

A SNAPSHOT OF AUSTRALIAN PULSES



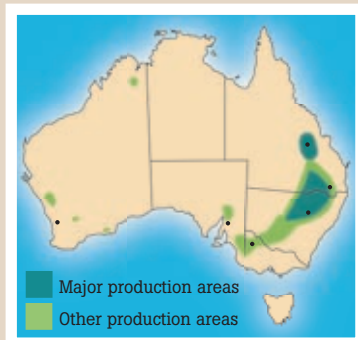
Reprints of pulse industry and market posters displayed at CICILS/IPTIC Convention, Brisbane, Australia 2010



AUSTRALIAN CHICKPEA INDUSTRY

The Australian chickpea industry

- Chickpea is grown in all mainland states. National crop production in 2008/09 reached a high of 378,000 tonnes.
- Is predominately desi types, with smaller production volumes of large kabuli types (>8mm) and small kabuli types (<8mm).
- Is the world's No. 1 chickpea exporter with 90% of Australian chickpeas exported and supplying more than a third of desi chickpea traded internationally.



Chickpea production areas in Australia, showing the network of breeding and quality centres.

Pulse Breeding Australia (PBA) nationally coordinated breeding and quality program ensures that new varieties meet customer requirements.

Special emphasis is given to seed quality, increased disease resistance (especially ascochyta blight), yield potential and harvestability.



Crossing in the glasshouse initiates a new breeding cycle.



Timely harvest ensures quality Australian chickpea.



Farmers use the most advanced technology and equipment to produce chickpea of the highest quality, supported by accredited chickpea agronomists.



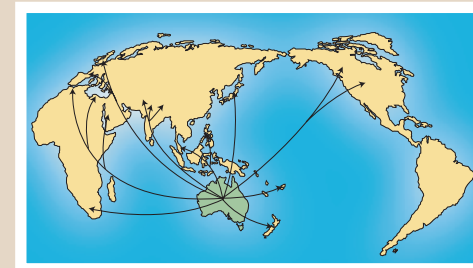
DESIGN: SCORPION

AUSTRALIAN CHICKPEA MARKETS

Australian chickpea is exported to more than 40 countries. The industry is committed to supplying chickpea with quality attributes tailored to these markets.

Important quality traits targeted by chickpea breeders are:

- Large and uniform seed size,
- Lighter coloured seed coat,
- Splitting quality of desi chickpea,
- Hydration and cooking characteristics of desi and kabuli chickpeas.



Pulse Breeding Australia (PBA) breeders and chemists work closely with processors and marketers. Ensuring that the high quality of Australian desi and kabuli chickpea is maintained and further improved with new varieties.



Australian desi chickpea.

Australian kabuli chickpea.



It takes 10 years to breed a new chickpea variety. Close contact with the market is required to anticipate likely changes in consumer preference.

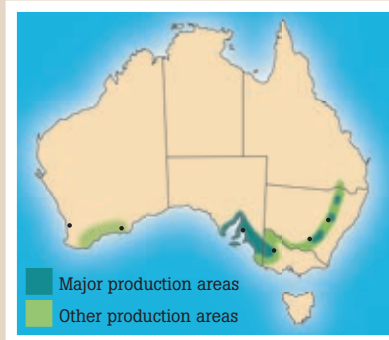


DESIGN: SCORPION

AUSTRALIAN FABA BEAN INDUSTRY

The Australian faba bean industry

- Has grown steadily since its beginning in 1980, spreading to all states.
- Is among the top five producers in the world.
- Is the world's number one exporter supplying a third of faba beans traded internationally.



Faba bean production areas in Australia, showing the network of breeding and quality centres.



Farmers use the most advanced technology and equipment to produce high quality faba beans and broad beans.



Australian breeders and researchers meet regularly to review new germplasm and market developments.



Faba bean is well adapted to the range of Australian farming systems, including row cropping.

The Pulse Breeding Australia (PBA) nationally coordinated breeding and quality program ensures that new varieties continue to meet consumer requirements and are more productive.

Special emphasis is given to breeding for seed quality, increased disease resistance and yield potential.



DESIGN: SCORRIDI

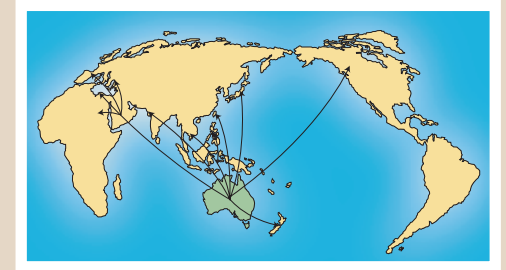
AUSTRALIAN FABA BEAN MARKETS

Australian faba beans and broad beans are exported to more than 30 countries.

