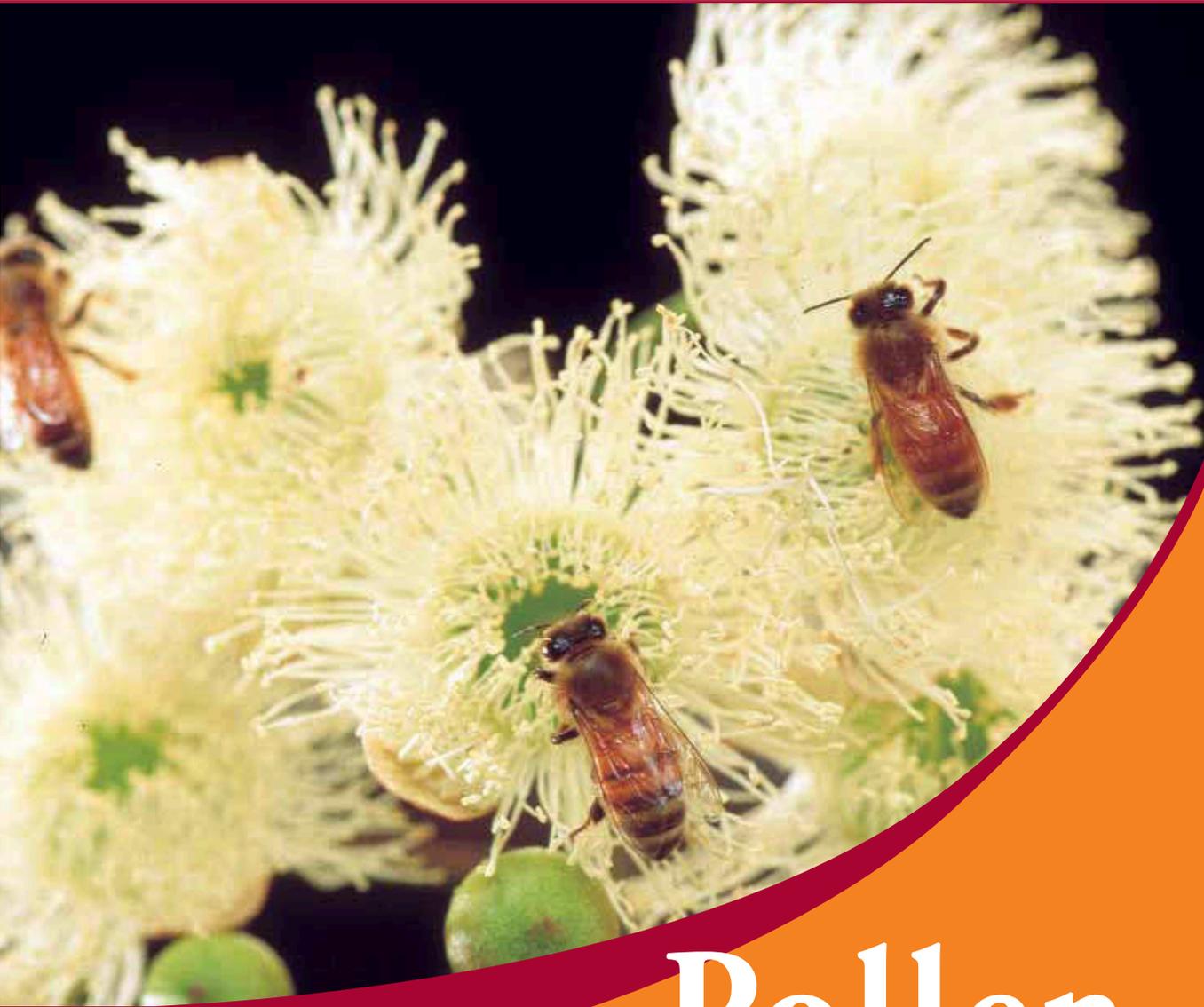


Reviewed March 2006



Bulletin 4533  
ISSN 1326-415X

POLLEN



# Pollen

from Western Australia

*at a glance*



**R**OB MANNING

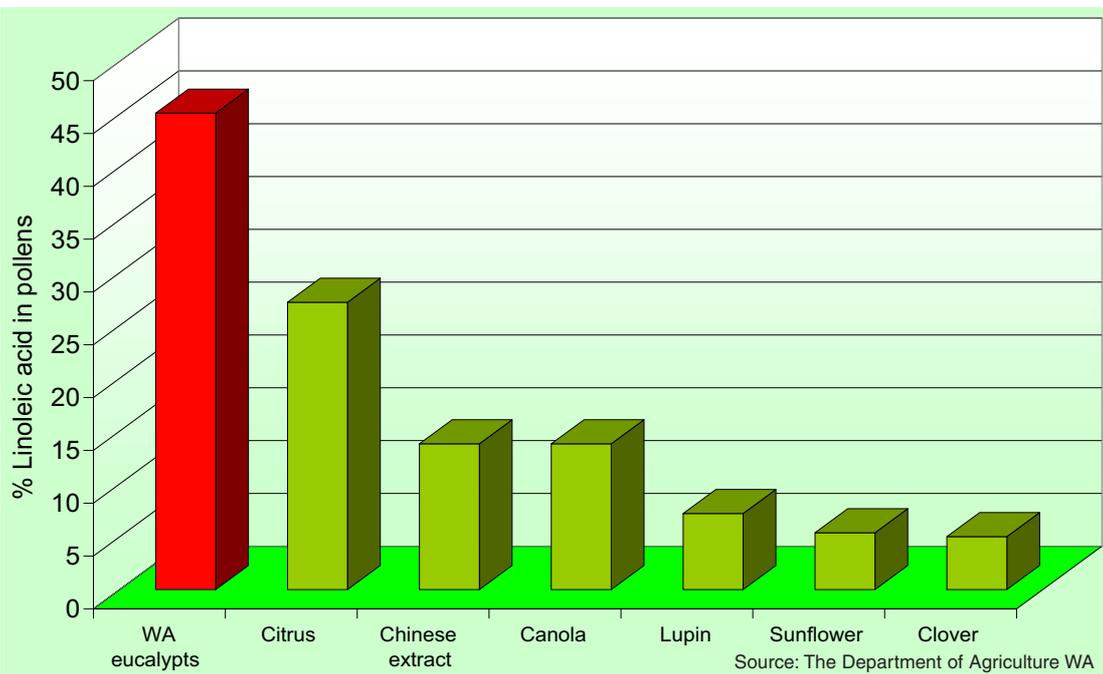
Research, Development and Biosecurity Division, Department of Agriculture, Western Australia

**Western Australia has a high density of unique plant species that produce high quality pollens. These are harvested free of chemicals and from pristine forests and conservation reserves. New health properties have been identified and should excite health conscious consumers.**

## POLLEN – THE HEALTH BENEFITS

Pollen is a natural source of high protein, low fat that contain essential fatty acids and a complete range of minerals and vitamins. It is nature's growth and maintenance supplement.

