**Invitation to Tender**

**Egg Grader**

**Ref: BG 02501**

# 1. About Country Lane Foods Limited

Country Lane Foods is a long-standing, successful family business with a passion for all things egg-related. For over 30 years, we’ve proudly worked with farmers and customers UK-wide. For us, quality products packed with care by our fantastic staff every day at our packing facility is paramount to our success. With happy hens and happy staff at the heart of everything we do and a packing facility of over 45,000 square feet, means we pack 1.5 million eggs per week and rising!

# 2. Background and Context

The business is currently undergoing increased customer demand for egg supply regionally. This has been driven from a decision made by the retail environment to move to a cage free offering to the consumer. This is a big step for our industry as it moves away from caged production with the majority of this egg being replaced with free range. This has presented a huge opportunity for our business as the retailers look to source from regional egg suppliers to secure their needs.

The implementation of more advanced packing equipment will allow the business to become more efficient and support productivity through the consolidation of costs.

The purchase of this system is part of a grant funded application process and therefore procurement will be subject to grant approval of the project. We will assess tenders received on lowest compliant Tender.

# 3. Tender requirements

We are seeking to procure an egg sorting machine that can meet or exceed the following specification:

**3.1 Egg loading machine**

The loading machine is to be capable of lifting the eggs out of the trays placing the eggs on a roller conveyor connected to the egg breaking machine. The empty trays are stacked but trays with stuck eggs are to be sorted and conveyed out separately. The loader is to be driven by independent drives capable of being synchronized in speed with the egggrading machine. It is expected this part of the line has the following characteristics:

1. Stack loading and infeed conveyors
2. 4 loader heads each with spreader and a minimum of 25 suction cups
3. Rotary loader unit
4. Destacking unit
5. Empty tray conveyor
6. Electrical panel (stainless steel)
7. Operator panel with a colour touch screen
8. Clean In Place (CIP) system with pump, piping system, strainer and manual valves
9. Max. capacity of more than 79,000 eggs/hour 210 cases/hour
10. Integrated frequency controlled vacuum pump with stainless pipe system
11. Supplied with a minimum of 20 meters of cable to connect to the electrical panel
12. Ensure accurate alignment of stack prior to destacking
13. Two-step blow-back system for accurate release of eggs and cleaning of suction cups
14. Easily disassembled for cleaning and prepared for CIP cleaning
15. Stuck egg detection
16. CIP system is to be a semi-automatic local CIP with manually dosing of water and detergent
17. Complete system for CIP cleaning for the loader
18. Must provide uniform washing results
19. Of sanitary design
20. Prefabricated piping system connecting collecting vat, pump and the loader
21. In-line strainer
22. Manual butterfly valves)
23. CIP pump
24. The CIP is done “cold”, no heating is to be required
25. Manually dosing of detergent
26. Control of CIP is as 3.1.7
27. Infeed conveyor extension of 0.5 meter if not already at least 1.5m

3.2 UV-C System

 The UV-C unit is to use PL bulb lamps that are cooled with ventilators from above or an equivalent system. The complete unit is to be covered with a stainless-steel hood and contain indicators showing when light is being used. To ensure durability, the lights are to switch off automatically 5 minutes after the machine has stopped. The complete unit is to be in accordance with the European optical radiation norm category I: EN-12198 or equivalent.

3.3 Dirt detection system and leak detector system

1. The dirt detection system needs to have the capability to classify dirt spots of 1 mm² and bigger by use of full colour cameras. The recognized dirt spots are to be classified in accordance with the configured parameters, set by the operator into three categories of dirty eggs and be suppoted by appropriate sotware.
2. The Leak detector is to function in combination with the dirt detector or as a separate system.
3. The Leak detector is capable to classify holes from 1mm² and greater by use of cameras. Eight photos of each egg are to be made and analysed with a software program, resulting in three categories of leakers. Parameters of each category can be easily set by the operator. After detection of leakers operator can determine where to send the eggs of the different detected categories. The system uses laser lights, cameras, and user-friendly software.

3.4 Crack detection system

 Crack detection system is to be a self–monitoring system with accurate results and simple operation. Setting definable parameters is to determine and guarantee the desired quality of the product. A high performance and durability can be obtained and maintained with little maintenance. Crack detector is to be placed inside the weighing section and is to be completely washable.

3.5 Egg Grader with a tunnel frame suitable for 10 Packing lanes Capacity: Minimum 79000 eggs/hour

1. This is to be a fully washable with made with stainless steel and food grade contact materials.
2. The grader is to be equipped with full-colour HMI touchscreen screen on the main tunnel. From this main screen operating touchscreen, can direct the incoming egg flow to the desired orders.
3. Touch screen operating system. The program is to have the capability to split up the incoming egg flow into the grades in a maximum of 12 and 4 off-grades. Must be capable of printing the system data or electronically transferring the data. The Touch screen operated PC must be able to connect to the local network. The software is to report:
4. the incoming egg flow (counting details and off-grade data),
5. the outgoing flow and reporting on
6. the operational efficiency.
7. Washable Dynamic Load cell weighing system. The weighing section is to have a weighing read-out accuracy of 0,1 gram and tests itself for accuracy during the whole process. Testing and calibrating is to be achieved through software.