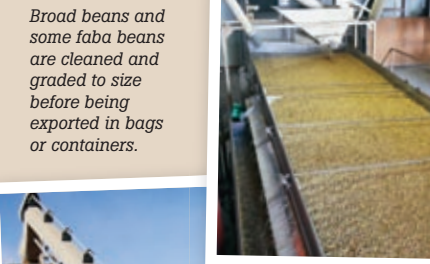
The industry is committed to supplying faba beans with quality attributes tailored to these markets.

Important quality traits targeted by breeders in Pulse Breeding Australia (PBA) are:

- Uniform seed size,
- Light coloured seed coat,
- Splitting quality,
- Hydration, cooking and canning quality,
- Minimising levels of seed discolouration.



Faba beans are exported as either whole or split product.



Broad beans and some faba beans are cleaned and graded to size before being exported in bags or containers.

It takes 10 years to breed a new faba bean variety therefore we must be able to anticipate likely changes in consumer preference.

Breeders and chemists work closely with processors and marketers to ensure that the high quality of Australian faba bean is maintained in new varieties.

New varieties covering a range of seed sizes and types are being developed to suit all markets and end-uses.

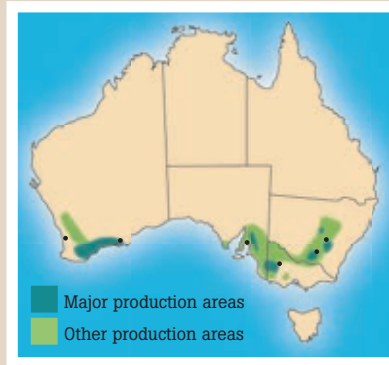


DESIGN: SCORRIDI

AUSTRALIAN FIELD PEA INDUSTRY

The Australian field pea industry

- Expanded rapidly from the mid 1990's to be a major pulse crop.
- Is widespread across Australia's southern cropping zones.
- Production is mostly of dun coloured type field pea (>90%) with some minor production of blue and white types.
- Is the leading producer and exporter of dun type field pea worldwide.



Field pea production occurs in most cropping regions of southern Australia. Breeding centres are distributed across Australia.

The Pulse Breeding Australia (PBA) field pea breeding program provides growers with superior varieties showing improvements in marketability and crop productivity.



New erect semi-leafless dun pea types are producing higher yields, improved quality and fit well into cropping rotations.



National breeding and evaluation aims to provide growers with well adapted varieties.



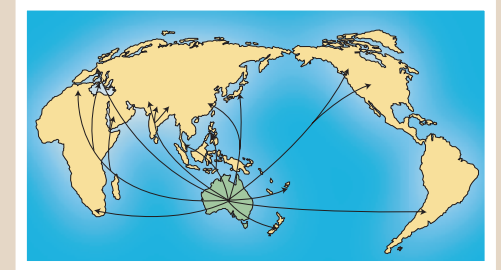
020204 02/01/21

AUSTRALIAN FIELD PEA MARKETS

Australian exports of field pea go mostly for human consumption. The Australian field pea industry is committed to supplying the quality required by these markets.

Market specifications targeted by research, industry and breeding programs relate mostly to:

- Whole and split grain size, shape and colour,
- Whole grain milling properties,
- Grain canning quality.



Market signals on quality are used by Pulse Breeding Australia (PBA) breeders to develop more suitable and marketable grain types for industry.

Feedback from end-use markets on Australian field peas is important to the further development of quality Australian field peas.



Australian dun field pea.



Quality dun field peas and their splits from Australia.

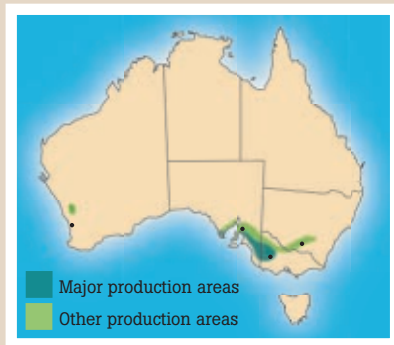


020204 02/01/21

AUSTRALIAN LENTIL INDUSTRY

The Australian lentil industry

- Lentil production in Australia has expanded from less than 1,500 hectares in 1994 to peak at over 150,000 hectares in 2006. Droughts have hampered more recent production.
- Australia is a major exporter of high quality red lentil to all parts of the world.
- Production is predominantly on neutral to alkaline soils in winter cropping areas with 350 - 500 mm of annual rainfall.
- A favourable growing environment, good crop management, and care in handling and processing ensure a quality lentil product for consumers.



Production is mainly in south eastern grain growing regions of Australia. Breeding centres are distributed across Australia.



