

# Jackfruit and its relatives

by David McMinn

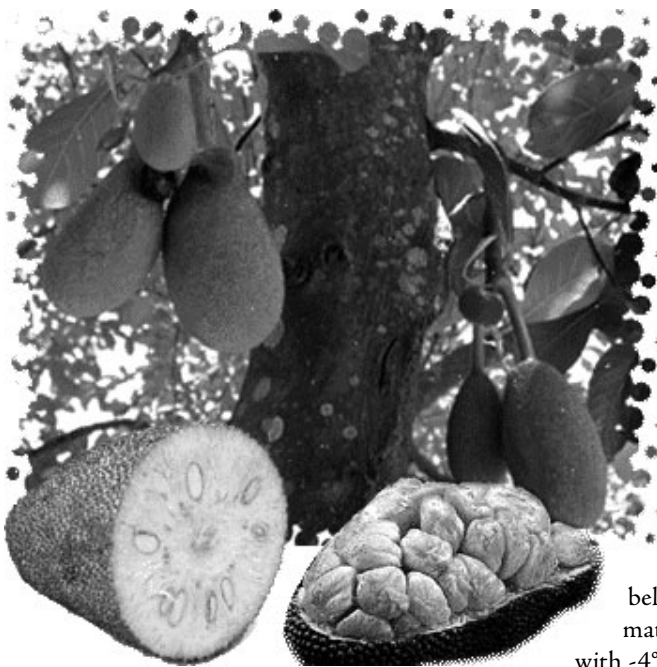
The genus *Artocarpus* contains

numerous tree species, several of which yield edible fruit. Being from the tropics, these trees should be planted in warm, frost free locations, as they are susceptible to cold temperatures especially when young. In the Nimbin valley, this means on northern facing slopes, high above the valley floor. Never plant in frost pockets or on cold creek flats, as the trees will die in their first winter. *Artocarpus* species have separate male and female flowers on the same plant and are thus self fertile. Some species yield a valuable timber for use in construction and furniture manufacture.

## Jackfruit

In the Northern Rivers region, Jackfruit (*A heterophyllus*; syn: *A integrifolia*) is the best known of the *Artocarpus* species. It was originally native to the mountainous regions of southern India, but it is now cultivated in tropical and warm sub tropical regions throughout the world. The fruit is the most distinguishing feature of this plant - it can be huge - weighing up to 20 kgs and a metre long. It is the world's biggest tree borne fruit and appears on both the trunk and large branches. The yellowish-brown skin of the fruit consists entirely of small hexagonal pointed studs. It is harvested after it has fallen to the ground. In Asia, the ripe fruit is eaten raw or sun dried, while the unripe is eaten in curries. As an added benefit, the seeds may be roasted or boiled and evidently taste like Chestnuts.

Jackfruit grows into a large tree more than 20 m high, so it must be sited well away from buildings and power lines. It is a very ornamental tree with large glossy leaves and upright growth habit. The trunk, branches, and leaves contain a gummy latex. The tree grows best in well drained, deep fertile soils, as it cannot cope



with wet feet. Even so, Jackfruit likes plenty of moisture and will need to be watered regularly except during wet weather and cold winters. It appreciates good mulches and regular dressings of slow release fertiliser. Young trees will be killed by even light frosts, although mature trees will take temperatures down to -2°C without much damage.

The timber is durable, resistant to termites and superior to teak in strength. It resembles mahogany in appearance and thus is used to produce quality furniture.

Propagation is usually by fresh seed which will germinate within two months. Plant out the seedlings when young as they have a long tap root that is prone to damage. Selected varieties are propagated by air-layering or grafting.

## Jackfruit Varieties

The seed grown Jackfruit trees are available at the markets. However, Daleys Fruit Tree Nursery sells several Jackfruit varieties - choose those that are relatively cold hardy and thus more suitable in our area.

Black Gold is a "superior choice for the subtropics due to its cold tolerance".

Cheena fruits in summer and copes quite well with cold.

Galaxy. Under cooler subtropical conditions, this variety produces fruit that is more suitable for cooking.

## Jackfruit Relatives

The following *Artocarpus* species produce edible fruit.

KWAI MUK (*A hypargyrea*) is

native to southern China. It is a slow-growing, ornamental tree to around 6-15 m, which produces fruits with a thin, velvety brown skin. When ripe, the pulp is red or orange-red and of excellent flavour.

The fruit matures between February and April. Young trees are injured by temperatures a few degrees

below freezing. Even so, mature trees can cope with -4°C and thus the trees have the same cold tolerance as Mango.

LAKOOCHA (*A lakoocha*) is a winter deciduous tree, growing to 6 - 9 m. The fruit is usually round and 5 to 12.5 cm in diameter. It has a sweet sour pulp, used to make curries and chutneys. The fruit is thought to be a liver tonic. The timber is superior to teak for use in building and furniture.

