

Blood-Meal Fertiliser Production Line

Complete Turnkey Business Proposal



Made-in-China supplier reference: real blood coagulation and drying equipment.

200-500 kg/batch entry fresh-blood load	1 abattoir launch collection source	$\leq 10\%$ supplier moisture reference	6-10 entry operators
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Prepared for investment planning in Afghanistan and regional export markets. Final specifications, pricing, civil works, and utility loads require supplier quotation and site survey.

Executive Summary

A closed small/medium line converting fresh segregated abattoir blood into dried fertiliser ingredient through anticoagulant-free hygienic collection where specified, screening, chilled short holding, controlled coagulation/cooking, mechanical dewatering, indirect or rotary drying, cooling, milling, screening and sealed bagging. Blood decomposes rapidly, so daily coordinated collection and odour control are fundamental.

Why this project fits Afghanistan

- Formal abattoirs need safe routes for high-load animal by-products.
- Thermal processing can convert a disposal cost into a controlled product.
- A batch plant matches variable Afghan slaughter volumes.
- The final market must be legally confirmed before equipment purchase.

Sanaatchi delivery scope

- Factory setup planning, supplier pre-qualification, and technical comparison
- Complete production-line and individual equipment supply
- Factory layout, utilities, civil-work coordination, installation, and commissioning
- Raw-material sourcing, trial-batch qualification, and repeat supply planning
- International logistics, customs documentation, operator training, spare parts, and after-sales support

Recommended configuration

For the lowest credible entry, locate beside one licensed abattoir and use a 200-500 kg blood/batch screened collection tank, 3-ton or smaller coagulation/cooking vessel, press dewaterer, indirect or controlled rotary dryer, crusher and bagger. Sell only analysed fertiliser-grade blood meal; do not claim feed grade without separate approval.

Manufacturing Process & Product Portfolio

Integrated process flow



Target products

Product	Typical specification	Primary market
Blood-meal fertiliser ingredient	Declared nitrogen/protein analysis, controlled moisture, pathogen treatment and particle size	Licensed fertiliser blenders and agricultural users
Feed-grade blood meal expansion	Only under feed authority approval and buyer microbiological/nutritional standard	Licensed feed mills after validation

Blood must be collected immediately without floor washings, manure, chemicals or mixed waste. Collection age, temperature, thermal treatment and final moisture determine safety and odour. Direct-fired dryers need product scorching and fire control; exhaust, condensate and cleaning wastewater require treatment.

Core Equipment Schedule

Step	Equipment	Function	Indicative parameter
1	Closed receiving bins and feed system	Contains and meters fresh by-product	200-500 kg blood/batch
2	Crusher or screened transfer pump	Creates a controlled uniform feed	Material-specific design
3	Batch cooker or coagulation vessel	Applies the validated thermal treatment	Recorded temperature and time
4	Press or dewatering unit	Reduces liquid load before drying	Yield trial required
5	Indirect or rotary dryer	Reaches safe stable moisture	Exhaust and fire controls included
6	Condenser and odour treatment	Controls vapour and nuisance emissions	Site-specific mandatory scope
7	Cooler, mill and screen	Produces stable controlled particle size	Low-dust enclosed transfer
8	Scale, bagger and dust collector	Packs and identifies released meal	20-25 kg entry bags

Equipment models are indicative and will be matched to the selected capacity, local raw-material tests, available utilities, and preferred automation level.

Reference Equipment Gallery



Made-in-China supplier reference: real blood coagulation and drying equipment.



Made-in-China supplier reference: real rotary batch blood-meal drying system.

Images are supplier references for configuration discussion; final equipment appearance and model may differ.

Plant, Raw Materials & Utility Requirements

Raw materials

- Fresh segregated abattoir by-product collected in closed washable bins
- Food/feed/fertiliser packaging selected for the legally approved end use
- Fuel or steam, filter media and approved cleaning chemicals
- Laboratory samples, calibration materials and traceability labels

Utilities & infrastructure

- Stable three-phase electricity matched to motors and controls
- Potable process and sanitation water with adequate pressure
- Process heat or steam sized to the confirmed thermal load
- Washable rooms, trapped drainage, pest control and hygiene barriers
- Odour, wastewater and by-product controls approved for the site

Quality, safety and environmental controls

- Approve source material, species, maximum age and receiving temperature
- Record every batch mass, thermal time/temperature and pressure where applicable
- Verify final moisture, particle size and microbiological release criteria
- Control dust, odour, condensate and wastewater at source
- Prevent recontamination after the validated thermal process
- Release product only to the legally approved feed or fertiliser market

A final factory layout must reserve safe forklift routes, maintenance clearances, raw-material segregation, finished-goods storage, fire protection, ventilation, and future expansion space.

Indicative Investment & Implementation Plan

LOW-ENTRY CONFIGURATION

Lowest entry uses one segregated raw material, batch thermal processing and semi-automatic bagging. Building, collection vehicle, full laboratory and working stock are excluded.

Component	Indicative range	Notes
Closed collection and coagulation	US\$12k-35k	200-500 kg blood/batch
Dewatering and drying system	US\$30k-85k	Batch fertilizer-grade entry
Cooling, milling and bagging	US\$12k-32k	20-25 kg bags
Odour, wash and effluent controls	US\$15k-45k	Mandatory adjacent-abattoir scope
Freight, installation and spares	US\$14k-38k	Thermal commissioning
Indicative low-entry total	US\$83k-235k	Building and blood collection vehicle excluded

Implementation sequence

Phase 1	3-5 weeks	Confirm raw-material supply, product, capacity, site and buyer rules
Phase 2	3-6 weeks	Run representative product, yield, hygiene and packaging trials
Phase 3	6-12 weeks	Manufacture, inspect and ship the approved equipment scope
Phase 4	4-8 weeks	Install, train, validate sanitation and pass performance tests

Ranges are planning targets for a low-cost entry configuration, exclude land, and remain subject to confirmed capacity, supplier quotation, freight, duties, exchange rates and site conditions.

Next Steps & Contact Information

Recommended next steps

- Confirm target products, hourly output, and packaging formats
- Test representative raw materials and document quality requirements
- Complete site survey covering electricity, water, fuel, drainage, roads, and warehouse space
- Request comparable technical and commercial quotations from shortlisted suppliers
- Finalize financing, logistics, installation, training, and spare-parts plan

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Research and image references

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