

3. BIOFUEL CELL ACTIVITIES

Project Coordinator:	Mr. S.N.Sondur
Duration:	12 months
Budget:	Rs.10.0 lakhs
Funding:	Karnataka State Bio energy Development Board, GOK

KSCST is coordinating the activities of 32 Bio fuel Information and Demonstration Centres in the State through regular interactions, meetings and workshops. Bio fuel Cell is also promoting R & D in bio fuel and bio-energy areas through Student Project Program (SPP) of KSCST and faculties of Engineering Colleges. The Cell has also setup a laboratory for carrying out experiments on Bio fuels.

Celebration of World Befoul Day:

The World Befoul Day was celebrated on 10th August 2015 at REVA University, Bengaluru. A cycle Rally was organized on this occasion by the students of the engineering college and pamphlets were distributed to the public. The programme also included Plantation in the campus and competitions were also held for the students and prizes were distributed. The occasion was also marked by the presence of the mobile emission testing unit of BOSCH and several vehicles were for pollution and awareness was created for the use of biofuels as non polluting fuel for vehicles.

KSBDB and University of Agricultural Sciences, Dharwad jointly organized the World Befoul Day 2015 at Dharwad on 12th August 2015. Selected SPP- Befoul projects were exhibited during the program.

38th Series of Student Project Program- Biofuels Projects

38th Series of Student Project Program- Biofuels Projects final exhibition was held at Shayadhri College of Engineering on 21st & 22nd August 2015. Out of 104 projects received from 29 Colleges and 2 Universities of Karnataka, 59 projects were selected for final exhibition and seminar (BE – 31 Projects, M Tech – 8 Projects, MSc – 14 Projects and MBA -5 Projects).

BEST PROJECTS OF THE YEAR (Befoul projects)

B.E Project on Biofuels

1. Optimization Of Microalgae Growth Conditions To Enhance The Yields Of Lipid And Biomass Content Using Artificial Neural Network For Cost-Effective Production Of Biodiesel And Value Added Products

NEW HORIZON COLLEGE OF ENGINEERING, MARATHAHALLI, BENGALURU

2. Ethanol Production from Pure Glycerol Using Bacillus Careus

N.M.A.M. INSTITUTE OF TECHNOLOGY, NITTE

3. Design and Fabrication of Automated Cleaning Machine for Pongamia Seeds

SRI JAGADGURU MURUGARAJENDRA INSTITUTE OF TECH., CHITRADURGA

4. Production and Optimization of Dairy Scum Bio-Diesel Using R.S.M. And Testing the Performance on C.I. Engines

SIDDAGANGA INSTITUTE OF TECHNOLOGY, TUMKUR

M.Sc., Project on Biofuels

1. Production of Extracellular Lipase from Azadirachta Indica Seed Cake Using Solid State Fermentation

MAHARANI LAXSHMI AMMANI COLLEGE FOR WOMEN, BENGALURU

2. Bicarbonate Based Microalgal Carbon Sequestration for Higher Biomass and Lipid Production in Chlorella Species

INDIAN ACADEMY DEGREE COLLEGE, BENGALURU

M.Tech, Projects on Biofuels

1. Enhancement of Biobutanol Production from Wheat Straw Using Fbb (Fibrous Bed Bioreactor)

M S RAMAIAH INSTITUTE OF TECHNOLOGY, BENGALURU

39th series of Student Project Program- Biofuels Projects

The dates for accepting the projects proposals from the students of the BE, M.Tech, MSc and MBA were announced through posters which were sent to 160 colleges including Universities. The last date for submission of the project proposal is 10th February 2016. So far 25 project proposals have been received.

Training Programme at IISc Chalakere Campus

A training programme for the staff of the Befoul Information and Demonstration District Centres (BIDC) staff was held on 8th and 9th December 2015 at Indian Institute Science Chalakere campus. The programme was inaugurated by Shri. Divakar Rao Member, KSBDB. Dr. H N Chanakya, Chief Research Scientist, IISc, has delivered a technical talk on “Biogas and Bioenergy. Dr. S G S Swamy, Executive Secretary, KSCST made a presentation on KSCST activities. Prof. M S Hegde, Coordinator, IISc, Kudapura campus, Chalakere presented the activities of the new campus and interacted with the participants. A visit to the solar thermal power plant in the campus was also organized. The highlight of the 2nd day was the presence of Shri S R Patil, Executive Chairman, KSBDB, GoK and who addressed the gathering and interacted with the participants followed by Befoul plantation at the campus. The selected coordinators I & D Centers made presentation on their research activities at their respective centers.

Befoul Coordinator Meet

A half day Befoul coordinator meet was organized by KSCST in collaboration with KSBDB, GoK at Paraag Hotel on 30th December 2015. The agenda of the meeting was to discuss about the Action plan for year 2016-17. A felicitation to Shri a K Monnappa IAS, Managing Director, KSBDB was done during this occasion.

Befoul Technical Lecture Series.

Special Lectures on Befoul under Befoul Technical Lecture series were conducted in coordination with Befoul Coordinators of Chickamangalur, Haveri and Bangalore.

1. Special Lecture on “**Importance of Renewable Energy Resources, especially on Befoul and Its by-products**” was delivered by Dr. Suchith Lumar M T, Assistant professor, department of Mechanical Engineering, AIT, Chickmangalur on 16th December 2015
2. Special Lecture on “**Biofuels and Business opportunities**” was delivered by Prof Udipi Shrinivasa, Executive Secretary, and KSBDB on 8th October, 2015 at Sapthagiri College of Engineering, Bangalore.
3. Special Lecture on “**Bioenergy – The future Energy options for India**” was delivered by Prof Balakrishna Gowda, Department of Environmental Sciences and Forestry, UAS, GKVK, Bangalore on 8th October, 2015 at Sapthagiri College of Engineering, Bangalore.
4. Special Lecture on “**Importance of Biofuels, its production and usages**” was delivered by Shri Ashok S Banakar, Co-Cordinator, BIDC, Haveri on 1th December 2015 at Government PU College, Hanagal Taluk, Belagalapet, Haveri.
5. Special Lecture on “**Advantages of biofuel Plants and Seeds, their production and usages**” was delivered by Shri Ashok S Banakar, Co-Cordinator, BIDC, Haveri on 5th December 2015 at Government PU College, Savanur taluk, Kunimellahalli, Haveri.

Faculty project

During the year 2015 -16 KSCST sanctioned two faculty projects to Department of Emerging Technologies, Jain University for the following projects

1. Identifying Unique properties of proteins in Non-Edible oil Meals
2. Production of Fatty Acid methyl Ester from Non-Edible Oil Seeds using Different Techniques

The progress of both the project was reviewed on 12-01-2016 by experts and suggestions were given for further continuation of the Projects.

New proposal prepared for submission to funding agencies

1. Bioethanol production from Coffee pulp and efficiency study of bioethanol in IC engines
2. Establishment of Biodiesel Testing Laboratory
3. Nursery development at IISc, Kudapura campus, Chalakere.

R & D Activities

The following R & D activities are being carried out at KSCST Befoul Lab

1. Lecithin extraction were done from *Pongamia pinnata* oil, water degumming process were done with different parameters such as Different ratios of water, mixing time and temperature, to obtain Quality Biodiesel
2. Enhancement of Vermicompost production using non edible seed cake as feed stock for earthworms