Extensive trials are conducted throughout current and potential production areas.

National breeding of lentils by Pulse Breeding Australia (PBA) aims to increase lentil production in Australia through the release of superior high quality red and green lentil varieties.



New varieties and farming systems are assisting growers to produce lentils reliably and in drier environments.

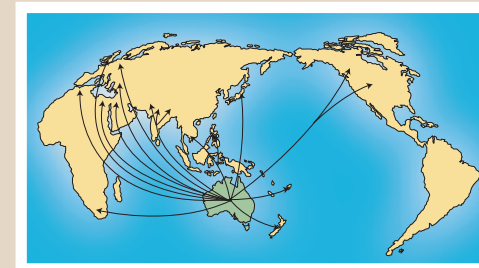


DESIGN: SCORRIDE

AUSTRALIAN LENTIL MARKETS

Australian lentil is exported for human consumption in more than 40 countries.

The lentil industry, including scientists, agronomists, farmers, processors and marketers, is focused on producing premium quality lentils to meet specific consumer needs.



Improved physical seed characteristics and processing quality are major objectives of the Pulse Breeding Australia (PBA) lentil breeding program:

- Size, shape and colour of grain,
- Splitting yield and colour of splits in red lentils,
- Cooking characteristics in green lentils.

The Australian lentil industry is working closely with consumers to improve the reliability and quality of Australian lentils.



Trade displays and delegations provide valuable information to the breeding teams.

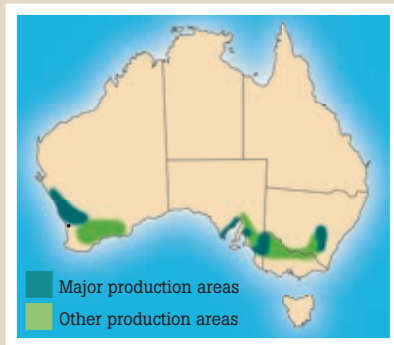


DESIGN: SCORRIDE

AUSTRALIAN LUPIN INDUSTRY

The Australian lupin industry

- Production is predominantly Australian Sweet Lupin (*L. angustifolius*).
- A lesser quantity of Australian Albus Lupin (*L. albus*) is grown and exported.



Lupin production areas in Australia, showing the breeding and quality centre in Perth.



Pulse Breeding Australia (PBA) nationally coordinated breeding program ensures that all new varieties meet stringent quality requirements.

Screening of new cultivars and testing of commercial production is conducted to ensure accepted levels of alkaloid content in Australian lupin.



- Lupin is a valuable crop in the farming systems on deep sands and acidic soils of western and southern Australia.

- Modern disease resistant varieties and effective agronomic practices ensure Australian farmers produce high quality lupins.



DESIGN: VOORDE

AUSTRALIAN LUPIN MARKETS

- Australian Sweet Lupin (*L. angustifolius*) is well established in World markets as a valuable, clean livestock and aquaculture feed source.
- Australian Sweet Lupin is now finding its way into global human foods because it improves the nutritional value, health benefits and consumer acceptance of a variety of foods.
- Australia is the largest supplier of quality, large-seeded, Australian Albus Lupin (*L. albus*) to the Middle East.



Australian Albus Lupin splits and seed.



Australian Sweet Lupin seed.

Recent, and significant, medical, nutritional and functional research has enabled lupin and lupin derivatives to be used as food additives in various baked products, drinks and sauces.

Lupin based foods have been shown to reduce blood glucose, lower blood cholesterol and blood pressure, reduce energy intake and suppress appetite by rendering a feeling of fullness.

Pulse Breeding Australia (PBA) is targeting quality attributes as well as yield and variety adaptation:

- High protein content,
- Low alkaloid (bitterness),
- Low toxins (phomopsin),
- Improved dehulling efficiency.



Australian Sweet Lupin seed, flour and splits.



DESIGN: VOORDE

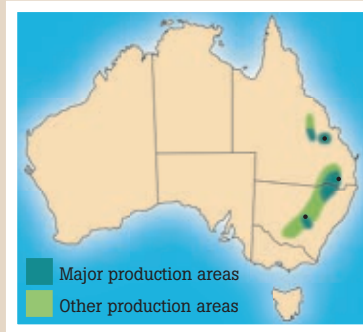
AUSTRALIAN MUNGBEAN INDUSTRY



Australian grown mungbeans have quality written all over them!

The Australian mungbean industry

- Average annual production of 50,000 tonnes with a growing season from September to April.
- Australia produces large and small seeded shiny green gram, black gram and dull green seeded gram.
- Export grain of the highest quality is achieved by in-field agronomic support being provided to the grower by a network of accredited mungbean agronomists.
- Mungbean producers, supported by the Australian Mungbean Association (AMA) have access to the best available production, marketing and industry information.



