jatropha fact sheet

Most existing biofuel crops present sustainability challenges. As part of our dedicated investment into non-food crops, conversion processes and molecules that will deliver greatly enhanced biofuel performance, we are looking at jatropha curcas as a new feedstock. Jatropha seeds contain a high proportion of oil, which can be used to make biodiesel sustainably.

Jatropha

Jatropha curcas

- Is an oil seed tree that grows in tropical and sub-tropical areas of the globe
- Represents the next significant opportunity to meet the growth in demand for environmentally responsible, renewable transportation fuels
- Has higher yield potential than soy or rape.

Jatropha's advantages

Jatropha oil offers a number of key advantages versus biodiesel made from food crops such as palm.

- It is a perennial hardy plant that produces non-edible oil seeds, is drought resistant and thrives in high temperature conditions
  - Grows in regions with average minimum temperature of 20°C and annual rainfall down to 300mm
  - Prefers well-drained soil and does not thrive in rainforest areas
- Currently, grows mostly in the wild or as a boundary for fields
- Does not require high-quality soil, so will not compete with food crops for arable land
- It is economical, as it has higher yield potential than soy or rape and requires less fertiliser
- It also requires on average 1/10 of the water requirement of palm trees
- Typical oil content is in the range of 30-35% and oil yields range from between 1 to 2 te/ha today, but have potential to go significantly higher with good husbandry and plant breeding programmes
- Jatropha has been locally traded in agricultural markets and its oil has mainly been used for making soap and for rural lighting
- It is also known to have medicinal properties.

Jatropha's benefits

- Jatropha produces non-edible oil seeds and therefore does not compete with food supply
- It grows on a wide range of land types, including marginal and waste land, and land that will not support arable crops
- Its cultivation will help develop the economies of lesser developed countries where it tends to grow
- Jatropha has the potential to be a major contributor to the EU meeting its biofuel targets beyond 2010.

BP-TERI jatropha biodiesel demonstration project

In India, BP is funding a US$9.4 million project by The Energy Resources Institute (TERI) to examine the possibilities of using jatropha as a biofuels component.

- The project will seek to cultivate 8,000 hectares of jatropha (equivalent to 20m saplings) and will install all the necessary processing equipment to process the crop into biodiesel
- This will produce approximately 9 million litres of biodiesel per annum
- This project will involve planting, cultivating and harvesting the plant; dehulling and crushing the seeds; shipping it to a conversion plant and finally blending it with diesel.

D1-BP jatropha feedstock and low-cost biodiesel production

- BP and D1 Oils are entering a partnership (D1-BP) to produce feedstocks that do not compete with food production and can be grown sustainably
- BP will invest close to US$90 million of a total JV investment of US$160 million over the next five years
- The project will seek to cultivate jatropha on around 1 million hectares in Southern Africa, India, South East Asia and Central and South America, and aims to have the first jatropha oil feedstock available in 2008
- Much of the jatropha oil produced from the plantations will be used to meet local biodiesel requirements with any excess exported to Europe where domestic feedstock from rapeseed and waste oil is unlikely to be sufficient to meet anticipated regulatory-led demand of around 11.2 mte per year from 2010
- D1-BP is working to ensure that the infrastructure is in place to deliver jatropha oil in the UK for processing during 2008.