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NEWSLETTER



WWW.CBHINTL.COM



**Providing LatAm the leading technology
to feed humanity**



Caroline B. Hofland
(CEO CBH INTERNATIONAL)

Dear Friends of the industry, customers and suppliers,

One more year has passed and today I am pleased to celebrate the 34th anniversary of our company CBH INTERNATIONAL, Inc.

It was always my dream to develop in the world of the food industry and to be closer to my family, country and region (Latin America), to enjoy what I am so passionate about, which is Agriculture, especially the Poultry and Swine Industries; This is how I came about the idea of creating CBH International , Inc.

It has been a fantastic journey, and I am very proud that our company has become a leader in the market; with the responsibility of offering state-of-the-art projects that efficiently produce food for humanity; looking for the best solutions as well as the best returns.

We have worked and carried out projects of great importance that will bring to our markets greater efficiencies in Animal Production, Primary Processes, Secondary Processes, (Poultry and Swine Plants), Value Added Processes, Feed Plants, Grain Storage, Cleaning Systems, Water Treatment Plants, By-product and Odor Control Plants, provision of spare parts and consumables as well as turnkey projects.

We are very pleased to be able to represent companies with the latest technology from the Netherlands, United States, Brazil, Spain, among others, and in this way offer our services focusing in teamwork together with our represented manufacturers and customers that has characterized us as a company, achieving the goal to feed to humanity in a efficient way.

CBH INTERNATIONAL will continue to be committed to our represented factories, providing our customers with state-of-the-art technology under our values of Integrity, Innovation, Commitment and Leadership.

I wish you a prosperous and blessed year 2024 for you and each of your families.





Chicken
UP TO 9,000 bph



Poussin
UP TO 6,000 bph



Quail
UP TO 12,000 bph



Rabbit
UP TO 3,500 uph



VERDERIO

MEAT PROCESSING TECHNOLOGY

100% MADE IN ITALY

Meat processing equipment



TECHNOLOGIES FOR MEAT PROCESSES SINCE 1962... AND WE KEEP COUNTING.

Offering complete solutions for chickens, quails, rabbits, that are the result of experience, competence, know-how, technology, development, research, customization.

OUR OBJECTIVES:

Customer satisfaction, quality and productivity, high performance, evolution, progress, automation, long life, maximum efficiency, operator safety, animal welfare, hygiene, reliability, traceability, flexibility, sustainability.

OUR ADDED VALUES:

Professional advice, technical assistance, after-sales service, teleassistance, supervision systems.

Plants and machines for poultry processing up to 9000 birds/ / hour that guarantee high quality final products: at the forefront of technology, for high as well as low production capacities, manual or semi-automatic / fully automatic solutions.

With more than 60 years of experience, our company is specialized in the production of high quality chicken processing facilities, designed and manufactured with long-lasting materials and cutting-edge technologies. Our engineers have always focused on improving the working conditions of operators, increasing hygiene and safety standards, reducing the need for maintenance. We offer multiple solutions ensuring maximum efficiency and safety of processing facilities, ranging from small compact plants (200 / 500 / 1000 birds / hour) to large standard facilities ranging from small complete plants (200 / 500 / 100 birds / hour), to large standard facilities for large hourly productions (up to 9000 birds / hour), then reducing animal stress and guaranteeing the highest rates of hygiene and cleanliness.

ICompact installations for 200/500/1000 heads/hour designed specifically for small production capacities: they consist of highly efficient, reliable, flexible and modern machines that guarantee optimal conditions and high quality products. Standard installations range from 1000 to 9000 head per hour : Complete lines customized to meet the needs of our customers, ensure the highest efficiencies and safety, reduce the workload of operators and animal stress.

Facilities for the processing of quails up to 12000 heads / hour, advanced technology, for high production capacities, fully automated, and high reliability.

Compact installations for 200 and 1000 birds / hour: specifically designed for small production capacities: they consist of highly efficient, reliable, flexible and modern machines that are the result of development and research to guarantee quality products. Standard installations, up to 12000 birds / hour: Complete lines customized to increase the degree of automation of production and make operations safer, more hygienic, efficient and comfortable.

Facilities for the processing of rabbits up to 3500 heads / hour that are the most advanced on the market for the automation of all operations, even the heaviest.

Compact installations, up to 500 heads / hour: specifically designed for small production capacities: they ensure efficiency, reliability, optimal hygienic conditions and high quality products. Standard installations, up to 3500 heads / hour: complete customized lines that increase the degree of automation of production and make operations safer, hygienic, efficient and comfortable.

Facilities for the processing of picantones up to 6000 birds/ hour, of high technological level for a fully automated production, low maintenance and that can be integrated into any existing plant.

Compact installations for 200 and 500 heads/hour: specifically designed for small productions, these machines are highly efficient, reliable, flexible and modern to ensure optimal hygienic conditions and top quality products. Standard installations up to 6000 birds/ hour: complete customized lines that will increase the degree of automation of production and make operations safer, hygienic, efficient and comfortable.

The logo for Chief Agri, featuring the word "CHIEF" in a bold, white, sans-serif font on a red background. To the right of the text is a stylized white icon of a grain stalk or a similar agricultural symbol.

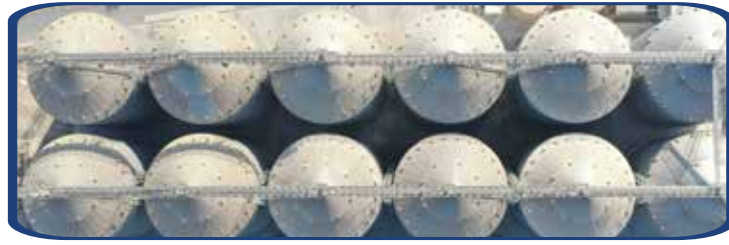
**EXPERIENCE
EXCELLENCE IN
GRAIN STORAGE
SOLUTIONS WITH
CHIEF AGRI**



Chief Agri, a division of Chief Industries, Inc., global leader specialized in the design, manufacturing, and sale of cutting-edge grain storage systems. With a rich history spanning over 60 years.

Chief Agri has amassed a wealth of experience, making them a trusted partner for farmers and agribusinesses worldwide. As an industry frontrunner, Chief Agri offers a diverse range of products tailored to meet the unique needs of each customer, ensuring their grain storage requirements are not just met, but exceeded.