3.5.5 Drop gate and whole egg removal gates. The machine is to be equipped with drop gate to remove the leaking eggs into a bin. The off-grade eggs are either to be identified by an operator in candling booth or through the automatic leaker detector. After the weighing section the operation is equipped with 1 whole egg removal to further extract off-grade eggs. The operator is to able to set the criteria for which off-grade egg, the removal gate can be used. For example, return dirt eggs back to the washer or the cracked eggs to breaker. If the eggs exit through the whole egg removal the eggs are to be guided with conveyor to the side exit for further processing

3.5.6 Cleaning. The machine is washable, the infeed table, the weighing system, the crack detector and the orientator can be cleaned. The packers are to be designed as drawers and to be able to be taken out for cleaning. All must be designed to keep cleaning maintenance time to a minimum and effortless.

3.5.7 Maintenance. Machine frame is to be equipped with auto oiling system for main driving chains. Internet connection is to be available to provide ongoing service support, our customer care team will be able to assist and advise your operation. In most cases also software updates could be done through this connection to keep your operation up-to-date and with maximum output.

3.5.8 CIP for the grader. Cleaning for the grader can be undertaken with manual dosing of detergent. The CIP is to cover the weighing scales, drop gates and crack detector. It is akso to cover infeed rollers, main track and orientator. There is also to be an air knife to expel as much water from the main track cups.

3.5.9 Second outlet in transfer section for whole egg removal. Include a washable leaker removal gate and whole egg removal gate for whole egg recovery equipped with brush and side belt. Extension side belt for whole egg removal (width 250 mm length 1000mm)

3.5.10 10 loader packing lanes. Washable automatic packing lanes equipped with double pack detectors, missing egg detectors as well as pack present detectors underneath the packing position. The automatic denesters (see below) will provide the packing lane with individual packing material and is able to handle wide range of packing material. The packing lane are to consist of two packing lanes, every lane is to be equipped with a denester and inclined conveyor. The denesters are to have a high buffer capacity. The length of the packing lane is to be at least 4.5meters excluding the takeaway conveyor.

3.5.11 5 Closer for automatic packing lane.Automatic closer unit for most common types of 10-12-18 packs. Before filled packing goes inside closer pair unit it is automatically checked on completeness. The closing performance is per lane and is based on packaging characteristics in relation to material and geometry. In case of unknown or poor-quality material is to be determined the automatic closing feasibility based on a test with samples

3.5.12 25 Denester sets. Denester set for tray or pre-pack egg packing. The denesting performance is to be based on packaging characteristics in relation to material and geometry. In case of unknown or poor-quality material the system is to determine the automatic denesting feasibility based on a test with samples.

3.5.13 Extra touch screen operated workstation. This is to be grader independent from the main console and independent from other the other consoles. The extra console is to consist of one PC with two touch screen monitor and dust free cabinet and be loaded with Traceability Software.

3.5.14 Preparation kit for egg printing. This kit is to connect with an Inkjet system for printing eggs in the tunnel conveyor. It is to includes brackets for mounting the printing head and encoder, without interface. Signals like “print go” or “message select” are to be based on PNP format

3.5.15 Egg switch for loader. This should enable the changing of batches to be automated. This is possible with a Loader as well as with direct infeed from conveyor. Entering(customer/batch) data is to be via the touchscreen operated User Pc loaded with software that can:

* 1. Automatically switched between batches of suppliers.
	2. Automatically saves and/or print outs the finished batch.
	3. Automatically changes the inkjet texts, to be printed on the eggs. To contain the correct supplier Id and/or date of the new batch. To switch between suppliers an egg with a RFID. The RFID reader is to be placed at the intake conveyor of the loader secures recognition. Each RFID egg contains a operator set unique 10-15 digit code’s registered in a database which will be used in the switching process to identify a supplier.The requirement is for 10 red RFID eggs.

3.5.16 Egg packing with tray stacker. This is to be a programmable feature using a touchpad screen. The eggs must be placed perfectly in the tray using a Denester (motor driven) that feeds one by one a packing onto the carton transport lane and a packer that places the eggs point down in the packing. The packing spedd is to be adjustable but with a capability of handling 36,0000 eggs/hour.

3.5.17 Analytical software. This is to be capable of collecting data from the machines and equipment to desktop and mobile for remote monitoring. During production runs, collect data to monitor KPI’s and store process data for historical evaluation to provide early detection of need for scheduled service reducing the risk of unscheduled downtime. Most importantly, access should be through a VPN to enable remote troubleshooting and the setting of parameters that if exceeded will send alerts or alarms.