## ESSENTIAL FATTY ACIDS

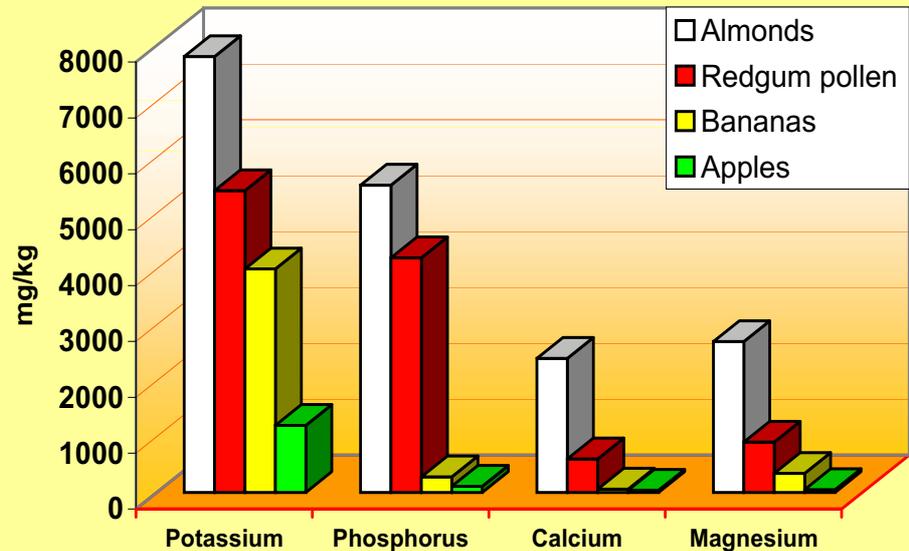


Eucalyptus pollen are dominated by an “essential” fatty acid for human health known as Linoleic Acid. The human body can not manufacture linoleic acid and therefore it must be consumed. As a polyunsaturated

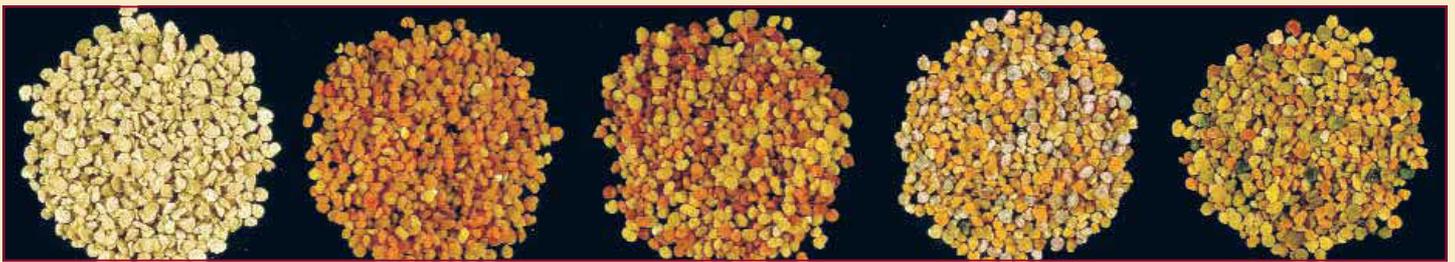
fatty acid, linoleic acid helps lower the ratio of low-density lipoproteins (LDL's) to high-density lipoproteins (HDL's). The LDL's, known as “bad” lipoprotein, carry fats such as cholesterol from our liver to our cells whilst HDL's carry cholesterol from our cells to our liver to be excreted as bile into the intestine. Eucalypt pollens have one of the highest percentages of linoleic acid in the world, making it unique and beneficial.

## MACRO-NUTRIENTS

The Western Australian Eucalypt, Redgum, has a nutrient higher than most commonly eaten fruits such as bananas and apples.

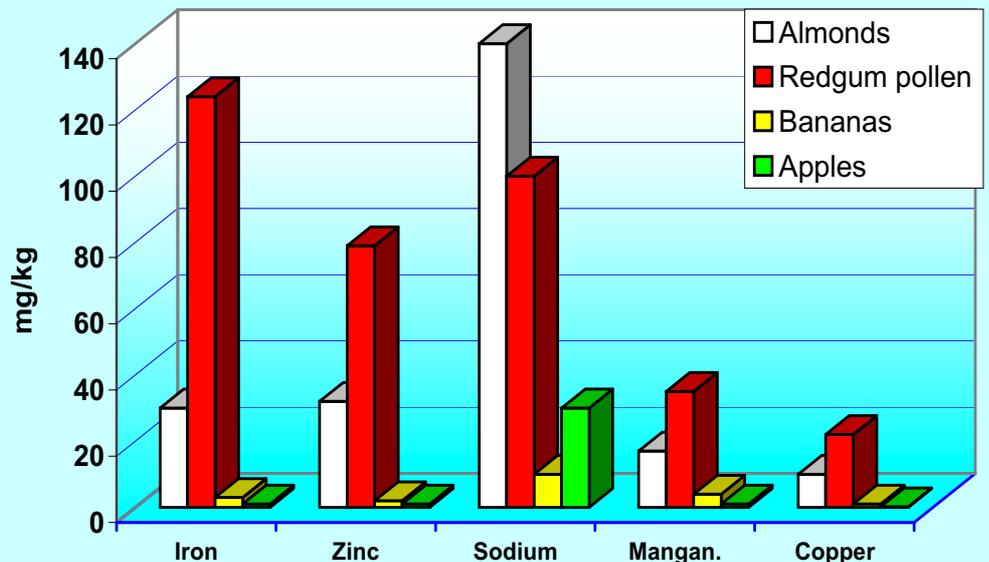


Source: The Department of Agriculture WA



## MICRO-NUTRIENTS

Pollen is a good source of iron, zinc, manganese and copper which are essential key factors in human health.