COMPREHENSIVE GRAIN STORAGE SOLUTIONS

Chief Agri's commitment to excellence is reflected in its extensive product lineup, which covers all aspects of a complete grain storage system. Their offerings include:

- 1. STEEL GRAIN BINS:** Chief Agri provides a wide selection of steel grain bins in various configurations, sizes, and capacities. These bins are engineered with precision to ensure durability, protection against the elements, and efficient grain storage.
- 2. GRAIN HANDLING EQUIPMENT:** Efficiently move and manage grain with Chief Agri's range of grain handling equipment. From Belt Conveyors to Chain Conveyors and Bucket Elevators, their solutions optimize the handling process, reducing downtime and improving productivity.
- 3. CONDITIONING EQUIPMENT:** To maintain grain quality, Chief Agri offers top-of-the-line conditioning equipment, such as fans, heaters, and floors. These tools effectively control moisture and temperature levels, safeguarding the stored grain.
- 4. SQUARE FEED MILL STORAGE BINS:** For agribusinesses with specific feed storage needs, Chief Agri offers square feed mill storage bins. These bins are versatile and can be customized to suit individual requirements.

EFFICIENCY AND COST-EFFECTIVENESS

Chief Agri's commitment to efficiency and cost-effectiveness sets them apart from the competition. Their grain storage solutions are designed to maximize space and optimize operations, resulting in reduced storage costs for customers. By combining state-of-the-art technology with competitive pricing, Chief Agri delivers value that aligns with the unique needs of every client.

EXCEPTIONAL CUSTOMER SUPPORT

At Chief Agri, customer satisfaction is not just a catchphrase; it's the driving force behind everything they do. Their dedication to providing exceptional service extends beyond the point of sale. The team at Chief Agri is passionate about supporting their customers throughout the entire process. From initial design to construction, offering professional guidance and technical support, ensuring that every customer receives the best possible grain storage system tailored to their operational requirements.

BUILDING RELATIONSHIPS THROUGH ENGINEERING EXCELLENCE

Chief Agri's motto, "We Engineer Relationships," encapsulates the commitment to building long-lasting partnerships with customers. Beyond delivering top-quality products, Chief Agri strives to foster trust, reliability, and a strong bond with their clientele. This approach has earned them the trust of farmers and agribusinesses worldwide, making them the preferred choice for grain storage solutions.

In conclusion, when you choose Chief Agri for your grain storage needs, you are choosing a partner with a legacy of excellence, a commitment to innovation, and a passion for supporting your success. Experience the Chief Agri difference today and unlock the full potential of your grain storage system.



 **thor**
MÁQUINAS E MONTAGENS



 **CBH**
INTERNATIONAL

THOR MÁQUINAS E MONTAGENS, founded on January 2, 1985, is a genuinely Brazilian company, leader in equipment for processing animal by-products in Latin America. The equipment manufactured and installed by us throughout South and Central America originates from our headquarters, located in the city of Santa Maria - Rio Grande do Sul - Brazil, with strategic location and road infrastructure to serve industrial enterprises throughout the American territory. With its own industrial park with more than 12,000m² of built area, where not only our organizational structure is located (administrative, commercial, engineering, projects, production control, supplies and production), but also an equipped industrial park with state-of-the-art machinery.



MANUFACTURING:

We are leaders in Latin America in the manufacture of equipment for recycling animal by-products. We also operate in the mining and steel, fertilizers, port works and several other sectors of the primary industry, and our work is fundamental for the design of industrial plants for the world's largest companies in our segment.

INSTALLATIONS AND ASSEMBLY:

Our team is trained and qualified to manufacture, install and assemble the equipment we produce, in addition to guaranteeing assistance throughout the American territory.

TECHNICAL ASSISTANCE AND TRAINING:

We have approximately 300 employees, with budget and sales teams, development, application and product engineering with highly qualified designers and engineers. Our manufacturing teams are supported by professionals with great experience and qualifications to guarantee high performance products and services, meeting the expectations and needs of our customers. Our Engineers are ready to assist you.

EXECUTION OF SPECIAL PROJECTS:

Our company is prepared to help clients achieve the best results in their segments of operation with motivated, trained and high-performance teams in the development of all the necessary work stages for the conception, development and execution of successful projects.





HIPERBARIC HPP AUTOMATION SOLUTIONS: THE PRESENT AND FUTURE OF HPP TECHNOLOGY



Aware of the needs of food and beverage companies to optimize production processes, increase performance rates and save costs in order to be more competitive, at Hiperbaric we design, manufacture, and supply tailor-made solutions for the automation of HPP production lines for food and beverage products.



High-pressure processing (HPP) is one of the fastest-growing technologies within the food and beverage industry, and Hiperbaric is proud to be at the forefront of HPP industrial automation with innovative and tailor-made turnkey solutions. By integrating automation into upstream and downstream HPP processes, we assist customers with palletizing, storage, and retrieval of raw materials, etc.

Our engineering team prides itself on collaborating with leading automation technology companies to develop customized turnkey solutions. Our complete system's capabilities allow us to design a customized, efficient, and reliable production line. From processing to palletizing, we can automate it all.

Hiperbaric Automation Systems provide operational efficiency, substantial manpower reduction, increased productivity, and strict traceability. Our extensive experience allows us to solve any industrial challenge to improve HPP operations at any stage. We offer a wide range of fully customized end-to-end solutions tailored to our customer's production needs.

