

# Cashew information kit

Reprint – information current in 1999



## REPRINT INFORMATION – PLEASE READ!

For updated information please call 13 25 23 or visit the website [www.deedi.qld.gov.au](http://www.deedi.qld.gov.au)

This publication has been reprinted as a digital book without any changes to the content published in 1999. We advise readers to take particular note of the areas most likely to be out-of-date and so requiring further research:

- Chemical recommendations—check with an agronomist or Infopest [www.infopest.qld.gov.au](http://www.infopest.qld.gov.au)
- Financial information—costs and returns listed in this publication are out of date. Please contact an adviser or industry body to assist with identifying more current figures.
- Varieties—new varieties are likely to be available and some older varieties may no longer be recommended. Check with an agronomist, call the Business Information Centre on 13 25 23, visit our website [www.deedi.qld.gov.au](http://www.deedi.qld.gov.au) or contact the industry body.
- Contacts—many of the contact details may have changed and there could be several new contacts available. The industry organisation may be able to assist you to find the information or services you require.
- Organisation names—most government agencies referred to in this publication have had name changes. Contact the Business Information Centre on 13 25 23 or the industry organisation to find out the current name and contact details for these agencies.
- Additional information—many other sources of information are now available for each crop. Contact an agronomist, Business Information Centre on 13 25 23 or the industry organisation for other suggested reading.

Even with these limitations we believe this information kit provides important and valuable information for intending and existing growers.

**This publication was last revised in 1999. The information is not current and the accuracy of the information cannot be guaranteed by the State of Queensland.**

This information has been made available to assist users to identify issues involved in cashew production. This information is not to be used or relied upon by users for any purpose which may expose the user or any other person to loss or damage. Users should conduct their own inquiries and rely on their own independent professional advice.

While every care has been taken in preparing this publication, the State of Queensland accepts no responsibility for decisions or actions taken as a result of any data, information, statement or advice, expressed or implied, contained in this publication.



Queensland Government



# Common QUESTIONS

*This section contains the most commonly asked questions about growing cashews. The answers are as brief as possible. Where this is difficult and more detail is required, we refer you to other sections of the kit. Symbols on the left of the page will help you make these links.*

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## Varieties and planting

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### What varieties should I plant?

The cashew industry is young, with no commercially proven varieties, but several selections and hybrids are being tested at sites in north Queensland and the Northern Territory. A good cashew variety should have an upright, intensive branching habit with a large number of terminal shoots, large nut (more than 5 g), a kernel recovery of more than 30% and a commercial yield of at least 2.8 t/ha. Promising varieties are KAM 2, KAM 6, Guntur and 9/14.

a key issue



Selecting varieties  
Section 4 page 8

### Where can I buy cashew plants?

Growers propagate most of their own plants. A limited supply of seed and budwood planting material is available from the Department of Primary Industries (DPI) in Queensland and the Department of Primary Industries and Fisheries (DPIF) in the Northern Territory. Material from the cashew breeding program is available from CSIRO, Darwin under a testing agreement. For larger supplies of propagation material you will need to negotiate with existing commercial growers or CSIRO.

Some fruit tree nurseries do stock limited numbers of seedling and grafted trees. Check the nurseries in your region.

more info



Plant and seed  
suppliers  
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### Can I propagate my own cashew trees?

Yes. Cashews grow easily from fresh unprocessed raw nuts. Remember that plants raised from seed will not grow true-to-type. Known varieties are propagated by grafting onto seedling rootstocks.

## Fertilising

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### Do I need to apply fertilisers?

Yes. A well managed fertiliser program is an important part of crop management. Cashews prefer well drained, light textured, sandy soils. In Australia, such soils are generally infertile and nitrogen and phosphorus applications will probably be required. On some soils, you may need to apply other nutrients as well as some micro-nutrients, especially zinc, if sensitive varieties are grown.

Several methods should be used to determine which fertilisers to apply. Plants suffering from imbalances of mineral nutrients can develop abnormal leaf, shoot and fruit growth. Leaf and soil

a key issue



Nutrition  
Section 4 page 17

more info



Fertilise the trees  
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analyses can indicate which nutrients are deficient, and at what rates fertilisers need to be applied. Another method of determining your fertiliser requirements is to keep fertiliser records. This will allow you to compare the types and amounts of fertilisers applied to your trees against the rates recommended for trees of the same age growing on similar soils.

### Can I use fertigation with cashews?

Yes, as long as water quality is suitable. You should do a water quality test to check for the pH, sodium, chlorine and carbonate levels. Unsuitable water may affect the availability of some micro-nutrients.




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Irrigation  
Section 4 page 23

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### When do I apply fertilisers?

Fertilisers should be applied according to annual growth events such as vegetative growth, flowering or nut development. For cashews this means applying fertiliser right after harvest for the first vegetative flush of the new growth season, and again at the start of flowering. Micro-nutrients can be applied as a foliar spray when required. Young trees need to be fertilised more frequently because they have a larger number of growth flushes than older trees.

## Irrigation

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Irrigation  
Section 4 page 23

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### Should I irrigate?

Yes. There are documented benefits of irrigating cashews in the seasonally dry tropics in northern Australia. Research suggests that the average weekly water requirements range from 250 to 500 L/tree depending on soil type, tree size and the irrigation system used. Effective irrigation management requires continual monitoring to ensure that the water requirements of trees are met with regard to the timing of application and the volume applied.