3.6 Delivery ex works

3.7 Training

3.8 Factory Acceptance Test

3.9 Delivery by 31 December 2024

4**. Budget**

The total maximum budget available for this commission is £760,000 (exc VAT) but inclusive of all expenses.

The budget will be reviewed as part of the tender evaluation detailed in Section 10.

# 5. Tender and commission timetable

The timescale of the programme is from the date of signing the contract until the acceptance of a successful Factory Acceptane Test. The timetable for submission of the Tender, completion of the programme are set out below.

|  |  |
| --- | --- |
| **Milestone** | **Date** |
| Date ITT available on Contracts Finder | 5 July 2024 |
| Last date for raising queries | 12 July 2024 |
| Last date for clarifications to queries | 15 July 2024 |
| Deadline to return ITT | **1700: 24 July2024** |
| Evaluation of ITT | 25 July 2024 |
| Award of Contract  | This is subject to successfully obtaining grant funding and will normally be no later than 30 days from contract evaluation |
| Delivery | 31 December 2024 |

# 6. Tender submission requirements

Please include the following information in your Tender submission.

6.1 Please provide your proposal and any necessary technical or specification sheets.

6.2 Provide a conflict of interest statement as per section 8.

6.3 Budget

**7. Sub-contracting**

Tenderers should note that a consortia can submit a tender but the sub-contracting of aspects of this commission after appointment will only be allowed by prior agreement with Country Lane Foods Limited.

**8. Conflicts of Interest**

Tenderers must provide a clear statement with regard to potential conflicts of interests. Therefore, **please confirm within your tender submission** whether, to the best of your knowledge, there is any conflict of interest between your organisation and Country Lane Foods Limited or its programme team that is likely to influence the outcome of this procurement either directly or indirectly through financial, economic or other personal interest which might be perceived to compromise the impartiality and independence of any party in the context of this procurement procedure.

Receipt of this statement will permit Country Lane Foods Limited to ensure that, in the event of a conflict of interest being notified or noticed, appropriate steps are taken to ensure that the evaluation of any submission will be undertaken by an independent and impartial panel.

# 9. Tender clarifications

Any clarification queries arising from this Invitation to Tender which may have a bearing on the offer should be raised by email to:

paul@countrylanefoods.co.uk

in accordance with the Tender and Commission Timetable in section 5.

Responses to clarifications will be anonymised and uploaded by Country Lane Foods Limited to Contracts Finder and will be viewable to all tenderers.

No representation by way of explanation or otherwise to persons or corporations tendering or desirous of tendering as to the meaning of the tender, contract or other tender documents or as to any other matter or thing to be done under the proposed contract shall bind Country Lane Foods Limited unless such representation is in writing and duly signed by a Director/Partner of the tenderer. All such correspondence shall be returned with the Tender Documents and shall form part of the contract.

# 10. Tender evaluation methodology

Each Tender will be checked for completeness and compliance with all requirements of the ITT. The award of the contract will be to the LOWEST COMPLIANT BID.

11**. Tender Award**

Any contract awarded as a result of this tender process will be in accordance with this ITT and the tenderer’s response.

# 12. Tender returns

Tenders are to be returned by email.

Tenders are to be returned in accordance with Section 5

Latest date to be returned: As per Section 5

Latest time to be returned: 17:00

Emailed tenders should be sent electronically to

paul@countrylanefoods.co.uk

with the following message clearly noted in the Subject box;

‘Egg Grader ITT Response”

**Tenderers are advised to request an acknowledgement of receipt of their email.**

**13.** **Disclaimer**

The issue of this documentation does not commit Country Lane Foods Limited to award any contract pursuant to the tender process or enter into a contractual relationship with any provider of the service. Nothing in the documentation or in any other communications made between Country Lane Foods Limited or its agents and any other party, or any part thereof, shall be taken as constituting a contract, agreement or representation between Country Lane Foods Limited and any other party (save for a formal award of contract made in writing by Country Lane Foods Limited or on behalf of Country Lane Foods Limited).

Tenderers must obtain for themselves, at their own responsibility and expense, all information necessary for the preparation of their tender responses. Information supplied to the tenderers by Country Lane Foods Limited or any information contained in Country Lane Foods Limited’s publications is supplied only for general guidance in the preparation of the tender response. Tenderers must satisfy themselves by their own investigations as to the accuracy of any such information and no responsibility is accepted by Country Lane Foods Limited for any loss or damage of whatever kind and howsoever caused arising from the use by tenderers of such information.

Country Lane Foods Limited reserves the right to vary or change all or any part of the basis of the procedures for the procurement process at any time or not to proceed with the proposed procurement at all.

Cancellation of the procurement process (at any time) under any circumstances will not render Country Lane Foods Limited liable for any costs or expenses incurred by tenderers during the procurement process.