20%).

• For every tonne sold domestically, 2.7 tonnes are exported. In 2017/18 37% of Australia's almond exports were sent to India, our largest export market, followed by Vietnam (12%).
Rural Funds Management Ltd (RFM) manages three almond funds, with a total of 551 ha of almond trees.

2019 crop update
The harvest for the RFM Almond Funds (2006-08) started on 10 February, which is five days earlier than the 2018 harvest. This was a result of a hot and dry summer which promoted earlier nut development.

The warm weather conditions had the benefit of allowing the almonds to be efficiently moved straight from the field to bunker rather than having to be dried. This meant that the first almonds were transported to Griffith to be processed as early as March.

A second pass (or re-shake of trees) was required for 80% of the nonpareil variety. Nonpareil makes up 50% of almond trees in the orchard, and are the most common variety found in Australia. The harvest continued until June. Combined yields are projected to average between 3.2 and 3.6 tonnes per hectare.

The overall Australian harvest for 2019 is estimated to be 93,000 tonnes, 16% higher than 2018. Quality has also been reported to be higher than average, in part due to the high temperatures over the summer.

Restructure proposal
RFM is the responsible entity for three almond funds: RFM Almond Fund 2006, RFM Almond Fund 2007 and RFM Almond Fund 2008. All three funds operate orchards on Mooral, Hillston, NSW.

RFM intends to propose a restructure of these funds, combining them into a single unit trust. This would create benefits for growers in the funds:

• Eliminate future shortfall invoices: RFM has negotiated preliminary approval to create a debt facility for the fund.
• Simplified administration: Growers would no longer need to claim GST refunds.
• Diversification: Distributing production risks across a larger asset base.
• Liquidity: RFM has sought preliminary feedback to list the almond fund on the National Stock Exchange.

Meetings to allow the growers to vote on whether or not to proceed are expected to occur in August 2019. Documentation outlining the full details of the merger will be sent to growers before the meetings.
2019 harvest update
The harvest for 2007 Macgrove Project started on 20 February. Over 550 tonnes (wet weight) have been harvested. The harvest is expected to go through until August. An interim update will be provided to investors in the coming months as the harvest progresses.
Industry update

Macadamia farm-gate value has tripled in the last ten years, while the in-shell production volume has risen by 47% in the same time-frame. Consumption is on the increase, new markets are expanding in Asia, and the industry is in the middle of a three-year marketing campaign to drive steady growth in global demand.

Despite this, the macadamia industry is still relatively small.

Scott Norval, RFM National Manager – Macadamias, has been working in the macadamia industry for 17 years, and joined RFM in March 2016. Scott maintains that there is still huge potential for growth.

“I think, irrespective of growth, the market potential is there for much more than we can ever grow,” he said.

“It is a challenge for the industry, because we don’t have the product. We have to take a measured approach to expanding on markets geographically.”

China is a market where growth potential is enormous, but consumption is still startlingly low.

“Macadamia consumption in Australia was at about 172g per person three years ago. Chinese consumption per person was very low, only three grams,” Scott said.

The Chinese government is seeking to enlarge the macadamia industry in China. However, Australian industry leaders have made the point that almost every fledging macadamia industry - including Australia - has faced setbacks while becoming an established sector.

Regardless of whether the Chinese will create an established industry, Australia has an advantage in certain markets due to its perceived image as a 'clean, green' producer.

The macadamia industry is unique among Australia's other tree nut industries. For a start, it is the only Australian native food crop to be commercially developed for international trade.

The macadamia nut has a long history in Australia. It originated in eastern rainforests around 60,000 years ago, and was considered a delicacy by Aboriginal Australians. The first macadamia orchards were planted in the 1880s, but it wasn’t until 1954 that a commercial processing plant was established.

Despite their long history, macadamias have only had a short period of commercial development, about 30 years as a commercial crop.

Part of the slow expansion is to do with the growth of macadamias themselves; they favour the climatic conditions and soil of north-eastern NSW and southern Queensland.

Even with the industry’s relative youth, growers are exploring ways to innovate and improve, such as tree shaking at harvest, as used in the almond industry. RFM’s orchards are on their fourth year of shaking. An update on the current macadamia harvest is on page 20.
Cattle forage crop (sorghum), Natal, northern Qld, March 2019.
About Rural Funds Management

Rural Funds Management Limited (RFM) is one of the oldest and most experienced agricultural fund managers in Australia.

Established in 1997, RFM manages approximately $1.2b of agricultural assets. This includes $939m of assets in six investment funds for which RFM is the responsible entity. Assets are located across New South Wales, Queensland, South Australia and Victoria.

RFM’s largest fund under management, the Rural Funds Group (RFF), is an ASX-listed real estate investment trust. RFF owns an $923m portfolio of diversified agricultural assets including almond and macadamia orchards, commercial-scale poultry farms, premium vineyards, water entitlements, cattle and cotton assets, all of which are leased to quality tenants.

RFM has a 22-year history and operates from a head office in Canberra, and offices in Sydney, regional New South Wales and Queensland. The company employs more than 140 staff in fund and asset management activities.

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To make an investment

Rural Funds Group (ASX: RFF) is a listed investment. To make an investment in RFF please contact your broker or financial adviser. RFM Poultry (NSX: RFP) is a listed investment. To make an investment in RFP please contact your broker or financial adviser.

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