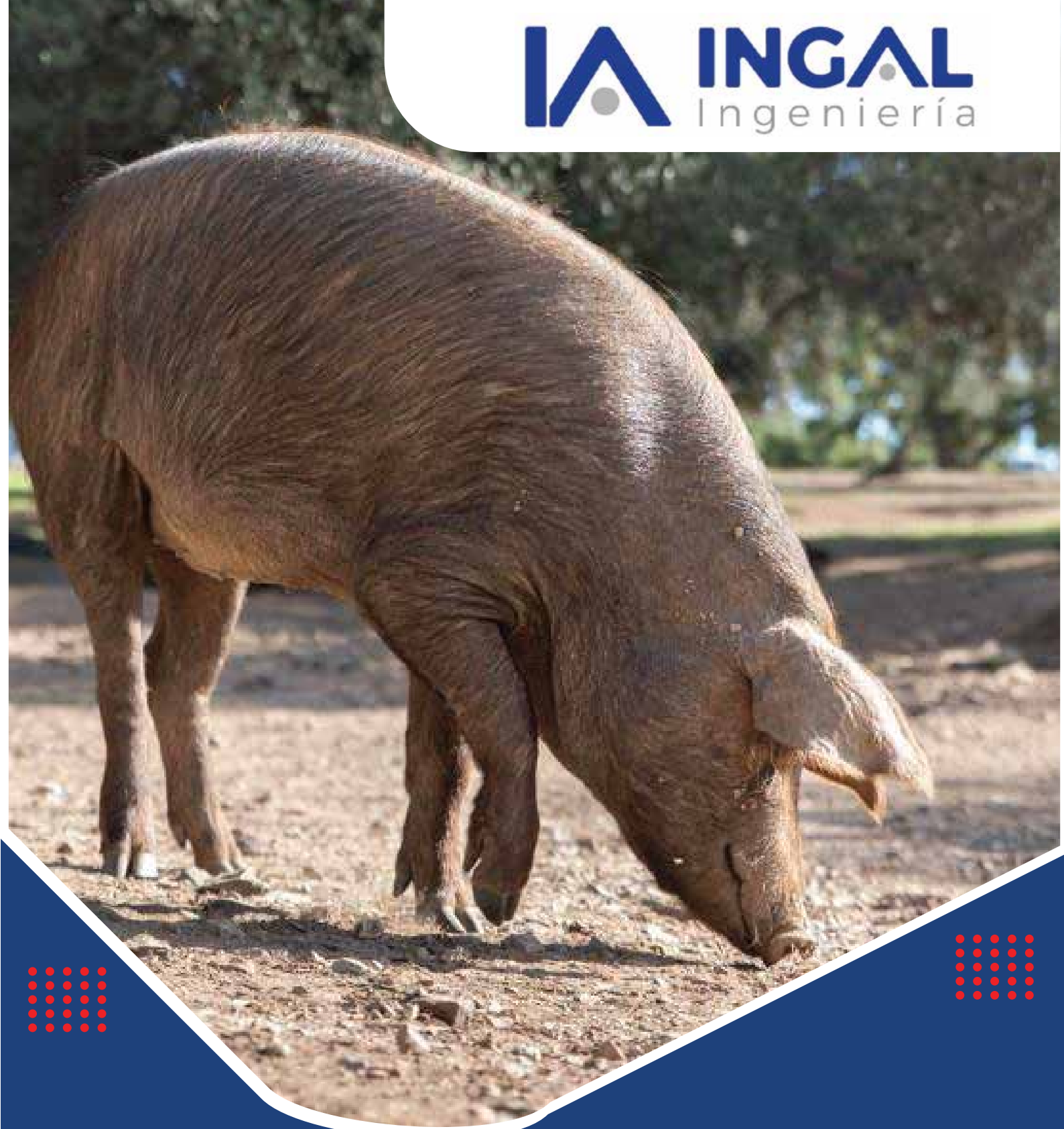
ADVANTAGES HPP AUTOMATION

Using Hiperbaric's automation solutions for the HPP process offers a wide range of advantages and benefits for companies that choose to implement this advanced technology. On one side, it saves time, as more processes are carried out in a shorter period of time, maximizing production throughput.

It also brings greater productivity and brand benefits, improves sustainability, and reduces food waste, as through automation, production processes can be optimized and controlled more precisely, leading to a significant reduction in waste and a lower environmental impact.

At the same time, it contributes to consistently high levels of food quality and ensures food safety when treated by HPP. Finally, it reduces labor costs thanks to more efficient and safer systems.





**SCENT AND TASTE
RESEARCH OF DUROC
AND WHITE SWINE**

We share the conclusions of a study in which the meat company Famadesa, a client of Ingal, participated, carried out by the University of Malaga, in which the volatile compounds responsible for the aroma and flavor in the main types of porks consumed in Spain were investigated: duroc pigs and white pigs, the latter raised according to organic and conventional procedures.

An analysis of the physicochemical properties of samples of duroc swine and white swine from conventional and organic rearing systems was performed. The results revealed a lower moisture content for duroc pork samples compared to white pork samples. Statistical studies showed a relationship between humidity and the level of marbling presented by the different breeds. In the tenderness study, it was observed that the results obtained for the sirloin of conventionally raised white pigs were significantly higher than those obtained for organically raised white pigs, attributing this effect to the production system, where the availability of space in the organic breeding system is a distinctive factor.

The correlation between the physicochemical parameters was studied and a relationship was found between the humidity and pH of the samples according to the origin of the (duroc, organic white and conventional white swine) and the anatomical part of the samples (ham, loin and sirloin). Forty-one pork compounds were detected and identified using SPMEGC-MS, including hydrocarbons, aldehydes, acids, alcohols and esters.

The results of the quantification of the volatile compounds showed that the samples of swine duroc presented a greater sum of aldehydes and alcohols, with pleasant aromas and remarkable OAV, than the samples of white pig. When comparing the white swine samples with each other, the data showed a higher amount of aldehydes and alcohols in the sirloin of the organic pork samples, which could benefit the taste of this anatomical part. However, in the case of ham samples, aldehydes and alcohols were found to be more abundant in conventional swine samples.

After performing a statistical analysis of principal components, a relationship was detected between organic aging and the compounds glycerol-1-myristate (pleasant), associated with ham samples, and 4-isopropylcyclohexylamine (unpleasant), associated with loin samples.

The latter compound was also related to samples of conventional breeding loin. A discriminant analysis of the different origins of the samples using the OAV of the selected compounds resulted in differentiated groups of volatile compounds. This finding allows to obtain useful information about the origin of any unknown sample by determining the volatile compounds selected in the discriminant analysis.

Acknowledgements: The authors wish to thank Dr. Pedro Cañada Rudner, who provided access to the Central Research Support Services of the University of Malaga, and Alianny Brito Pérez, for technical assistance during the analysis.