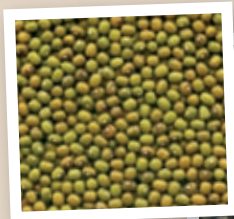
Mungbean production areas in Australia, showing the network of breeding and quality centres.

Breeding of varieties which produce maximum quality and productivity under dryland and irrigated, spring and summer growing conditions:

- High grain quality (evenness of seed size, colour, and low hardseedness),
- Evenness of flowering and maturity,
- High yielding,
- Enhanced plant architecture and disease resistance.



Broadacre production.



Shiny green gram.



Black gram.



Dull green gram.



DSM28 1004018

AUSTRALIAN MUNGBEAN MARKETS



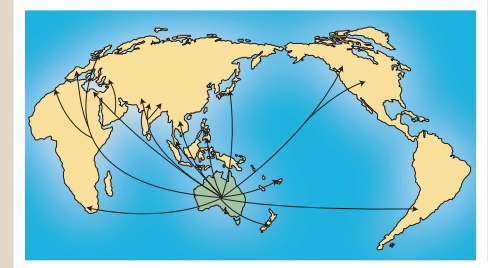
Australian grown mungbeans have quality written all over them!

Quality Australian mungbean is exported to over 35 countries for use as:

- Sprouts, whole grain, splits and flour to make dhal,
- Soups, porridges, curries and additives for various spiced or fried dishes,
- The flour is used to make vermicelli glass noodles, pappadums, breads and biscuits.

The processing and grading of Australian Mungbean is primarily undertaken by members of the Australian Mungbean Association (AMA) ensuring that:

- The highest level of food safety is maintained across the entire industry,
- Quality assurance systems are in place for improved traceability,
- A high level of market confidence is maintained in Australian mungbean.



Clean, green growing conditions.



Premium Australian mungbean products.



Australian Mungbeans are gravity graded to segregate premium quality.



96 percent of Australian mungbeans are exported.

Superior mungbean cultivars are developed to meet overseas consumer demand for premium quality:

- Breeders liaise with industry processors, marketers and exporters to identify lines of superior seed quality,
- Lines are tested for evenness of seed size and colour,
- Lines are sprout tested for germination, sprout colour, size, vigour and uniformity.



DSM28 1004018



Contact details

For further information, contact either Pulse Australia or the appropriate person listed below as the principal breeder in each pulse crop. Australian pulse breeding is nationally coordinated and consists of a number of breeders and scientists from many disciplines. The people listed below will assist or ensure that enquiries are forwarded to the most appropriate person within the pulse industry.

Pulse Australia

Chief Executive Officer

Gavin Gibson
Phone: +61 2 4997 6468
Email: ggibson@pulseaus.com.au

Industry Development Managers

Queensland/Northern NSW

Gordon Cumming
Phone: +61 408 923 474
Email: pulse.gordon@bigpond.com

Southern NSW/East Victoria

Trevor Bray
Phone: +61 428 606 886
Email: pulse.trevor@bigpond.com

South Australia/West Victoria

Wayne Hawthorne
Phone: +61 429 647455
Email: pulse.wayne@bigpond.com

Western Australia

Alan Meldrum
Phone: +61 427 384 760
Email: pulse.alan@bigpond.com

Pulse breeding program leaders

Chickpea - desi

Ted Knights, Pulse Breeding Australia
Phone: +61 2 6763 1179
Email: ted.knights@industry.nsw.gov.au

Chickpea - kabuli

Kristy Hobson, Pulse Breeding Australia
Phone: +61 3 5362 2137
Email: kristy.hobson@dpi.vic.gov.au

Faba & broad bean

Jeff Paull, Pulse Breeding Australia
Phone: +61 8 8303 6564
Email: jeffrey.paull@adelaide.edu.au

Field Pea

Tony Leonforte, Pulse Breeding Australia
Phone: +61 3 5362 2155
Email: tony.leonforte@dpi.vic.gov.au

Lentil

Michael Materne, Pulse Breeding Australia
Phone: +61 3 5362 2312
Email: michael.materne@dpi.vic.gov.au

Lupin

Bevan Buirchell, Pulse Breeding Australia
Phone: +61 8 9368 3653
Email: bbuirchell@agric.wa.gov.au

Mungbean

Col Douglas, Department of Employment,
Economic Development and Innovation
Phone: +61 7 4660 3613
Email: col.douglas@deedi.qld.gov.au

Germplasm Enhancement

Maqbool Ahmad, Pulse Breeding Australia
Phone: +61 8 8303 9483
Email: maqbool.ahmad@sa.gov.au

