

ACTIVITIES OF BIOFUEL RESEARCH INFORMATION AND DEMONSTRATION CENTRE (BRIDC)

Programmes conducted by BRIDC Mandya

Awareness programmes are conducted by the center to provide awareness and demonstration on biodiesel preparation, by-product generation from biofuel waste, solid waste management and biogas generation from kitchen waste. The center also offers hands on training on biofuel preparation and soap manufacturing to entrepreneurs and public. Exhibitions are coordinated by the center to display and demonstrate biofuel and organic products as well as to provide awareness regarding the benefits of organic products. Following are the awareness programmes, hands on training workshops and exhibitions coordinated by BRIDC Mandya in association with different organizations.

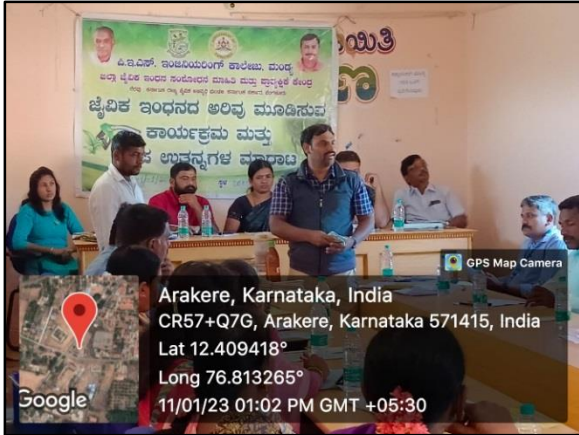
Awareness programmes

1. Awareness programme on biofuel for public in association with Vikasana and MGRID on 9/6/2022 at BRIDC, PESCE Mandya.
2. Awareness programme on biofuel for public in association with Vikasana and MGRID on 16/6/2022 at BRIDC, PESCE Mandya.
3. International biofuel day celebration, plantation and awareness programme as directed by Karnataka State Bioenergy Board in association with Twinkle United Public School and Karnataka Forest Department on 10/08/2022.
4. Awareness programme on biofuels in association with Kothathi Garama Panchayath on 31/10/2022.
5. Awareness programme on biofuel for public in association with Vikasana and MGRID on 29/11/2022 at BRIDC, PESCE Mandya.
6. Awareness programme on biofuel for public in association with Vikasana and MGRID on 6/12/2022 at BRIDC, PESCE Mandya.
7. Awareness programme on biofuel for public in association with ORDER NGO and MGRID on 6/12/2022 at BRIDC, PESCE Mandya.
8. Awareness programme on biofuels in association with Aarkere Garama Panchayath on 11/1/2023 at Garama Panchayath office, Aarkere.

Photographs of the Awareness Programmes



International biofuel day celebration in association with Twinkle United Public School and Karnataka Forest Department



Awareness programme on biofuels in association with Aarkere Garama Panchayath



Awareness programme on biofuels in association with Kothathi Garama Panchayath



Awareness programme on biofuels in association with Vikasana and MGRID



Awareness programme on biofuels in association with Vikasana and MGRID



Awareness programme on biofuels in association with Order NGO and MGRID

Training Programmes

1. Two-day workshop on biofuels for the technical staff of the Department of Mechanical Engineering, PES College of Engineering, Mandya during 17-18th June 2022 at BRIDC, PESCE Mandya.
2. One-day soap making workshop and awareness on biofuels in association with Bevinahalli Stree Sakthi Sanga on 25/11/2022.
3. Two days training on biofuels to entrepreneurs on 2/2/2023 at BRIDC, PESCE Mandya.
4. Two days training on biofuels to entrepreneur on 24/2/2023 at BRIDC, PESCE Mandya
5. Two days hands on training on biodiesel preparation on 12/6/2023 at BRIDC, PESCE Mandya

Photographs of the Training Programmes



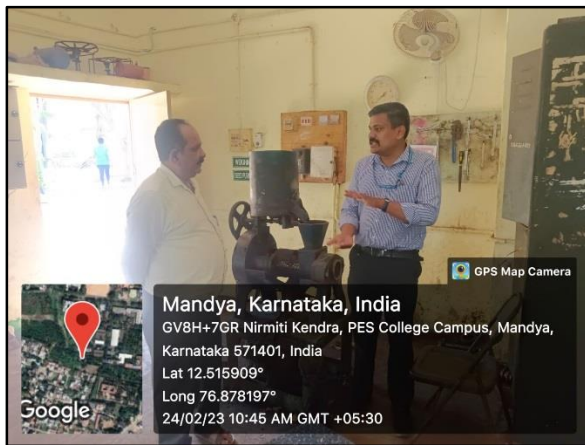
Two-day workshop on biofuels for the technical staff of the Department of Mechanical Engineering, PESCE Mandya