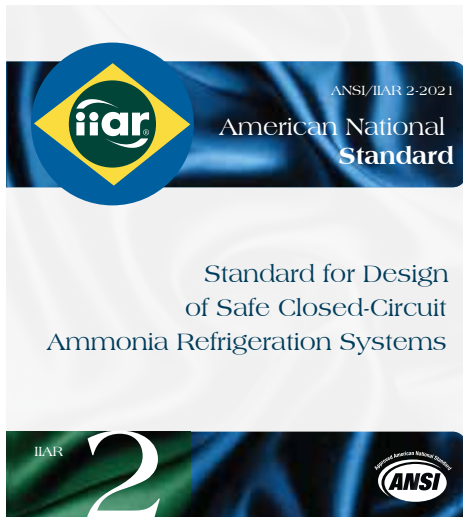


SAFETY IN THE COOLING PROCESS



Safety in cooling processes, encompassing machine rooms, process zones, common areas, has been a specific point of study for the refrigeration industry for decades. Entities close to the industry such as the IAR (International Institute of Ammonia Refrigeration) and ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers) They have dedicated multiple and extensive efforts to improve the design, operation, maintenance and inspection of refrigeration systems, both for systems that use ammonia such as carbon dioxide, synthetic refrigerants (commonly known as freons), hydrocarbons, etc.

However, Latin America has taken a different path, possibly motivated by economic factors; Investment in safety equipment, safety-focused designs, safety-oriented constructions, has not been seen as an investment but as an expense.



Currently, there is an interesting increase in inquiries or audits for revisions to existing systems, typically plants that use ammonia as a refrigerant. Inquiries that result in reports recommending a series of technological improvements aimed at improving the system, not necessarily from its operation and efficiency, but also from safety. Many industrial plants are gladly requesting new refrigeration system designs with more emphasis on meeting the American standards of the IIR, specifically IIR2 in its latest version 2021, which address the safe design of new plants, or IIR9-2020 for existing plants that need to be adapted to the current standard. Other industries are turning their gaze towards improving inspection and maintenance processes, in which they turn to the American standard IIR6-2019.



MAYEKAWA, aware of these requirements, has been strengthening the understanding and knowledge of the standards to offer the industry value-added solutions in safety, inspection, and maintenance. In this sense, some opportunities to reduce the risks of ammonia use are:

- Assess the need to remove ammonia from the engine room: Indirect systems are more relevant because they minimize the need to take ammonia out of the engine room and into remote areas, typically process areas. Systems with glycols, water, ethanols are attractive options when temperatures are high. Systems with carbon dioxide as a secondary refrigerant are alternatives for lower temperature applications. Both solutions aim to reduce or eliminate ammonia in areas other than engine rooms.

- Implementation of constructive adaptations: which includes the adjustment of the buildings that contain the engine room, seeking to change the concept of an open room for a hermetic room concept.
- Implementation of ducting systems and management of safety valve vents: to minimize the risks to personnel, due to valve relief and release of ammonia in rooms and environment, without affecting the integrity of the pressurized components.
- Implementation of detection systems: typically ammonia sensors, at different levels of detection, to allow the operator and the system to be informed of ammonia leaks and the safe way to enter areas.



Implementation of mechanical ventilation systems, to extract ammonia from a leak and allow it to be channeled to safe areas, minimizing as much as possible the impact on third parties and the community.

- Implementation of pipeline marking, for the reliable identification of tubes with ammonia and to avoid leaks due to improper handling.



We invite you to turn your gaze to the safety of your operations, personnel and facilities, with the accompaniment of MAYEKAWA as your trusted refrigeration supplier.



Having a good environmental control system adapted to the specific needs of each farm, directly influences the welfare of the animals and, as a consequence, their productivity and economic results.

Good environmental control, with sufficient air renewal, correct flow, adequate temperature without fluctuations, adequate humidity, sufficient insulation, correct lighting,... can lead to better productive results, a higher farrowing rate, increased prolificacy, decreased of the incidence and severity of diseases (especially respiratory ones), higher average daily gain, better conversion rate, reduction of the mortality rate,... Observing the animals, will allow to know if they are in their thermal comfort zone. In addition, a suitable environment improves the conditions of animal welfare and those of the workers, and also affects the equipment and buildings, since the performance and useful life of the facilities are increased by avoiding condensation and corrosion problems.

ENVIRONMENTAL CONTROL ON FARMS FOR A SUSTAINABLE PRODUCTION

In this sense, there are different factors that farmers must take into account to carry out good environmental control in their facilities. The temperature, humidity, the path and speed of the air, the level of gases (such as carbon dioxide and ammonia), the light intensity,... These are factors that influence the comfort of the animals, their performance and the increase in disease susceptibility. That is why each production phase requires a specifically designed environmental control system.

For example, in the maternity ward (one of the most complex cases), the great challenge is to create two very different microclimates in a small space, since, on the one hand, the optimum temperature for the sows is around 17 degrees and, on the other, on the other, the piglets need to be between 32 and 37 degrees and completely isolated from cold surfaces and drafts. If adequate facilities are not available to control the temperature in each area and the air currents at the height of the piglets, the sows may reduce their feed intake and milk production, or the piglets may increase their mortality due to cold or flattening. Regarding this aspect, it should be noted that between 70 and 80% of piglet losses occur in the 72 hours after farrowing due to crushing, but the primary causes are usually lack of vitality due to cold and/or insufficient consumption of colostrum and milk, or by lying next to the mother when not using the nest area due to not being at the right temperature or having a room temperature that is too high.



The environmental control system is based on entering air from outside the buildings, conditioning it (heating it, cooling it and even filtering it so that viruses do not enter the farm if necessary), distributing it properly inside the buildings ensuring sufficient air renewal without unwanted currents (in order to eliminate the gases, dust and humidity emitted by the animals) and extracting the stale air (which can be cleaned to reduce the emissions of particles, ammonia and bad odors). For this, it is of vital importance that the facilities have adequate thermal insulation, that each component of the system is correctly sized, installed, maintained and adjusted, and that the building is watertight (without unwanted leaks).

