

Information Memorandum

APRIL 2009



JARAK PAGAR SDN BHD
(Company No 780492 – K)

Introduction to Jatropha



Seeds : The seeds become mature when the capsule changes from green to yellow, after two months from fertilization. The blackish, thin shelled seeds are oblong and resemble small castor seeds.



Jatropha Fruits

Jatropha Seeds

Seeds procurement chain.



Fruits ready for harvesting when black.



Shell is removed from fruits for drying.



Dry seeds are properly packed for shipment



Seeds are couriered to plantation.



Young Jatropha Seedlings ready for export wrapped with humus/peat and plastic bag.



NURSERY PROCESS OF JATROPHA.



Dry Seeds ready for germination soaked in water for 18 – 24 hours.



3 days after planting by covering with good clean top soil.



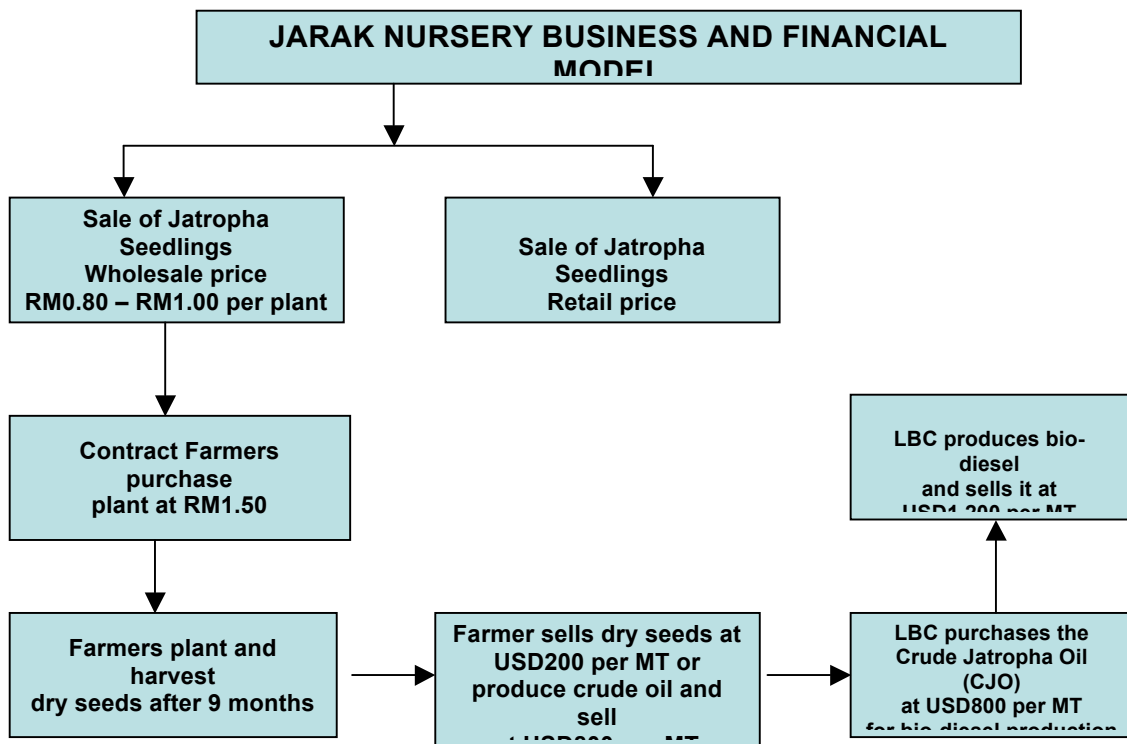
10 days after planting from seeds.



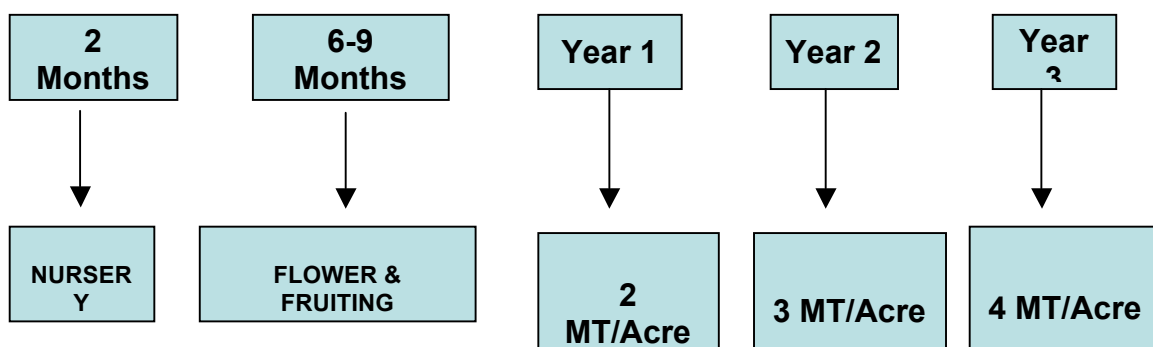
Plants ready to be transported to farm.



