

Department of Biotechnology
Ministry of Science & Technology
Block-2, 7th Floor, CGO Complex
Lodhi Road, New Delhi 110 003

Call for Proposals in the area of Bioenergy and Biofuels

The Department of Biotechnology has been supporting programmes in the area of biofuels and bioenergy with special emphasis on production of quality planting material of *Jatropha* as a feed stock for biodiesel and cost effective production of bioethanol from cellulosic biomass and other feed stocks. R&D proposals are now invited in the following identified priority areas.

1 R&D for improvement of *Jatropha*

Currently the thrust has been on selection and characterization of superior germplasm from the existing biodiversity. However, in view of the high demand of quality planting material, with special emphasis on oil content and quality, it is important that research for improvement of *Jatropha* plant should be taken up. Accordingly the following priorities have been identified for research support.

- An integrated breeding programme for developing mapping populations including polyploidy and induced mutation for genetic improvement.
- Marker assisted selection:
 - a. Development of micro-satellite markers for fingerprinting of elite genotypes and markers for yield and oil content and quality.
 - b. Gene based association mapping study with emphasis on oil content and quality.
- Prospecting of genes associated with oil production pathway; metabolic pathway engineering for improved oil production.

2. Bioethanol production from cellulosic biomass

A few critical areas have been identified for support to achieve the ultimate objective of developing a cost effective technology for production of Bioethanol from cellulosic biomass. This technology should be comparable to the commercially available bioethanol presently being produced from molasses/ sugarcane.

The priority areas include

- Development of a low cost cellulose/hemi cellulose for enzymatic hydrolysis. This could be either through natural selection of microorganism or development of a recombinant microorganism(s) or microbial consortia.
- Development of an efficient process for production/scale up of the enzyme either through solid state or submerged fermentation.
- Simultaneous fermentation of both pentose and hexose for ethanol production either through development of recombinant microorganism or coculture.
- Development of an efficient biological pre-treatment system for delignification. *Only network projects tackling the problem with an end to end approach would be considered with the ultimate objective of developing a cost effective production technology. Partnership with industry would be encouraged.*

Who can apply?

Scientists working in the University/Research institutions/NGOs and industries holding a permanent position having experience in the area with sufficient leads under ongoing research activities would be eligible to apply.

How to apply?

Twenty copies of the project proposal may be sent to **Dr Meenakshi Munshi, Principal Scientific Officer, Department of Biotechnology, Block-2, 7th Floor, CGO Complex, Lodhi Road, New Delhi 110 003, email** meenakshi29@dbt.nic.in, **Ph.:** 011-24361035. Project proposal format may be downloaded from the web site www.dbtindia.gov.in.

Last Date

The last date for submission of proposal is **31st December 2006**.