The system can be based on natural or mechanical ventilation (forced with fans), special attention must be paid to what type of ventilation may be the most appropriate:

- **NATURAL VENTILATION:** Based on the difference in air pressure (due to the wind) and its density (due to the difference in temperature) between the air inlet and outlet. The amount of ventilation air cannot be controlled, as it depends on atmospheric conditions.
- **FORCED VENTILATION:** Forced ventilation systems could be further divided into systems. The classification is based on the technical modality used to move the air through the building. Those systems have:
 - **POSITIVE PRESSURE:** With fans that drive air into the interior, while the outlet is produced through openings located at different points of the building.
 - **NEGATIVE PRESSURE:** With fans that extract air to the outside, while the entrance occurs through openings located in walls or ceilings. It is currently the most used, easier to control and lower energy consumption.
 - **NEUTRAL PRESSURE:** Fans that force the air into the building and extractors that take the air outside. They carry a higher energy expenditure.

To choose the right system, it will be necessary to carry out a detailed study of the needs of each farm, paying special attention to aspects such as the type of animals it houses, its geographical location, the orientation of the constructions and the degree of technification, which must be adequate to maximise the welfare of the animals, their productive performance and the economic benefit of the farm.



OTTEVANGER
MILLING ENGINEERS

A SINGLE-ROLLER SOLUTION TO MULTIPLE PELLETING CHALLENGES. LET'S (MONO)ROLL!

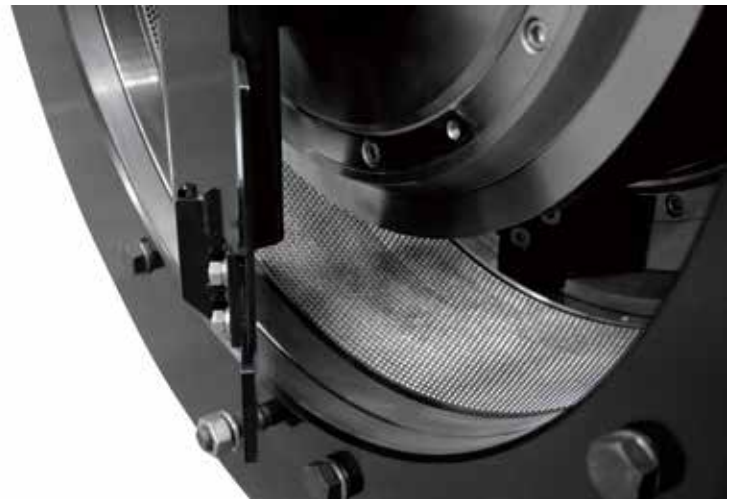
Here at Ottevanger Milling Engineers, we spend our days working with feed manufacturers striving to balance capacity and pellet quality against the need to control costs – especially given rising energy prices. Now, we are delighted to announce a pelleting technology that can help you better achieve it.

The revolutionary MonoRoll HE single-roller pellet mill is already delivering a 15% capacity increase in Europe, with improved pellet quality and lower energy consumption. Now, this technology is ready for the American market...



The conventional two-roller pellet mill has always presented challenges for our industry – not least because pelleting accounts for approximately 65% of the entire energy used in the compound feed production process. This is largely due to the excessive force on the heavy bearings of the solid main shaft, which in turn creates friction and heavy vibration. However, the multiple rollers also have a tendency to slip when high moisture or steam is added, causing chokepoints and resultant production breakdowns.

The MonoRoll offers a unique solution to this challenge. As the name suggests, it operates using just one roller. This single, larger roller is wider in diameter, which creates an optimum angle with the die. This in turn compresses more product through the pellet mill at a much lower RPM; with no blocking or slipping - even when a thicker dye is used, or if moisture is added.

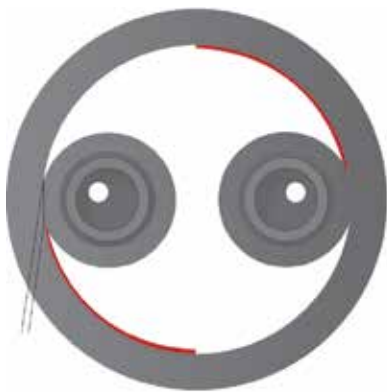


INCREASE YOUR EFFICIENCY, YOUR WAY:

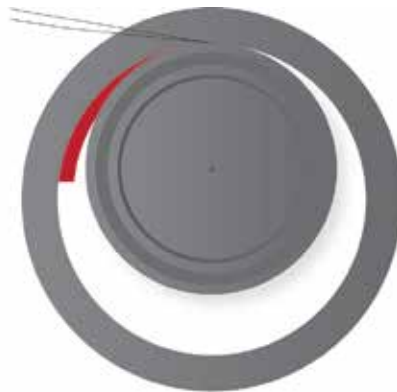
For feed manufacturers, this unlocks new levels of efficiency. How you use this, is up to you.

You can increase capacity by a minimum of 15% - as more product is pushed through the die using less kilowatts per ton.

- Alternatively, you can reduce energy consumption by 20% while maintaining capacity due to the smooth action of the single roller, which reduces friction and resultant energy consumption.
- Or you can choose to fine-tune your process to achieve a combination of the two.



Original type with double rollers



Superroll with single roller

Based on extensive testing, the MonoRoll delivers this while maintaining the Pelleting Durability Index (PDI) - to anywhere from 80% to 98% (depending on the feed formulation and other variables).

Furthermore, you can realize further cost savings through reduced maintenance, repair and operator intervention. The single roller not only has less potential for slippage; it also experiences less wear and tear. For instance, the roller bearings and seals exhibit exceptional durability, demonstrating no signs of damage even after prolonged equivalent usage in rigorous testing.

DELIVERING PROVEN ROI:

Having initially explored this innovation in the early 1980s we began serious development of the MonoRoll concept four years ago; working initially with the University of Eindhoven and then with commercial development partners. For the past three years, this technology has been extensively tested and independently validated in Europe, with several feed mill operators using a wide variety of different recipes and processing conditions.



OTTEVANGER
MILLING ENGINEERS





**Higiene
Industria
Alimentaria**



HYGIENE IN THE FOOD INDUSTRY

Hygienic steps in the Food Industry are an essential part in any area that requires thorough control of staff hygiene. They are usually located between the common areas (changing rooms, canteens, etc.) and the production entry and exit area.

