

Key facts:

- * Australia produced **10,000 to 11,000** tonnes of linseed for the year ending June 2013, while Tasmania produced **600 to 700** tonnes.
- * Tasmania's main production region is the **Midlands**.
- * Linseed oil exports (including crude oil) were **6.7 tonnes** and linseed exports were **46 tonnes** for the year ending June 2013.
- * In 2012/13, linseed imports included; **995 tonnes** of linseed, **410 tonnes** of crude linseed oil, and **354 tonnes** of linseed oil and its fractions.
- * In Tasmania linseed is used as a rotational complement in mixed cropping systems.

Australian oilseed industry

Australia produces 3-4 million tonnes of oilseeds annually, of which canola and cottonseed are the major components, accounting for 57% and 36% of production volumes respectively.

The remainder of Australian production is made up of a mix of smaller scale crops, particularly sunflowers and soybeans, at 4% and 3% of total volumes. Only small volumes of linseed and safflower are produced, accounting for less than 1% of total production volumes.

The majority of oilseed production within Australia is servicing high volume commodity driven markets. In contrast, linseed production is focused on supplying smaller niche markets.

Linseed uses

Australia consumes around 550,000-600,000 thousand tonnes of vegetable oils annually, with the large majority used in edible applications such as spreads, cooking oils, prepared foods and

nutritional supplements. Australian consumption of oils is linked with a growing preference for healthier products, including an increasing demand for oils with naturally high oleic or fatty acid content.

More broadly, the use of linseed oil has ranged from industrial to health and wellbeing. The uses include:

Oil - extracted from seed

- Manufactured foods like spreads and meals
- Nutritional supplements
- Cosmetics
- Lubricants, fuels and other industrial applications.

Seeds

- Bakery products (especially breads, biscuits and bars)
- Stock and pet feeds.

Changing markets

The small amount of linseed currently grown in Australia is generally bought and distributed by seed and grain trading companies who have developed specialist or niche markets. These markets are typically seeking the specific compounds of the linseed product, such as its linoleic and oleic fatty acid content.

The use profile for linseed oil has shifted significantly from a predominately industrial product to currently being more of a specialist ingredient in health food and wellbeing products.

Linseed oil contains high levels of linoleic acid which was widely used in industrial products such as paint and linoleum floor covering, due to its quick drying properties. While this use was once very common, it has now declined significantly as a result of changes to acrylic paints and vinyl flooring products and the development of synthetic alternatives.



Today linseed is commonly used in a whole seed form, in bakery and snack products such as bread and muesli bars, as well as for application in specialist animal stock feed.

Health and nutrition advocates have found and championed multiple beneficial uses of linseed oil, which typically draw on its high content of omega 3 fatty acids. This includes the use of linseed for cold pressed flaxseed oil— a product that is becoming increasingly popular both in Australia and overseas as a



health food. Currently, there are only a small number of domestic processors that have the capacity to cold press linseed into oil.

Linoleic acid, contained in linseed, is also in demand for use in beauty products where it has become valued for several properties including; anti-inflammatory, acne reduction, and moisture retention when applied to the skin.

Linseed oil and its derivatives, including flaxseed oil, are not well suited for use as a cooking oil. The oil must be stored carefully to avoid oxidation, making it difficult to store and largely unsuited for use in cooking.

Australian linseed production

Linseed is also called flaxseed, as it is derived from the flax plant, *Linum usitatissimum*. The plant can be used to derive oil, seed (either yellow/golden or brown), and fibre.

Currently around 7,000 hectares of linseed are grown in Australia, producing between 10,000 to 11,000 tonnes for the year ending June 2013. Dryland systems generally produce 1 to 2 tonnes per hectare, while irrigated systems produce 2 to 3 tonnes per hectare. Farmgate prices received for linseed during 2012/13 varied between \$500 up to \$1200 per tonne for higher quality product used in health foods.

The main production regions within the domestic market include central and northern New South Wales, Western Districts in Victoria and the Limestone Coast in South Australia.

Today, almost all of the domestic linseed production is destined for human consumption, with the majority ending up in the bakery market. This demand for linseed has been supported by consumers' interest in eating healthier foods.

Tasmanian linseed production

Tasmania produces very small and often varied volumes of linseed annually, estimated to around 600 to 700 tonnes. The level of production in Tasmania has been influenced by the fact that linseed provides a good rotational complement in other cropping systems.

Production growth of linseed is being driven by volumes flowing out of the Midlands region. Crops respond well to the region's climate, receiving an average yield of 1.8 tonnes per hectare.



