

# Wadda Plantation

## History of Banana Growing in Australia

Banana production in Australia occurs in three states and one territory. The industry emerged in subtropical areas of coastal northern NSW and southeast Queensland in the late part of the 1800s. Plantations flourished in north Queensland at the same time, operated in large measure by Chinese migrants who had come to the region during the gold rush. The conscription of shipping in the First World War ended commercial developments in tropical areas due to the practical difficulties of getting produce to urban markets. The extension of rail services to northern NSW and SE Queensland during the 1930s and 1940s gave additional impetus to the subtropical industries.

By the late 1960s, the subtropical industry supplied about 85% of the domestic market, with north Queensland making up the remaining 15%. Improvements in the management of leaf diseases and in refrigerated land transport in the early 1970s fostered a rapid expansion of the industry in north Queensland, allowing the region to exploit its competitive advantage in better growing conditions. By 1998, the tropical industry had supplanted the subtropical one, supplying 85% of domestic consumption. The expansion continues, with approximately 1000 ha added to the plantation area annually over the past five years. Recent estimates suggest that north Queensland now supplies some 93% of domestic consumption with over 11,500 ha of banana.



*A view across part of Wadda Plantation, one of the largest banana plantations in Australia*

### How Bananas are Grown

The banana is the largest herbaceous plant in the world. Herbaceous plants are ones that have no woody parts. There are hundreds of named varieties of bananas. The banana plant is a mainstay of village life and gardens in the emerging economies of the tropics. Its natural distribution is limited humid tropical areas since the banana is frost sensitive.

The main components of the banana are the plant, the flower, or “bell” that becomes the bunch, the hand and the individual banana, which is called a finger.

Under the soil, a mature banana plant looks like a bit of ginger, with growing points emerging in several locations. These growing points or bits can be cut off from the mother plant and become planting material. Increasing use of tissue-cultured plants is being made. The growing point is cut into tiny sections that are grown out in a laboratory until they can be established in planting bags. Plants grown by tissue culture are free from pests when they are planted. This minimises the use of pesticides.

Tissue-cultured plants or bits are planted in mounded rows, taking care to minimise disturbance to the soil to avoid erosion. The leaves emerge from the bits within a few weeks of planting. More than forty leaves will be produced in the plant’s life cycle. Each leaf is attached the base of the plant near the soil level. In cross section, the banana plant looks like an onion. The individual leaf bases that form the stem of the banana has a structure like corrugated fibreboard. It is from this structure that the plant stem gets its great strength ...enough to hold up the 40kg bunch.



The newly emerged plants are watered with an under tree sprinkler system.

Liquid fertiliser is added to the irrigation water in small amounts and often. Bananas have surface roots which spread out, this method of fertilising allows the plant to take up all of the fertiliser with no leaching even in very wet weather.

It is only about six months until the first bunch begins to emerge. When the flower first emerges from the throat of the plant, it is called a bell. It too has grown up the middle of the plant from near soil level. The bell points upwards, then hangs down, as its stem grows longer. The beautiful red-purple bracts fall off the bell, and the hands reveal tiny flowers at the end of each finger. The bell has become something we recognise as a bunch.



The bell emerges around 6 months after planting



These tiny beautiful flowers attract bees and birds, but pollination is not necessary for the fruit to form



Once the bell grows and hangs down it becomes a bunch



Bunch covering

The bell is removed and the bunch is pruned removing at least the bottom 3 hands. This is done so that the hands that remain will produce fingers of 200-260 cm to meet market specifications. The bunch is covered with a plastic cover of different colours to protect it from the weather and birds. The bunch cover also protects the fruit from damage later on when it is picked. The plantation uses different colours at different times of the year so that the workers know which bunches are ready for picking by the bunch cover colour.

As the bunch fills plants are tied with string to prevent the full bunch pulling the plant over. Weeds are kept away from the plant base and the interrows are slashed to prevent soil erosion. The bunch matures, and is harvested in about three months.

About nine months after planting, the bunch is checked for maturity. Callipers are used to gauge when the bunch is ready for picking. A bunch is ready when the banana fingers on the third hand from the bottom are 32mm and that the top ones are no bigger than 41 mm.



Checking bunch maturity

Once the bunch is ready for picking it is treated extra carefully to avoid any bruising.



After the plant is cut and pulled over,  
the bunch is cut free and carried to the trailer

The bunch is cut, carried to a foam-padded trailer and hoisted up onto the trailer by a worker. The trailer is driven to the packing shed when it is full of fruit.



Placing the bunch on the trailer to minimise damage

Harvested plants are cut down, and replaced by a new one, which emerges from the base of the original plant. Typically a banana “matt” or “tree” is composed of three plants all at different stages: the bunched plant, a growing follower, and a recently emerged “peeper”, the youngest stage.

## Stage 2: Processing

In the packing shed or factory the next step in the life of a banana starts.



Bunches ready for the next step in the processing line



Using a pressurised air lifting device to hang fruit on chains

The fruit is unloaded onto a gantry. It then moves through a shower of water to clean the bunch and is now ready for de-handing.



A bunch passing through the spray race  
The hands are removed and placed into a trough full of water.



De-hander in action

The hands move along the trough where they are cut into clusters ready for packing. The fruit is graded and any damaged fruit is removed. This damaged fruit is either fed to cows or chopped up and used as compost for the plantation.

The fruit is now ready for packing.



The packing station

A card is placed in each carton to allow for traceability. The packed carton is then checked for presentation.

After a last check, lids are applied to the carton.



Putting on the lid, just before the coolroom

The lid indicates the size and grade of the fruit, and the grower's name. The carton is dated and the lids glued so that when they are stacked on the pallets they will not move around.

The cartons are palletised and placed in the cool room for pre cooling to 15° C. Before the pallets are loaded the fruit is checked to determine that it is at 15° C with a temperature pulp probe. They are then loaded onto the transport whose temperature is set at 15° C so that they arrive at the distribution centre at between 15° C and 19° C.

Bananas are ripened in a specially designed facility. Ripe bananas can't be transported very far, so the ripening is done in the capital cities, close to retail outlets. A synthetic version of the naturally occurring gas called ethylene is used to initiate ripening. In the conditioning rooms the fruit is held at a high humidity and in warm conditions to foster even ripening.

In about five days the fruit has slightly changed colour and the sugars begun to mature, making the world's favourite fruit ready to be displayed in retail stores.

The journey ends at your home, where bananas should be kept in moderate temperatures, and enjoyed when ripeness has reached the stage you love.

Whether they are eaten just freshly peeled or cooked in a myriad of ways, bananas always appeal to your senses.