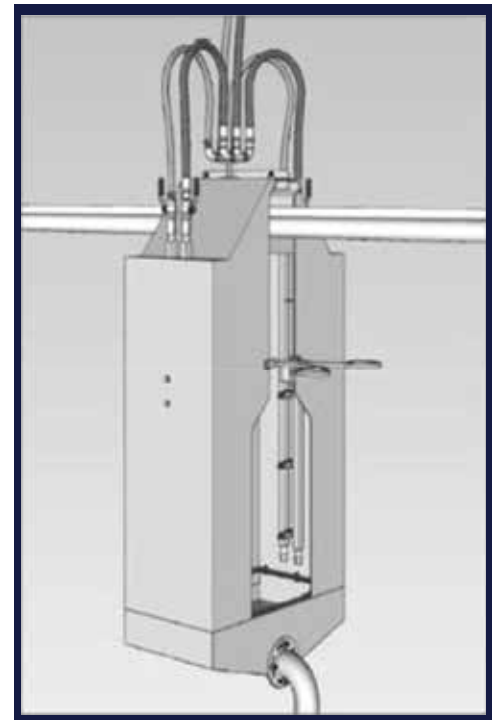
The type of machinery needed, its configuration and the correct distribution depends on the type of food plant, number of employees working in production and space available for the installation. Within the wide range that Scanio Systems offers to its customers, we can find individual solutions for each phase of hygiene or machinery that encompasses different modular functions in a single machine.



DISINFECTION MODULE

Scanio Systems, S.L. has developed a very effective disinfection module that can be combined with other disinfection modules needed in the company, such as the disinfection of belts, hooks, overhead boxes, cooling baths, etc.

- Perfect hygienic effect
- 50% water savings
- Less contamination when scalding and more efficient scalding
- Capacity up to 15,000 channels per hour
- Stainless steel cabin 400 x 660 x 1500
- 2 x Manifold
- 4 x 1/2" Check Valve
- 4 x 1/2" shut-off valve
- 2 x 1000mm high pressure hose + 1/2" connectors
- 2 x Low Pressure Hose 10 bar 1 m + 1/2" connectors x 1/2" water/air distributor
- 1 x Drain Pipe
- 1 x riel G 1700 mm
- 2 x Guide Stirrup
- Water consumption/pressure: 1.40 litres per hour / 10 bar
- Air consumption / pressure: 200 litres per minute / 6-8 bar





VICTORIA
INCUBATORS SINCE 1924



**INCUBATORS &
HATCHERS
SINCE 1924
100% MADE IN ITALY**



WORLD LEADER IN THE PRODUCTION OF EGG

INCUBATORS





VICTORIA
INCUBATORS SINCE 1924

VICTORIA, world leader in the production of egg incubators for almost 100 years now, renews its continue research and efforts in order to improve and apply new technologies.

To this end, Victoria has introduced newly designed incubators with a capacity of 20,000-115,000 eggs. The processing of Victoria's machinery is unique and tailored to the needs of customers: in fact, each model is designed and manufactured to achieve maximum results while conserving energy. Victoria is currently developing a special line of incubators with an integrated cooling system to achieve a temperature range of 4-7°C, specially designed for vaccine companies.

New incubators designed with double glazed windows, compact cabinet with high thickness insulation mm. 45. All internal support for the fan, cooling and control box completely designed in stainless steel.

With a whole newly designed panel which allows:

- Easy and direct access to the electric and control system of the machine , to clean and maintain.
- Waterproof and protected during the cleaning/disinfection operation.
- Built inside with INOX 304 steel.
- 10" Monitor touch screen, full colors.



MAREL AND PRONACA PARTNER TO ENSURE THE BEST WATER TREATMENT SOLUTIONS



Efficient water management is a priority for Pronaca due to its culture and commitment to sustainability and social responsibility. Industry leaders are concerned with meeting local effluent discharge regulations and aiming to achieve ambitious goals, such as returning high-quality water to the environment, which, even with the appropriate complementary treatments, can be used by the communities where they operate.

Recognizing that each facility is unique, Pronaca, a leading food processor in Ecuador, has chosen Marel as its technological partner to develop wastewater treatment solutions tailored to the specific needs of each processing unit, whether for poultry, pork, or further processing.

For the past 15 years, Marel has been developing wastewater treatment systems to meet the specific requirements of each Pronaca plant.

The most recent project, scheduled for implementation in 2023 at Pronaca's new facility in Puenbo, marks the sixth treatment system developed through this partnership. The previous systems were installed in Santo Domingo, Yaruqui, Bucay, Duran, and Pifo.



Hector Ortiz, Corporate Director of Quality and Environment at Pronaca, highlights that the strategic partnership with Marel has been mutually beneficial. "We rely on Marel's technical support to find the best solutions that truly meet our needs in every situation, as each operational center has unique characteristics," he says. "Marel helps us identify the most suitable capabilities and designs to meet the requirements of each center," he adds, emphasizing that sustainability is an evolving concept that constantly demands new technologies.



"Marel's technological evolution contributes to the efficiency of treatment systems, expanding the possibilities for water recovery and reuse. These subsequent steps are essential in our journey towards responsible water management."



In addition to meeting all legal requirements, the company is focused on ensuring that wastewater treatment is as efficient and appropriate as possible. "We consider whether the efficiently treated water can in the future, with appropriate complementary treatments, be potable and used in the community rather than simply discharging it into the sewage system," explains the director. "Marel plays a significant role by providing technology and technical support to assist Pronaca in addressing these challenges and achieving more efficient, sustainable and socially responsible water management."

SHARED EXPERIENCE

Together, Marel and Pronaca jointly develop customized wastewater treatment projects designed according to each plant's needs. Marel is crucial in providing technical insights that assist Pronaca in designing and implementing effective solutions.

"Throughout the construction and implementation phase, we benefit from continuous support from Marel technicians, who oversee the installation to ensure precision and efficiency," says Mr. Ortiz. "Once we commence operation and the stabilization process, we continue receiving on-site and remote assistance. This support focuses on evaluating the technology's performance and how we can optimize it for the best efficiency. In summary, Marel is present throughout the entire process, providing guidance and assistance, ensuring our operations are successful and efficient."

RESPECT FOR WATER RESOURCES

Proper water resource management and responsibility in its use are integral to Ecuador's culture. The country has a regulatory framework that governs the collection and final destination of wastewater. According to legislation, treated wastewater can be used for soil irrigation, discharged into the sewage system, or returned to bodies of water. The quality requirements for treated wastewater vary depending on the destination or disposal.