### What type of irrigation system should I use?

Micro-sprinkler irrigation and drippers are both effective methods for irrigating cashews. On light textured or sandy soils, micro-sprinklers may be superior, but on medium textured or loamy soils, drip irrigation may offer substantial savings in water use and improved water use efficiency.

Irrigation systems for cashews are suspended 1 m above the ground to facilitate mechanical harvesting and the system should be designed to allow for fertigation, if possible.

## Pests and diseases

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### What are the main diseases of cashew?

While there are several serious diseases of cashew that can cause yield loss and even tree deaths overseas, anthracnose is the only problem in Australia, and then only in wet areas. Minor damage to leaves, shoots and apples caused by other fungal organisms has been noted, but they do not cause serious problems and no control measures are required.

### What are the main pests of cashew?

Several pests attack cashew but the main insect pests are termites, sap-sucking insects, leaf-chewing beetles and leaf-eating caterpillars. Pigs, bats and rats can also be a problem, particularly during the fruiting period. Rats can cause serious damage by eating holes in exposed poly pipe and sprinklers.

### Do I need to apply chemical insecticides or can biological control be used to manage insect pests?

The range of insect pests that attack the crop complicates insect pest management. Although a range of beneficial insects, as well as biological and natural insecticides, can effectively control most pests, some pests will require chemical control at some stage throughout the year.




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Insect pest management  
Section 4 page 12

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## Fruit set

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### What is the reason for poor nut set?

Poor nut set can be caused by too few hermaphrodite flowers, or a lack of pollinating insects, which will result in poor pollination. Poor tree nutrition and factors such as water stress that affect tree health can also influence nut set.

### Why are my cashew nuts dropping prematurely?

It is common for more than 80% of the hermaphrodite flowers to fall before they produce a mature nut. This is the natural fruit drop. Other possible reasons for premature nut drop include water and nutrient stress, insect damage and certain climatic conditions.

## Harvesting and marketing

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### When do the trees start bearing?

Grafted cashew trees can produce small yields within 18 months of field planting. With good management, trees will produce

sufficient yield within 3 years to warrant mechanical harvesting. In a commercial plantation trees generally reach full bearing potential in the sixth or seventh years in Queensland but as early as the fourth or fifth years in the Northern Territory.

### How are cashews shelled?

Cashews are shelled in countries where labour costs are cheap. Shelling is highly labour intensive and currently there are no suitable processing systems for use in Australia.



### Can I shell cashews at home?

Yes, but this must be done with care as the caustic Cashew Nut Shell Liquid (CNSL) contained within the shell can cause skin irritation and severe burning in some people. It is critical to extract the kernel without contamination with CNSL.

You can deep fry the nuts to remove the CNSL. Precondition the nuts before frying by putting them between layers of wet hessian bags for 7 days. When you fry the nuts do so in a well ventilated area, wear protective clothing and use a respirator to avoid inhalation of dangerous fumes.

An alternative method is to freeze the nuts to solidify the CNSL. You must crack the nuts and remove the kernel before the nuts thaw.

### How do I know if the nut is ready?

Depending on variety and daily temperatures during fruit growth, the mature nut with the attached apple falls to the ground from 50 to 90 days after pollination. The apples can also be harvested mature from the tree. At this stage the apple has changed colour from green to a yellow or red and the nut changes to a dull grey.

### Is the raw nut poisonous?

The shell of the raw nut contains a caustic liquid known as Cashew Nut Shell Liquid. People sensitive to it can develop acute dermatitis on areas of the skin that contact it. The kernel itself is not poisonous and can be eaten raw or cooked.

## General

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### Where are cashews grown in Australia?

There are only two large commercial cashew plantations in Australia. One is near Dimbulah in north Queensland and the other is at Wildman River near Darwin. Small areas are also planted near Katherine and at La Belle Downs Station, south-west of Darwin.

more info



From harvest to shelling  
Section 3 page 32




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Choose the site  
Section 3 page 3

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### **Where can cashews be grown successfully?**

Cashews are a tropical species and the preferred production areas in Australia are north of 17°S latitude. They need a frost-free area with distinct wet and dry seasons. Flowering, nut set and harvest should all coincide with dry weather. A freely drained soil with an adequate supply of irrigation water is essential. As cashews are mechanically harvested, steep slopes and rocky soils should be avoided.

### **What can I do with cashew apples?**

Cashew apples are high in vitamin C and can be eaten fresh or pulped for juice. Alternatively, they can be used to produce syrups, vinegar, candy, jam, chutney and alcoholic beverages. Fresh harvest of fruit is impractical under Australian conditions due to the high cost of hand harvesting.

### **How much land do I need?**

The minimum size for the plantation is strongly influenced by the requirements for purchase of equipment (harvesting, drying and storage), and for processing and marketing. This minimum size is estimated to be about 200 ha.

### **How much money do I need for 200 ha?**

It is estimated that investors would require a minimum of about \$1.9 million to buy the necessary capital equipment, land, trees and finance the plantation during the first few years before full production is reached.




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Economics of  
cashew production  
Section 4 page 5

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### **How long will it take to repay the cashew development loan?**

This will depend on several variables but will probably be about 10 to 15 years.