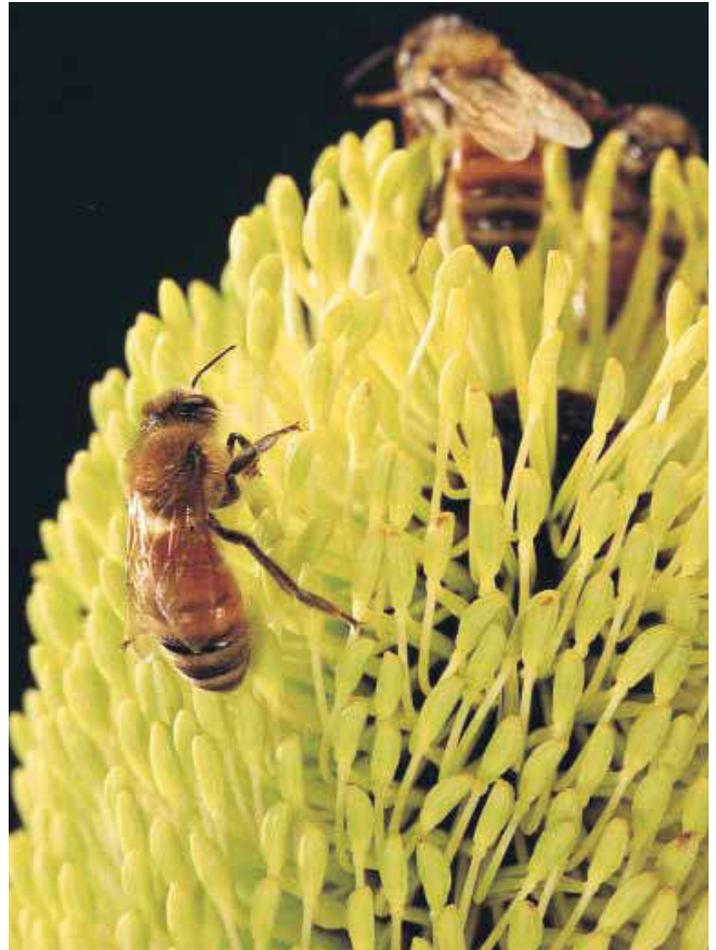
Source: The Department of Agriculture WA

# PROTEIN

Western Australian pollen proteins are high by comparison to many other plant species. Banksia pollens are highest at >30% followed by Eucalypt and Acacia, which range from 20-28%.

## STORAGE TIPS

- *Wet pollen (fresh) must be stored frozen.*
- *Dried pollen should be stored away from direct light.*
- *Pollen is most nutritive when fresh, after 12 months its food value declines.*



*Banksia species*

# AVAILABILITY OF POLLEN IN WESTERN AUSTRALIA



\* > 2 year production cycle; sandplain pollens produced annually

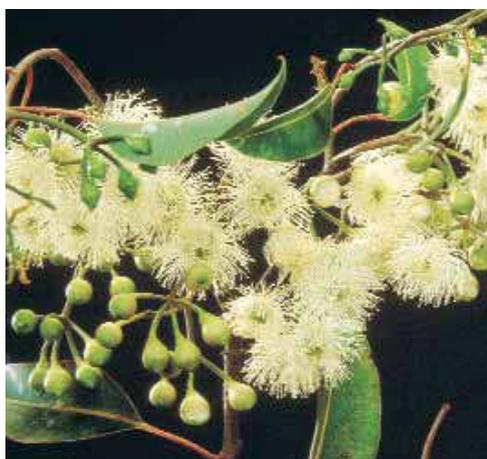
## MARKET OPPORTUNITIES



*Redgum (marri)*

### A FEW TIMELY REMINDERS

- *When it's 9 a.m. in Perth, it's the same time in Singapore, Hong Kong, Beijing and Seoul.*
- *Perth is the only major capital city in Australia in which it is possible to contact Europe during normal business hours.*



*Redgum (marri)*

The pollen industry in Western Australia is expanding with large production increases predicted. At present, research shows Beekeepers can produce a minimum of 20kg of pollen per hive each year. However, it is estimated given optimum seasonal conditions and price, Western Australian beekeepers can easily produce and supply 3-4 tonnes of quality pollen per beekeeper each year. Beekeepers can process a clean, graded and dried product that can be finely ground. Certified organic product is also available from Western Australia.