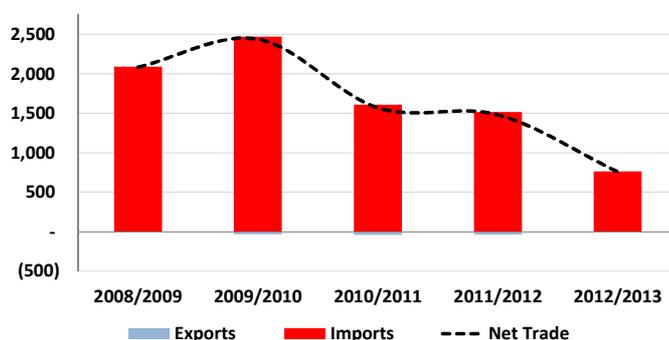
International trade

Over the last 5 years, Australia has imported an average of 1,689 tonnes of linseed oil (including crude) per annum, as seen in Figure 1. The majority of this volume has come from Europe with Belgium being the largest supplier to Australia.

All linseed oil imported into Australia must be heat treated before entry is granted, which negatively affects the beneficial compounds of the oil.

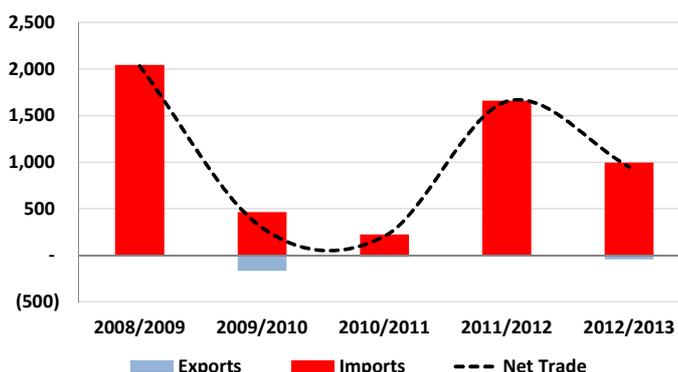
Australia also exports small volumes of linseed oil, with the majority going to Hong Kong and New Zealand

Figure 1 National Trade Linseed Oil (tonnes)



Australia imported an average of 1,078 tonnes of linseed per annum over the last 5 years, as seen in Figure 2, with the majority of this volume being imported from Canada and New Zealand. Volumes have fluctuated over the last 5 years, experiencing a drop in 2009 to 2011.

Figure 2 National Trade Linseed (tonnes)



Outlook for sector

- Linseed oil application for industrial purposes has largely been superseded by synthetic products. Demand from this sector is expected to continue to decline.
- Linseed seems destined to be a specialist ingredient for the niche markets that acknowledge its unique product attributes. This includes using the high oleic attributes in its nutritional and wellbeing applications.
- There is a need to manage the balance between the use of linseed as a valuable rotational complement in cropping systems and ensuring consistent supply to develop and service the specialist markets.
- There is evidence of large import volumes of both raw and processed linseed products, which suggests that there is currently not enough supply to meet the domestic demand.
- Canadian imports can significantly affect linseed prices received on the domestic market as they fill most shortfalls in the domestic supply.

There are several apparent market development opportunities that include:

- Using linseed to provide a more sustainable feed source for the aquaculture industry. A level of research and development has been undertaken that has revealed that this use is suited to the high levels of omega 3 fatty acid content found in linseed oil, and can also ease the reliance on wild fish stock feed. The close proximity of the substantial aquaculture operations in Tasmania makes this an attractive option.
- Further development of the market for seed use in bakery products. This use has gained some acceptance in bakery products with specialty bakers but may have scope for additional growth by developing uses to distinguish high quality bread products in mainstream channels.
- Continued endorsement by nutritional advocates. Nutritional advocates have found linseed oil attributes and influenced their use in healthier foods and beauty products. Their continued endorsement can only

expand demand for these higher value, more specialist uses.

Data sources

- DFAT import and export data
- ABARE
- ABS

Further information

1. Australian Oilseed Federation
<http://www.australianoilseeds.com> Ph. +612 8007 7553
2. Tasmanian Institute of Agriculture (TIA)
<http://www.tia.tas.edu.au> Ph. +613 6226 6368
3. Freshlogic
www.freshlogic.com.au Ph. +613 9818 1588
4. Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES)
www.daff.gov.au/abares Ph. +612 6272 3933
5. Australian Bureau of Statistics (ABS)
www.abs.gov.au Ph. +612 9268 4909
6. Department of Foreign Affairs and Trade (DFAT)
www.dfat.gov.au Ph. +612 6261 1111

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