

## PRODUCTION TECHNOLOGY OF KAKADU PLUM

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### Introduction

Kakadu plum is found naturally in open woodland across Northern Australia, namely in the Kimberley region of Western Australia, the Northern Territory and Queensland. Commercial harvest of Kakadu plum commenced in the late 1990s. The majority of production still stems from wild harvest, which requires government permits. There are also a handful of small orchards. Following a period of oversupply, the market is currently undersupplied with demand steadily increasing. Production is estimated to average 15-17 tonnes per annum.

### GROWING CONDITIONS-

A small to moderate sized semi-deciduous tree, Kakadu plum typically reaches 4-10 metres high. From seed, it generally takes less than five years for the tree to bear fruit. Suited to its natural hot and coastal environment, the density of Kakadu plum varies, with the highest concentration of trees measured near the coast

### HARVESTING-

Like many wild-harvested native foods, weather conditions including drought, bush fires and cyclones may impact on the volume of fruit available, so production is highly variable from year to year. In Western Australia, the main harvest time is January, although some trees have multiple flowerings and can produce fruit up to July. In the Northern Territory harvest occurs in April and continues over leaf.



Harvest is generally carried out by hand. The hot and humid conditions of the wet season, often in remote locations where roads may be impassable at times, can cause issues with the availability of labour.

Concerns about the sustainability of some practices following the initial surge in

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demand for Kakadu plum led to the development of a video demonstrating how to pick it 'the right way'.

For over a decade Kimberley Training Institute has been promoting cultivation via practical training as a way to maximise the involvement of Aboriginal communities in a culturally appropriate commercial enterprise.

A model of "enrichment planting" has been trialled, where trees are planted within existing areas of bush with minimal clearing and therefore supposedly reducing the impact on biodiversity and soil.

One Kakadu plum enterprise has reported a significant increase in the quality and quantity of fruit grown on land managed according to traditional Indigenous practices.

### **STORAGE-**

Kakadu plum needs to be frozen within 24 hours of harvest if it's going to be used for its functional properties, to maintain its size and quality.

### **FOOD USES-**

Given its fibrous consistency and sour taste, Kakadu plum is largely used as an ingredient in jams, sauces and juices. However, it is also available in fresh, powdered or frozen puree form. Kakadu plum is also increasingly dried and ground into a powder for use in dietary supplements and health foods in order to capture its health properties. Demand has been steadily

increasing, with the introduction and growth of product lines in mainstream supermarkets and increasing sales of Australian native food products in the tourism and foodservice industries. It is important not to eat too many of the seeds, as they contain some toxins.

### **HEALTH BENEFITS-**

Kakadu plum has the highest recorded level of natural vitamin C content of any plant in the world – more than 100 times that of oranges. It also displays superior antioxidant properties, containing both water and oil-soluble antioxidants which are often low in common fruits and vegetables. Kakadu plum has five times higher anti-oxidant capability than the blueberry, which is renowned worldwide as the 'health-promoting fruit'. Antioxidants are believed to hold a number of benefits for human health, potentially preventing and delaying diseases such as Alzheimer's disease, autoimmune and cardiovascular disease, cancer, and diabetes. The fruit contains vitamin E, lutein (a compound that plays an important role in eye health and wellbeing), folate, zinc, magnesium and calcium. Kakadu plum also has a high potassium: sodium ratio, which may assist to develop foods to reduce hypertension.

### **OTHER USES-**

There is an enormous potential market for Kakadu Plum because of its functional properties, although further research and

development is necessary and it would also require a much larger and more stable supply. There is interest from major international health and cosmetic companies and it is already found in beauty products including cleansers, body lotions, hand cream and lip balm. However, the export of seeds and germplasm in the past has created unease about the potential for product development, market share and profits to be lost too verse as enterprises, especially at the expense of Indigenous Australians.

#### **OVER VIEW**

Kakadu plum is the most common name for this fruit, although it is found from the Kimberley to Darwin and in Queensland. Other names, depending on location, include gubinge, gabiny, kabiny, mardorr, murunga, bush plum, billygoat plum and salty plum. The pale olive-green, ovoid fruit has a central wooden stone, similar to an immature olive, and is fibrous with a tart and bitter taste. Kakadu plum is considered a gift of the Dreamtime by Aboriginal culture and has been an important bush food for millennia for people in northern Australian. Traditionally, both the fruit and seed were eaten raw. The sap was roasted and the bark was boiled and used by Indigenous people to treat skin conditions and sores, or drunk as a tea for colds and flu. Production is primarily wild harvest, and one of the key challenges for the industry is how to

maintain profitable Indigenous involvement and ownership while also supporting significant growth in supply to take advantage of commercial market opportunities. While Kakadu plum can be eaten fresh, these days it is primarily used as a value-added product in jams, preserves and sauces, as well as in sports drinks and beauty products including cleansers, body lotions, hand cream and lip balm. The fruit contains the highest recorded level of natural vitamin C content globally, and also displays superior antioxidant properties, so there's enormous potential for its use in dietary supplements and health foods.

