

Controlled Dosing of Oily Used Bleaching Earth into Meal

Executive Summary

EXECUTIVE OUTCOME	The Save Tech solution converts oily Used Bleaching Earth (WBE) from a difficult-to-handle refinery residue into a stable, controlled and traceable process stream. The project can create value through avoided disposal costs, commercial utilisation of the WBE stream and improved process safety.
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Strategic Rationale

During edible-oil refining, bleaching earth adsorbs pigments, residual soaps, trace metals and oxidation products. After filtration, the discharged WBE retains vegetable oil and may create disposal, transportation, storage and handling costs. Uncontrolled accumulation may also introduce self-heating and spontaneous-combustion risk.

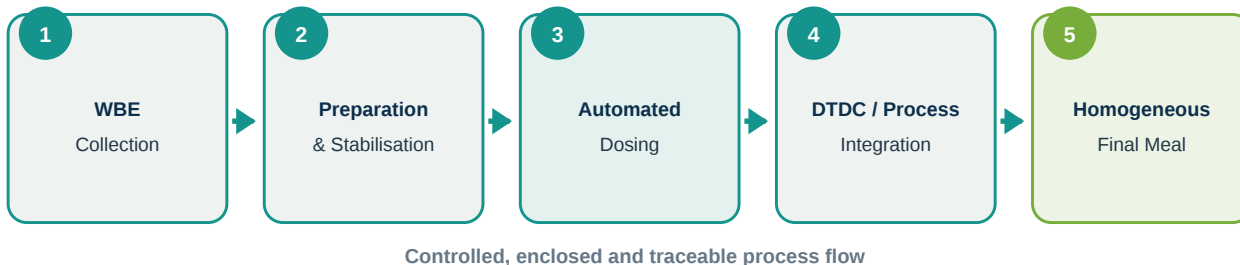
Save Tech has developed and successfully implemented proprietary technology that conditions WBE before controlled dosing into meal through the DTDC or another plant-specific integration point.

Recover the commercial value retained in the oily WBE stream and reduce disposal-related expenditure.	Prevent uncontrolled free accumulation and reduce self-heating and combustion exposure.	Automated dosing, interlocks, batch records and process traceability.

Process Concept and Technical Scope

The process is designed to transform WBE into a stable and manageable stream before it is introduced into the production line. The final configuration is determined after a plant-specific technical assessment.

Indicative WBE Dosing System



Core System Principles

- Enclosed and controlled material handling
- Plant-specific suspension preparation and stabilisation
- Automated dosing based on defined process conditions
- PLC integration, permissives, alarms and safety interlocks
- Closed injection into the DTDC or approved process point
- Batch records, recipe control and production traceability
- Homogeneous distribution in the final meal

SAVE TECH KNOW-HOW

Suspension preparation, stabilisation, dosing logic, equipment configuration and integration parameters constitute Save Tech proprietary process know-how. Detailed operating values are established only after technical assessment and laboratory verification.

Key Safety Contribution

By transferring oily WBE into a controlled process stream and preventing uncontrolled free accumulation, the project materially reduces exposure to self-heating and spontaneous-combustion scenarios. The final design must still be integrated into the plant's fire-safety, housekeeping, emergency-response and HACCP procedures.

Regulatory, Quality and Application Framework

For applications in Europe, the project must be assessed under the applicable European feed-material descriptions and relevant feed requirements.

DOSING LIMIT

Applicable European feed-material descriptions indicate that final meal from integrated crushing and refining plants may contain up to 1% Used Bleaching Earth and filter aids. This is a maximum level in the final meal, not a standard operating setpoint.

Preliminary Feasibility Data Required

Average daily oily WBE quantity Average daily meal production Annual operating days Basic DTDC capacity and configuration Confirmation of activated-carbon use	WBE oil analysis Current disposal, transportation and handling cost Meal sales price Available utility and integration information

Economic Case and Recommended Next Steps

The project economics are driven by two principal value streams: the commercial value obtained by incorporating the complete oily WBE stream into meal and the reduction of disposal, transportation and handling expenditure. Investment and operating costs must be deducted to calculate the net annual benefit.

Factory-Specific Feasibility Outputs

- Suitable dosing capacity and operating range
- Preliminary process and equipment configuration
- Required integration with the existing DTDC and automation system
- WBE-to-meal mass balance and production impact
- Estimated investment and operating costs
- Expected reduction in disposal-related expenses
- Expected annual gross and net economic benefit
- Indicative investment payback period
- Key technical, safety, quality and regulatory risks

Recommended Implementation Roadmap

01	Data Collection	Confirm operating quantities, oil analysis, costs and current handling practices.
02	Site Assessment	Review WBE generation, collection, DTDC integration, automation and available space.
03	Preliminary Feasibility	Define mass balance, capacity, CAPEX, OPEX, annual benefit and payback.
04	Official and Quality Review	Confirm feed, environmental, HACCP and plant-permit requirements.
05	Engineering and Implementation	Complete detailed engineering, installation, commissioning and performance verification.

RECOMMENDATION

Proceed with a structured site assessment and preliminary feasibility study. No investment amount, annual benefit or payback period should be committed until the plant data, oil analysis, regulatory position and integration requirements have been verified.

Contact

Muharrem Kahraman

Founder & Managing Director

Save Tech Process Consultancy Ltd.

m.kahraman@savetechltd.com | +90 507 708 56 15 | www.savetechltd.com