### Human Consumption

Asia, Europe and North America are the largest export destinations of Western Australian Pollen. “USA pollen buyers have deemed Western Australian eucalypt pollen to be the tastiest in the world.” The Australian domestic market is very large, with the state supplying pollen to New South Wales and Queensland.

### Animal Feedstuffs

Markets have been established supplying a protein source to the huge Bumblebee package industry that supplies pollination services to greenhouse vegetable production (tomato, pepper, melons). Queensland buys large quantities for use in feedstuffs to feed back to honey bees to maintain their performance for honey production and breeding of bees generally. A large amount of Western Australia pollen is irradiated in New South Wales and used in this way.

## FOOD SAFETY

A safe quality food standard: A Hazard Analysis Critical Control Point (HACCP) guides the Western Australian Pollen industry to produce unique quality pollen to an internationally recognised standard.



**Food Warning:** *It is important to note that in rare cases, an allergic reaction to pollen may be experienced.*

### ACKNOWLEDGMENTS

*We are grateful to the Rural Industries Research and Development Corporation (RIRDC) for research funds.*

### PHOTOGRAPHS

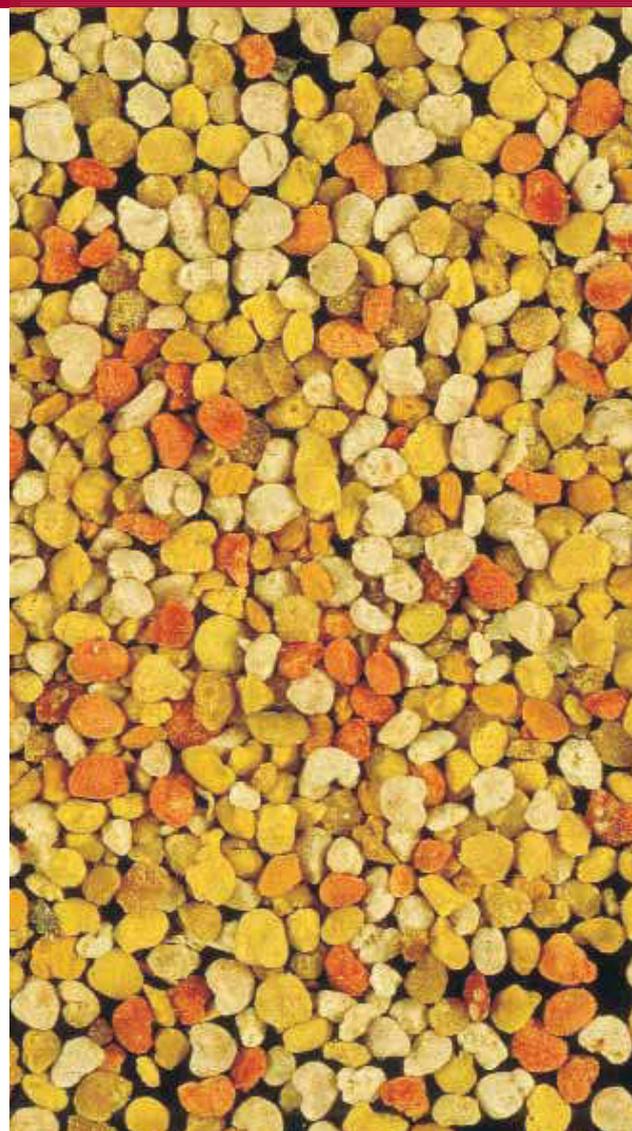
*Department of Agriculture*

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## FURTHER INFORMATION

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