

EMANATION OF PROTEINS

empro 

MARCH 2025





Company presentation

DNA EMPRO

OUR VISION

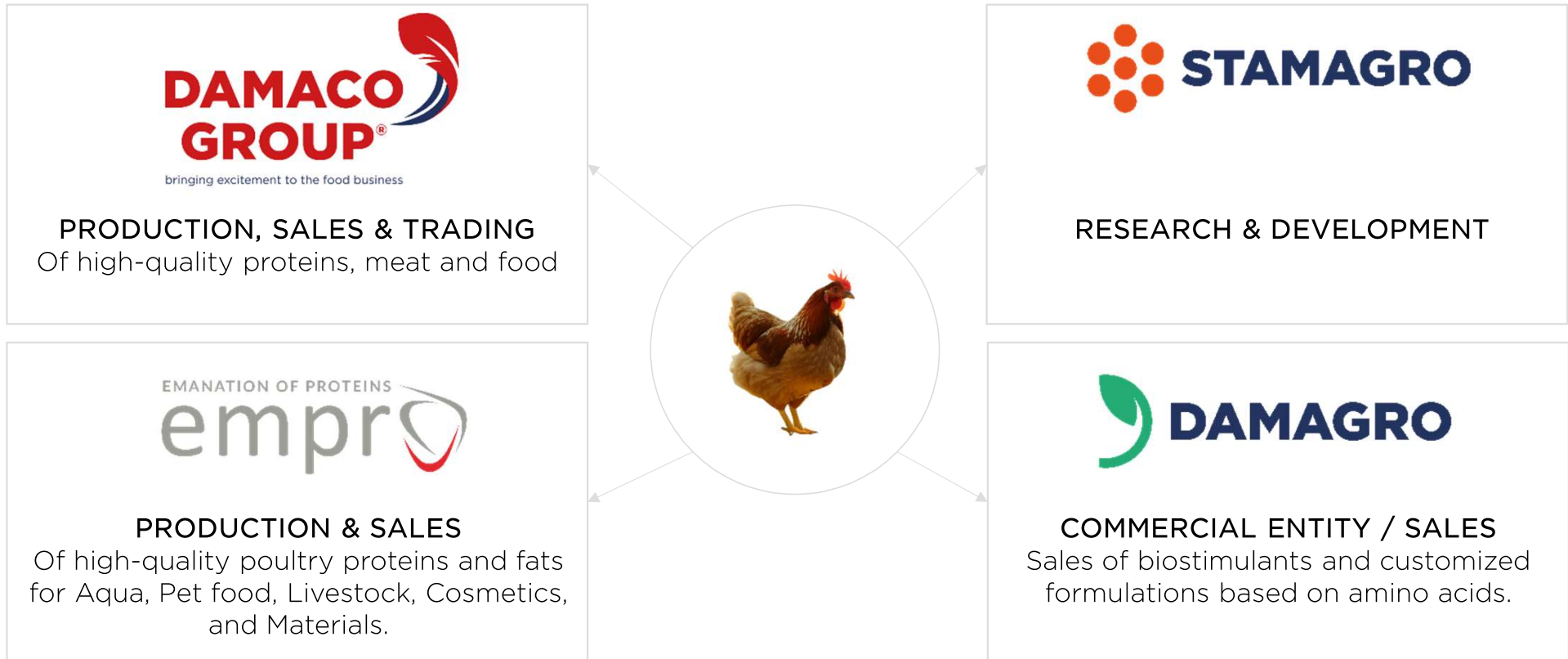
We believe in a sustainable future where the global growing demand for proteins and sustainable solutions is fulfilled in a responsible way. Through innovative valorization of local poultry by-products, we contribute to a circular economy in which residual streams are transformed into valuable, high-quality ingredients.

OUR MISSION

We provide the industry with circular and sustainable tailor-made poultry proteins. Our approach is end-product-driven, leveraging biotechnological innovation and synergies in processing to deliver high-quality and cost-efficient solutions.