30 days old Jatropha tree in polybag.



Planting process – The schedule of yield.



Note : To achieve the above yield, the plantation has to be managed and fertilized by us.

JATROPHA PLANT



Biogreen's FI Jatropha Hybrid Plant.



Bountiful fruits from a 9 months old Jatropha Plant.



Flowering continues after fruiting indicating the fruiting are non seasonal.



Self branching technology been applied on this 9 months old Jatropha Tree thus producing a 20 odd branches for fruiting.



Newly planted jatropa plantation in Riau Indonesia.



Jatropha Plantation in Riau Indonesia undertaken as trial plantation.



Traditionally Jatropha is used as fencing for other plantation like palm oil estate. (Picture taken in Thailand)



Jatropha growing as fencing in Sabah.



Seasonal Jatropha Plantation in Chennai, India.

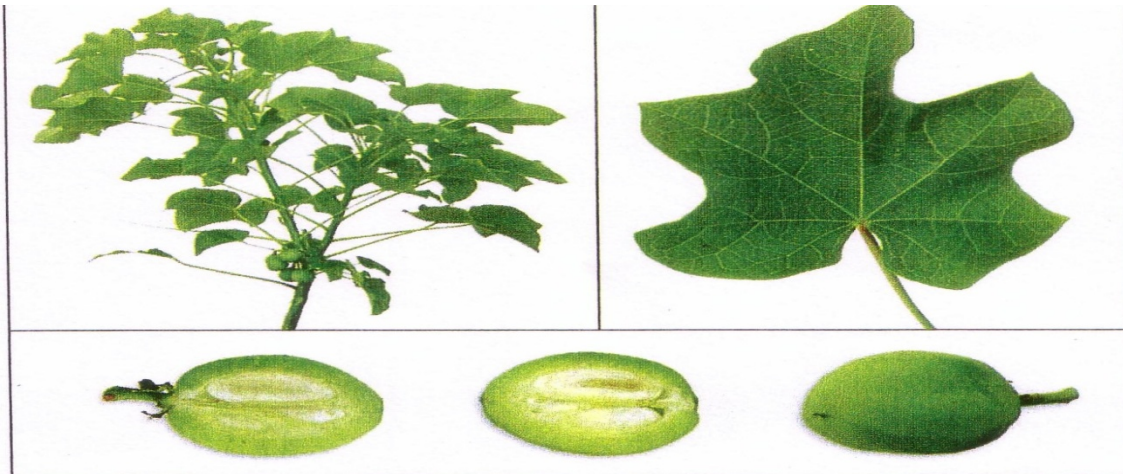


Seeds are been removed from dried fruits.



Jatropha Seeds





One Month Old Jatropha Plant



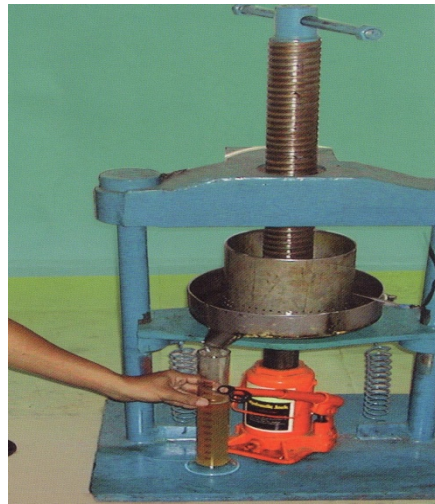
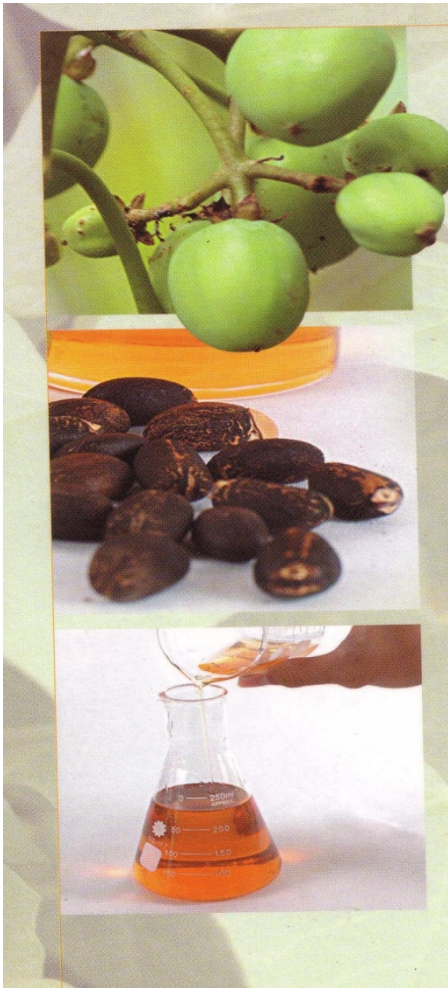
**The technology of Jatropha
Leaf propagation**