Pronaca continually seeks alternatives that go beyond legal compliance. "The reason for this is that, ultimately, our goal is not only to meet legal

requirements but also to lay the groundwork for water recovery and reuse in the future," says Mr. Ortiz. This option aligns with the company's philosophy, which consistently promotes sustainability. The director cites the wastewater treatment of Pronaca's facilities as an example of this commitment. "In water treatment systems that operate on the principle of activated sludge, sludges are transformed through an appropriate composting process into fertilizer, which has been used in agriculture for a long time; also, in some operations, the wastewater, after treatment, is recovered for some cleaning processes, and in other treatment systems it is used as fertigation, which considerably reduces soil compaction and erosion and is, without doubt, the way to irrigate and provide nutrients to the soil of the future because it considerably reduces the consumption of both water and fertilizer. This approach reflects our involvement in the circular economy, as we always seek opportunities to optimize and manage waste properly."

In recent years, Pronaca has implemented actions in all its facilities and operational centers to ensure responsible, efficient, and rational use of resources, especially water, energy and materials, as well as waste minimization and wastewater treatment. The company has set its strategy to consolidate circular economy strategy by 2035, taking a step forward in promoting, developing, and supporting circularity, ecodesign, and material reuse projects.

ABOUT PRONACA

Pronaca has 100 operational centers throughout Ecuador, including farms, processing plants, and distribution and administration centers. It started as a small family business in 1957, grew steadily, and has become a leader in food processing in Ecuador.

Innovation is ingrained in its corporate DNA and is considered essential for developing new food products and solutions, as well as the processes used to produce them. The company focuses on environmental preservation to ensure that future generations can eat well with accessible, high-quality products.





foodmate

A DURAVANT COMPANY

➤ INTELLIGENT DEBONING SYSTEMS

Foodmate OPTI Flow Cut-up System is one of the market's most advanced cut-up systems, offering excellent efficiency and flexibility. The OPTI Flow combines the advantage of the optimal solution for whole bird distribution based on grade and weight as well as the optimal logistics solution to deliver chicken parts to any desired location inside the plant.

The system can be controlled by advanced ChickSort weighing and InVision Grading Software to help optimize bird utilization based on weight and grade throughout the process effectively, by increasing A grade pack out and increasing yield value throughout the entire process. The lines can be configured with by-passable bird unloaders and by-passable cut-up modules.

Modules can be customized according to your plants' requirements. The system is able to handle all basic cuts, such as wings, breast, whole legs and drum and thighs with a speed of up to 105 birds per minute on 12" centers and up to 130 birds per minute on 10" centers, depending on product mix and bird size. Foodmate OPTI Flow is a flexible cut-up systems, designed to keep maintenance and sanitation to a minimum without compromising performance and quality. One of the unique features is the self correcting magnetic cut-up shackle which prevents shackles from miss-feeding into the cutting modules.

➤ FRAME CUT-UP SYSTEMS

Frame Cut-up Systems are characterized by its self-contained structure with cutting modules and is delivered pre-wired with a control panel that is already mounted to the machine. Frame Cut-up Systems are easy to install and only requires one power connection. The in-line design easily lends itself to connect automatic transfer machines, which are often supplied by distribution lines for optimal cutting results and eliminates the manual hanging process.





All Frame Cut-up Systems are supplied with self-correcting magnetic cut-up shackles to help prevent the shackles from miss-feeding when entering the cut-up modules. The unique turning point and side plate configuration makes the machine easy to clean and flexible for future line modifications. The stand-alone system requires minimal installation time because all the single point connections are integrated into the modules/machines. Frame Cut-up Systems can be used for Food Service applications and for traditional cut-up applications.

> INTELLIGENT DEBONING SYSTEMS

Foodmate introduces a new generation of poultry deboning equipment, bringing a combination of durable mechanics and cutting-edge technology in automation ensuring the highest possible yields.

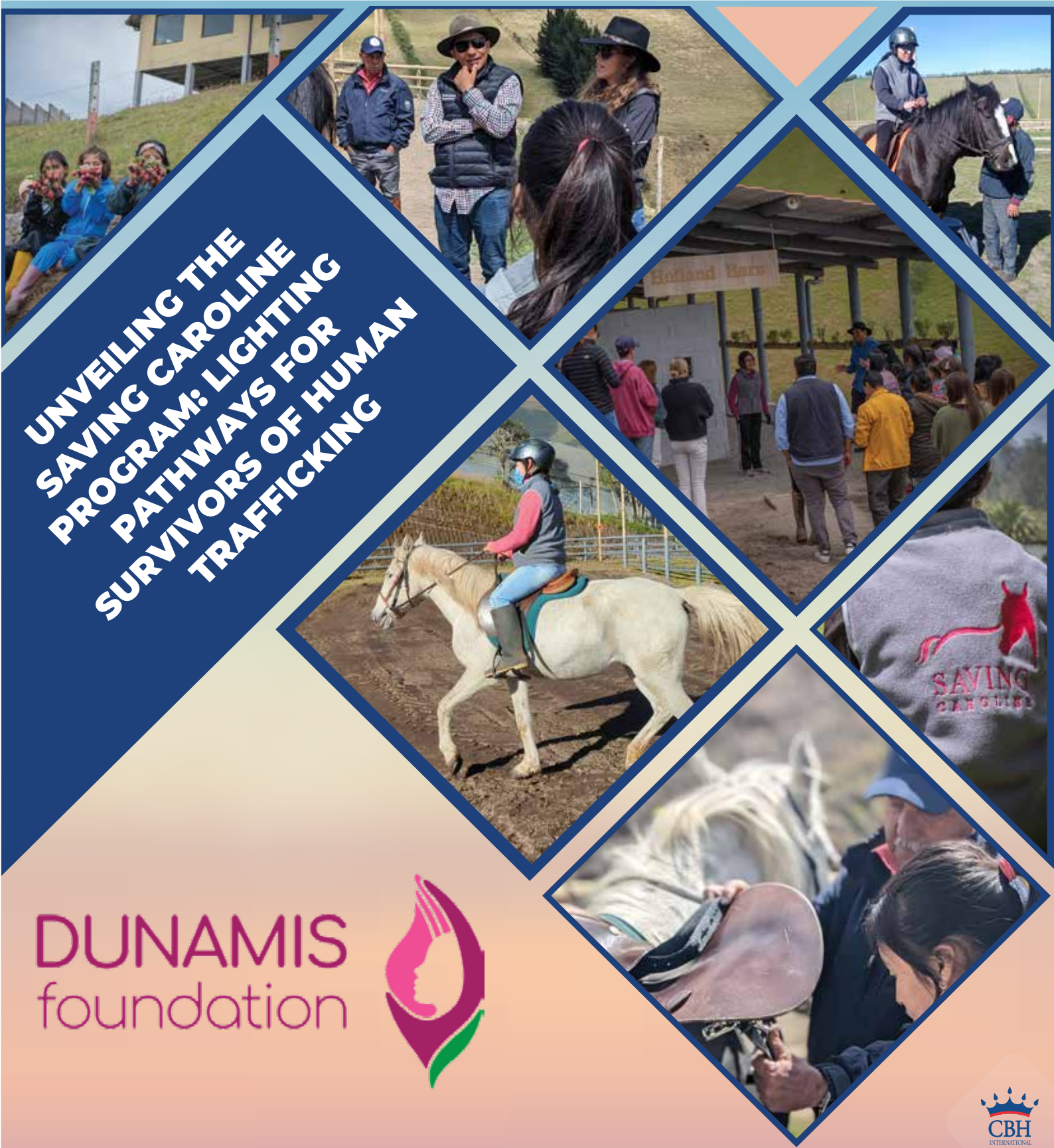
The Foodmate ULTiMATE Whole Leg Deboner marks the introduction of a new generation of poultry deboning equipment, bringing a combination of durable mechanics and cutting-edge technology in automation ensuring the highest possible yields. The ULTiMATE offers the flexibility of configuration in a left, right or a combination of left and right execution.

