

CSIR-CENTRAL GLASS & CERAMIC RESEARCH DIVISION

BUSINESS DEVELOPMENT & PUBLICATION DIVISION

- i. Name of Technology: **Transforming Fish Waste into Phosphate-enriched Biochar Fertilizer**
- ii. Details of technology
- iii. Abstract:

Biochar is widely recognized for its water-retaining and adsorbing properties, which can be useful in enhancing soil fertility. The present technology provides an economical and cost-effective method by converting organic waste into high-value agricultural inputs using fish wastes such as scales and bones, by pyrolyzing and treating it with phosphoric acid to obtain a phosphate-enriched biochar with slow and sustained release characteristics. The developed technology can therefore be useful in improving soil fertility by providing essential nutrients over an extended time period and also minimizing environmental pollution.
- iv. Deliverables: **Phosphate-enriched Biochar Fertilizer**
- v. Year of Development: 2025
- vi. TRL: TRL 4 (1 kg batch) [Lab Testing/Validation of Alpha Prototype Component/ Process]
- vii. Patenting Status: Patent filed (Application number 202511117825, Dtd. 26/11/2025)
- viii. Whether already licensed: No
- ix. If so, details of licensing: N.A