**Bountiful fruits of Jatropha –
Cross pollination with Castor
Trees (Same Family)**



**Castor Oil Tree been inter-
cropped with Jatropha**

Castor Oil Tree been inter-cropped with Jatropha



Biodisel B-100 (100% Pure Biodisel)



Spesifikasi : EN 14214
Packing: 1 Liter



Jatropha Nursery with a Production Capacity of 300,000 seedlings a month in Kapar, Klang, Selangor, Malaysia.





30 Days old Jatropha Tree in the nursery.



3 Days old Germinated Jatropha Trees.



10 Days old Germinated Jatropha Trees.



Currently 1500 seedlings are been transported out of the farm per day.



Nursery set up at Keningau, Sabah.



Jatropha Nursery in Savannakhet, People Republic of Laos.



(4 months old)



**Jatropha Nursery in Savannakhet, People Republic of Laos.
The need to have proper training when setting up nursery and
implementation of planting of Jatropha.**



Land presented as ready for setting up a nursery in Laos (Before training)



Training session in Kapar Nursery – 27th May 2007.



Nursery ready by 20th June 2007 in Laos.



Seasonal Jatropha Plantation in Chennai, India.



Jatropha Contract Farmers in India.



Jatropha Propagated from leaves.



**Contract Farmers from Laos, Philippines, Thailand, India and Sabah
been briefed the technic of how to set up nursery in their respective nation.**



**Guests from Cambodia in discussion of exporting our seedlings to their
nation or setting up similar nursery there**

Provides end to end solutions in Jatropha Plantation.



Own planting materials.



Own formulated liquid fertilizer
(Foliar Spray)



Seeds properly packed and ready for
dispatched (By Courier)



We started selling with 1 Jatropha Plant per polybag.



For speed and reduction in labor we designed a 10 Jatropha plants in 1 plastic bag.

Now we are selling by contracting sale of whole nursery.

NURSERY FLOW



Jatropha been couriered to Nursery.



Seeds been soaked with water for 12 hours.



Land been prepared for planting.



Seeds been grounded on the nursery land.
(And covered with netting to avoid direct sun)



Within 45- 60 days plants are ready for planting in the field.



Closer look at the Jatropha Plants that are ready for grounding.

STANDARD – LAND PREPARATION





The above shows the clearing and preparation of land for planting, selection and soaking of seeds, planting of the seeds, covering of seeds with net and germinated seeds.

TRANSFERRING OF YOUNG JATROPHA PLANTS INTO PLASTIC BAGS, TRANSPORTED TO SITE AND PLANTED IN THE GROUND.





Transporting of seedlings by lorry.



Young seedlings been planted in the filed.





Jatropha Farm Visit and Ground Breaking by Datuk Ewon Ebin (Minister of Industrial Development Sabah and Tan Sri Bernand Dompok (Minister in the Prime Minister Department) at Pekan Kapar on the 14-8-2007.



Our fruiting Jatropha Tree



Normal fruiting Jatropha Tree



Our Nursery – Cost Effective



Conventional Nursery



We export – Cost Effective



Transportation by lorry.



That's me – Robbie Chua



Our project for 2009 – Micro-propagation and Cross Pollination

Evidence to substantiate the current production capacity for the site.



Subject Nursery land of 1 Hectare



Each Nursery has 2 similar tanks which can soak 250,000 seeds over night.



Soaked seeds overnight are being ground for germination.



Germinated Jatropha Plants ready for packing after 45 days of germination.



45 days seedlings been packed in 10.



Packed Jatropha Seedlings stored and shelved and ready for sale or export



Packed Jatropha Seedlings in export packing (export like flowers)

Current capacity :
Land 1 hectare
250,000 x 2 tanks x 20 days
= 10 Million seedlings per cycle (3 months)

Intelligent Properties of Jarak Nursery Sdn Bhd.



Unique method of nursing Jatropha Seedlings with hibernation technic.



Own cross-pollinated planting materials using mass micro propagation

To further R&D with University Malaya

Jarak Nursery Sdn Bhd - Scope of works.

- a. Selection of Nursery Site
- b. Soil and Nutrition Management for the nursery.
- c. Media and Nutrition management for the grown plants.
- d. Supply of plastic bags and high quality peat soil for germination.
- e. Irrigation of Nursery Plants
- f. Nursery Inventory Control
- g. Nursery Storage facilities
- h. Shipping and logistics of Nursery Stock
- i. Labor for nursery planting of the 2 months old *Jatropha* young plants.



Modular Unit for Bio Diesel Production