The Foodmate OPTiX Thigh Deboner uses X-Ray technology to determine where the kneecap is on the bone by measuring the bone length. The machine produces cartilage-free meat at the highest possible yields. The machine offers integration with Cut-up Systems and accommodates a wide variation of bird sizes. The machine adjusts in real time for each leg on the line.



Deboning breast meat is a very labor intensive process. It required a lot of skilled labor which is becoming difficult to find, train and retain. Further, current automated debone solutions require a large footprint, are expensive to maintain and significant staffing due to rework. The MAX 2.0 can operate at a speed of 6.000 breast caps or front halves per hour and only requires a 12 x 2,5 m footprint. In addition, the MAX 2.0 has a user friendly and intuitive operating touch-screen panel with pre-programmed product selection. This allows the operator to easily select a particular product from the menu screen. All final products display high quality cuts, exceptional yields and presents well for tray packing and many food service applications. Enhanced features such as a standard conveyor over the machine's full length, and drip trays over the conveyors, add to the machine's performance. Improved hygiene, such as advanced CIP (Clean in Place), reduces sanitation time.





UNVEILING THE SAVING CAROLINE PROGRAM: LIGHTING PATHWAYS FOR SURVIVORS OF HUMAN TRAFFICKING

DUNAMIS
foundation



In a world shadowed by the horrors of human trafficking, Dunamis Foundation emerges as a beacon of hope and restoration. Our latest initiative, the "Saving Caroline" program, stands as a testament to our unwavering commitment to empowering survivors from Casa Zoe and Casa Spates – shelters dedicated to those who have endured the unimaginable. Through an innovative blend of equine therapy, vocational training, and job opportunities, we are not only fostering healing but also igniting a new chapter of strength and self-reliance.

The heart of the Saving Caroline program beats with the transformative power of equine therapy. Horses possess an innate ability to connect with human emotions, becoming mirrors that reflect our strengths and vulnerabilities. Our survivors experience a profound healing journey as they connect with these majestic creatures, rebuilding trust, and discovering renewed self-worth.

The unbreakable bond forged between our girls and the horses becomes a cornerstone in their triumphant path to recovery.

At Dunamis Foundation, we believe in imparting practical skills that pave the way for self-sufficiency. The Saving Caroline program introduces a certification track as veterinary assistants, equipping our survivors with invaluable skills in animal care and healthcare. This training not only imparts tangible skills but also fosters a sense of accomplishment, offering a tangible opportunity for them to construct a promising career in the field of veterinary medicine.

Survivors often grapple with the challenge of securing stable employment post-shelter life. Our program addresses this critical issue head-on by creating pathways to employment within the equine industry. By nurturing their passion for all things equine, we are opening doors for our girls to pursue roles as stablehands, horse trainers, or even equestrian therapists. These opportunities not only usher in financial stability but also empower them to translate their love for animals into a meaningful and fulfilling career.

The Saving Caroline program thrives on the collective strength of compassionate individuals, organizations, and communities united by the belief in rehabilitation and empowerment. Here's how you can contribute:

Internship Collaborations: Equine industry peers are invited to collaborate with us, offering internship opportunities that grant survivors hands-on experience and a platform to refine their skills.

Mentorship Magic: Become a beacon of guidance and inspiration by volunteering as a mentor, leaving an indelible impact on these remarkable young women.

In conclusion, the Saving Caroline program stands as a living testament to the relentless dedication of Caroline Hofland and the Dunamis Foundation. Caroline's unwavering commitment extends beyond financial contributions; she is a guardian angel, shepherding these girls towards a future brimming with promise. Through equine therapy, vocational training, and meaningful job opportunities, the Saving Caroline program is not merely constructing careers – it is weaving tapestries of resilience and renewal. Stand alongside us as we kindle healing, empowerment, and hope in the hearts of these remarkable survivors.



DUNAMIS
foundation



THE MAJESTY CHARGE

Fighting Prostate Cancer

CBH values our customers and vendors, so much that we encourage each of them to get tested for Prostate Cancer starting at the age of 40.

Every year CHB International donates a portion of our Net Profit to the Prostate Cancer Foundation (PCF) to fund research of better treatments and a cure for Prostate Cancer.

The PCF funds more than 1,500 programs at nearly 200 research centers in 20 countries.

This initiative is done in memory of Bas W.Q. Hofland.

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