

APPENDIX THREE ~ Proposed Crops –

- Mixed Annual Vegetables
- Pumpkin Seed for Oil
- Bananas Fresh and Dried
- Industrial Hemp
- Rainforest Bush Foods

MIXED ANNUAL VEGETABLE

Kanjini Co-Op has the opportunity to grow a wide variety of Seasonal Vegetables.

We have done extensive research on the current availability of organic seasonal annual vegetables and have approached several local Organic businesses in this regard. *See Appendix One – Letters of Support*

PUMPKIN SEED for Oil

Walsh River Farm at Dimbulah has verbally requested Kanjini Co-Op to produce Organic Styrian Pumpkin seed to supply the Oil manufacturing plant. There is an estimated expected return \$5000.00 per hectare. Seed and harvesting equipment are to be supplied. <http://www.walshriverfarm.com.au/>

BANANAS Fresh and Dried

Variable returns caused by seasonal fluctuations in supply and demand will be compensated for by dehydrating surplus. A packing shed and packing equipment are established on the farm and included in farm purchase, also field equipment such as bagging machines and bunch trailers.

From planting to bunch harvest takes about 12 months, with crop cycling (the period from one harvest to the next) about 8 to 11 months. The average life of a commercial plantation is 5 to 7 years, after which the land will be planted to Industrial Hemp in preparation for orchard plantings.

Yields of irrigated Cavendish bananas can range from 1800 to 3000 cartons per hectare per crop cycle. The price can range from \$5 to \$15 per carton because of variations in supply and fruit quality.

Trials of Banana Plant varieties listed in schedule 3 of the regulations permitted in our area are:

Blue Java, Bluggoe, Ducasse, Goldfinger (FHIA 01), FHIA 02, Goly Goly Pot Pot, Kluai Namwa Khom (Dwarf Ducasse) Pisang Ceylan (Mysore type), Sh 3436, Simoi, Tu-8, War War and Yangambi Km5.

Tissue-cultured plantlets are available from QBAN accredited nurseries (Quality Banana Approved Nursery)

The approval is available from banana inspectors based in the Northern Banana Quarantine Zone (Carmila to Daintree) should contact the DPI&F Plant Health Inspectors at the Centre for Wet Tropics Agriculture, South Johnstone on (07) 4064 3911

Fertiliser and Pest management Program

Average annual applications are 400 kg of nitrogen, 50 kg of phosphorus, 600 kg of potassium, trace elements/ nutrients and 2 t/ha of lime/dolomite to maintain soil pH.

Kanjini will use good cultural control such as green de-leafing for fungal leaf disease control and encourage beneficial insects and organisms to aid in pest control. Companion planting will be incorporated for eradication and control of insect pests and nematodes.

Bananas can be planted any time between June and November

Bananas to be certified to be free of European red mite and Spiraling whitefly.

Production costs

For an average yield of 2500 cartons per hectare, the production costs for Cavendish bananas in north Queensland are estimated at \$25 000 to \$30 000 per hectare.

These include all growing and marketing costs such as fertilisers, sprays, fuel and casual labour.

Income

The profitability of bananas is assuming an average yield of 2500 cartons per hectare and \$11 per carton cost of production.

Capital Costs

The cost of irrigation equipment and infrastructure; tractors; picking trailers; cultivating and spraying equipment; a packing shed and packing equipment are included in land purchase price.

Plant, equipment, land and buildings are the big capital costs in setting up a banana farm. If starting from scratch you will need about \$560 000 to set up an 18 ha farm with 12 ha of bearing bananas.

Soil , Drainage and Climate

The current crop has good drainage, adequate fertility and soil moisture. The best soils on the property are deep, well-drained, water retentive loams of volcanic or alluvial origin with high humus content. The property has the optimum temperature for growth at about 27°C.

Slope

Bananas are currently grown on flat land and on slight to moderately sloping land (3%). Machinery access is available in all weather conditions. For erosion control appropriate row direction and mounding and minimal disturbance of the inter-row will be practiced.

Water

Irrigation will be necessary during drier periods of the year to achieve optimum yield and fruit quality. Irrigation methods will include under-tree mini-sprinklers and trickle irrigation.

Regular watering from 20 to 60 mm of rainfall or equivalent irrigation per week is easily attainable. Use of soil moisture monitoring tools such as tension-meters to fine-tune requirements for individual blocks of bananas will be used.

Location

Banana industry support services such as agribusiness providers, carton manufacturers/suppliers, transport and labour are in close proximity to the farm. (20 minutes drive).

Labour required

Two people can manage the first 4 ha of bananas with some casual labour for packing fruit.

For every additional 4 ha of bananas, one additional full-time employee is necessary.

Tasks such as packing fruit into cartons requires specialised skills and as heavy manual labour is involved in almost every aspect of production, workplace health and safety issues will be thoroughly assessed and maintained.

Contract services such as preparation of planting material, Consultants and agribusiness personnel may be engaged to provide information on pest, disease and fertiliser management.

Harvesting and Packing

Central packing facilities are established. Accreditation of the packing facility by local DPI&F plant health inspectors is current.

Market options

- selling direct to central produce markets
- selling locally
- export dehydrated fruit

Machinery and Equipment

Tractors and vehicles

- tractors 60 kW
- 4WD utility

Implements

- spray machine
- boom spray
- rotary hoe
- disc plough
- fertiliser spreader

- slasher
- 2 trailers
- 4WD bagging machine

Irrigation equipment

- irrigation and pump

Workshop and other

- pallet jack
- dipping bin
- banana bags
- scales
- pallet stacker
- packing wheel, gluer/taper
- miscellaneous tools

Buildings

- pallet wells
- packing shed (includes concrete floor, split level and butchers rail system)
- storage shed.

Growing tropical bananas:

Department of Primary Industries and Fisheries <http://www2.dpi.qld.gov.au/horticulture/5242.html>

Industrial Hemp for Oil and Fibre Production

For fibre production we can expect to generate \$6400/ha net profit

For Seed Oil production we can expect to generate an operating profit of **\$2400/ha**

Pure Delight Hemp have offered to Kanjini Co-Op support, including assistance with licensing and seed acquisition, to be a supplier for them. <http://www.puredelighthemp.com.au/>

Rainforest Bush Foods

Kanjini Co-Op have also been requested to grow specialised Bush Foods on a contract basis for Rainforest Bounty, a company on the Atherton Tablelands producing native rainforest fruits.

www.rainforestbounty.com.au