CEMPEDAK or Chempedak (*A integer*) is native to the southern Philippines and grows into a large 18 m tree under cultivation. It is less cold tolerant than Jackfruit and thus may be unsuitable in our climate. Even so, it still could be tried in warm microclimates. The fruit is similar to those of Jackfruit, but smaller in size with an odour described as as having the "strongest and richest smell of any fruit in creation".

BREADFRUIT (*A altilis*) and MARANG (*A odoratissimus*). Do not bother trying to grow these species. They are strictly tropical and will be killed even by mild temperatures of 7°C above zero.

Plant a few *Artocarpus* species and you will be rewarded with yummy fruit over much of the year. Jackfruit bears between January and June (depending on variety), Lakoocha in September/November and Kwai Muk February to April.

Daley's Fruit Tree Nursery sells Jackfruit varieties, as well as Lakoocha and Kwai Muk. Seed grown plants of Jackfruit, Lakoocha and Kwai Muk may be purchased from Forbidden Fruits Nursery at The Channon, Byron Bay and Bangalow markets.

# The next flu pandemic: your survival strategies

by David McMinn

During the 20th century, the world experienced three great flu pandemics - 1918-19, 1957-58 and 1968-69. By far the most serious was the Spanish Flu of 1918-19, which killed an estimated 50 million people worldwide. In today's terms, this would equate to around 300 million people.

Health authorities are becoming increasingly concerned about new strains of influenza A viruses (H5N1), spreading through the bird populations in Asia. Because they mainly affect birds, they are commonly called bird flu. To date, these have only infected people who were in close contact with birds with little or no person to person transmission.

However, with some genetic mutations, this situation may quickly change and the world will have to cope with bird flu spreading rapidly through the human population. The problems for us personally are when will the next pandemic occur and how severe will it be? Of course, it is impossible to predict such things, but it is essential to consider options prior to such an outbreak.

## High virulence scenario

Your response will depend on the virulence of the influenza strain. In the pandemics of 1957-58 and 1967-68, people continued to work and life went on as normal. For healthy people, the outbreaks were not a major concern. However, the 1918-19 Spanish Flu epidemic was another matter, with about half those who died being young healthy adults. The worst possible outcome for us now would be a very contagious strain, with a high death rate. Currently, bird flu has a 50% mortality rate for those people infected. Thus, the death rate could be high, if this virus adapts to humans.

A virulent flu strain would mean that people would have to seriously consider going into isolation, until a vaccine is developed which could take 6 to 12 months. The economy would collapse - who would go to work if there was a prospect of getting a lethal disease?

In such a scenario, you would need to stockpile food and live off your land. People living in country situations like Nimbin should be able to get by without too much trouble. Fortunately with ATMs, getting money out of your bank accounts should not be difficult and would be a

lot safer than hoarding it under your bed.

Shopping would be a health hazard as it would be necessary to come into contact with people. It also presumes that shopping staff would be willing to go to work. The pandemic may include "waves" of influenza infections months apart. In the 20th century pandemics, a second wave of influenza occurred 3 to 12 months after the first outbreak.

## Half-Way Mark

The World Health Organization listed six stages in the emergence of a new pandemic.

**Stage 1:** New threatening influenza strains cannot be detected in humans. If present in animals/birds, the risk of human infection is considered to be low.

**Stage 2:** No new influenza strains have been detected in humans, but emerging animal/bird flu strains pose a potential risk to humans.

**Stage 3:** Some humans are infected with the new strain, but there is very little or no human-to-human spread.

**Stage 4:** Small clusters with limited human-to-human transmission, as the virus is not well adapted to humans.

**Stage 5:** Larger clusters, but human-to-human spread still localized.

**Stage 6:** Pandemic: increased and sustained transmission in general population.

We are currently at Stage 3 and many scientists believe it is only a matter of time before another influenza pandemic breaks out. Without any control measures (vaccination or drugs), it has been estimated that a 'medium level' pandemic in the USA could cause 89,000 to 207,000 deaths, with between 15% and 35% of the US population being infected. The economic impact of such an event would be huge.

## Antivirals

Some people may choose to stockpile flu antiviral medications - expensive if you do not have a health care card. However, sometimes influenza virus strains can become resistant to one or more of these drugs and thus the drugs may not always work. For example, the influenza A (H5N1) viruses identified in human patients in Asia in 2004 and 2005 have become resistant to amantadine and rimantadine.

There will be another severe flu pandemic. Let us hope that it will not be virulent and not in our lifetime.

## "Want Slashing?"

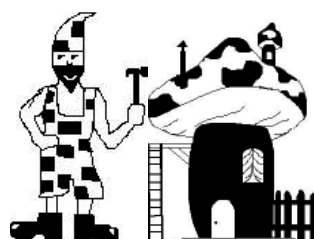
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