One-day soap making workshop and awareness on biofuels for Stree Sakthi Sanga Bevinahalli



Two days training on biofuels to entrepreneurs



Two days training on biofuels to entrepreneurs



Two days training on biofuels to entrepreneurs

Exhibition of biofuel and organic products

1. Demonstration and exhibition of biofuel products in Bharathi expo during 11-13th August 2022 organized by Bharathi Education Trust.
2. Demonstration and exhibition of biofuel products in Krishimela 2022 during 2 and 3rd December 2022 organized by VC Farm Mandya.

Photographs of the Training Programmes



Display and demonstration of biofuel and organic products at Bharathi Expo 2022 organized by Bharathi Education Trust.



Display and demonstration of biofuel and organic products at Krishimela 2022 organized by VC Farm Mandya.

Student Projects

BRIDC Mandya provides guidance to UG, PG and Ph.D projects pertaining to biofuels. Guidance is provided for 1 PG and 4 UG external student projects during 2022-23. The topics guided for external and internal student projects are as follows:

1. Performance and emission analysis of different blends of biodiesel
2. Stability of mahua oil and waste cooking oil biodiesel
3. Biodiesel production from waste cooking oil
4. Biodiesel production from chicken fat, pig fat and waste cooking oil
5. Production and characterization of biodiesel from Niger Seed and Waste Cooking Oil,
6. IoT based Real Time Monitoring of Biodiesel Quality



External UG student Project



External UG student Projects

Funds from Karnataka state government

1. Karnataka State Bioenergy Development Board (KSBDB) has sanctioned Rs. 2,85,000/- in the financial year 2022-23 for the successful operation of the center.
2. Student funded project entitled ‘Organic Pesticide and Mosquito Repellent from *Azadirachta indica* and *Simarouba glauca* Leaves’ received Rs. 5,000/- from Karnataka State Council for Science and Technology
3. Student funded project entitled ‘Synthesis and Testing of Sustainable Biodiesel Through Mixed Oil Transesterification of Waste Cooking Oil, *Pongamia pinnata* Oil and *Ricinus communis* Oil’ received Rs. 6,000/- from Karnataka State Council for Science and Technology

Publications related to biofuels

Following are the publications related to biofuels published from BRIDC Mandya

International book chapter

Published book chapter entitled ‘Recent Advances in Direct Catalytic Thermochemical Gasification of Biomass to Biofuels (Chapter 9) in the book ‘Thermochemical and Catalytic Conversion Technologies for Future Biorefineries’ published by Springer on 2nd September 2022. https://link.springer.com/chapter/10.1007/978-981-19-4312-6_9

International Journal

Analysis of methanol recovery using component specific reaction kinetics in biodiesel synthesis, Energy Sources, Part A: Recovery, Utilization, and Environmental Effects, 45:2, 5608-5620, 2023 DOI: 10.1080/15567036.2023.2209033

International conferences

Effect of Operating Parameters on Biodiesel Yield from Transesterification of Cotton Seed Oil. In: Doolla, S., Rather, Z.H., Ramadesigan, V. (eds) Advances in Clean Energy and Sustainability. ICAER 2022. Green Energy and Technology. Springer, Singapore. https://doi.org/10.1007/978-981-99-2279-6_41

A Novel scheme for IoT based Real Time Monitoring of Biodiesel Quality, 2023 International Conference on Recent Trends in Electronics and Communication (ICRTEC), Mysore, India, 2023, pp. 1-4, IEEE Explore, doi: 10.1109/ICRTEC56977.2023.10111864.

Distribution of Biofuel and Organic Products to Public and Farmers





Summary

During the year 2022-23, a total grant of Rs. 2,96,000/- is received from Karnataka state Government towards the running of center and conduction of student projects. Eight awareness programmes, 5 training programmes and 2 exhibitions are successfully organized. Project guidance is extended to 1 PG and 4 UG external projects pertaining to biofuels from BRIDC Mandya. A total of 4 reputed research publications comprised of 1 international book chapter, 1 international journal and 2 international conferences are published during the period.