A COMPLIMENTARY ALLIANCE



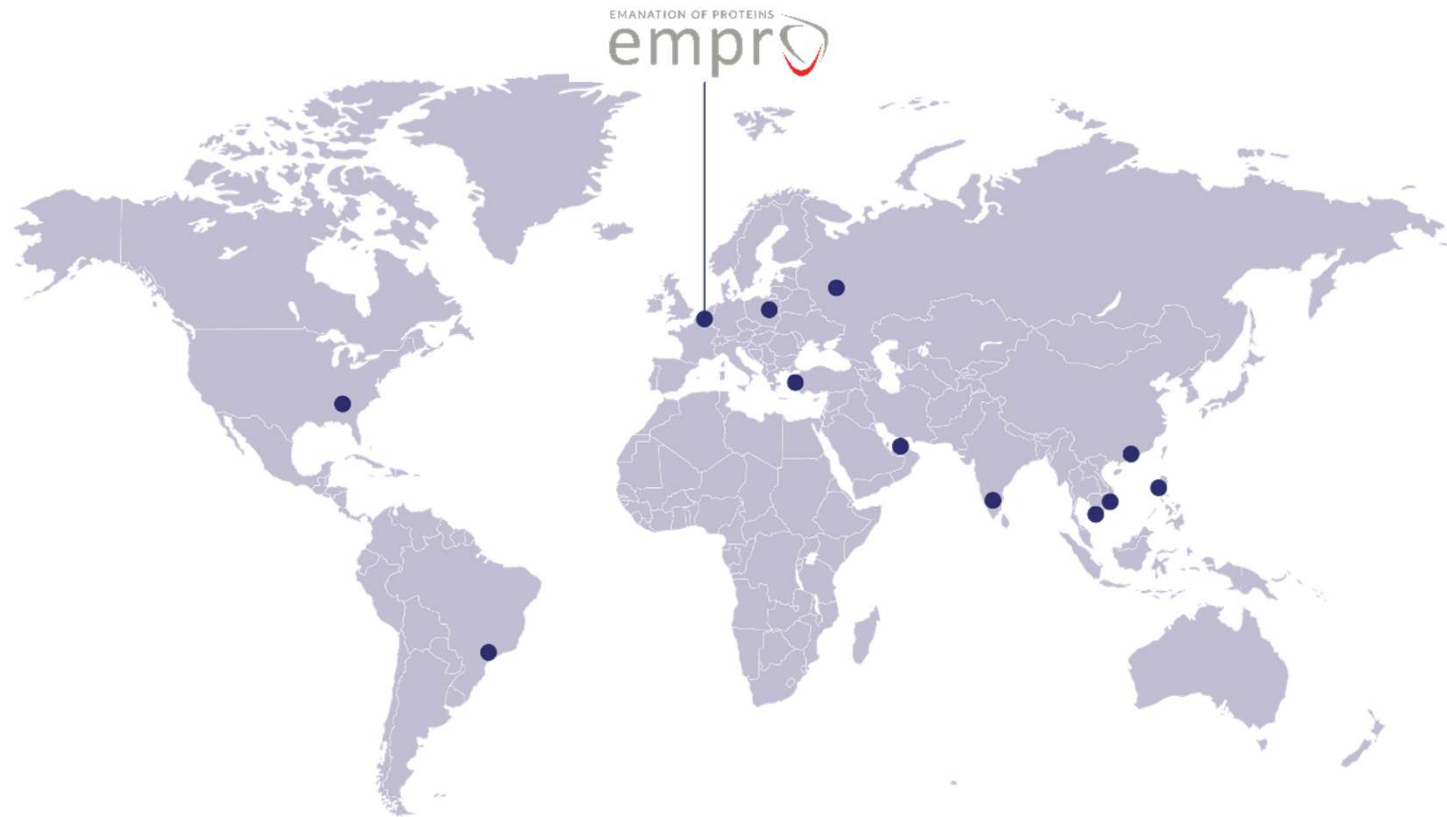
EMPRO: PART OF DAMACO GROUP

Damaco:

International holding of companies specialized in the production and trade of high-quality proteins:

- Food & Animal Feed
- Agro
- Materials
- Cosmetics

Damaco Group processes approximately 700 tons of raw materials per day.



1964

Founded

200

Employees

21

Nationalities

+150

Countries



200

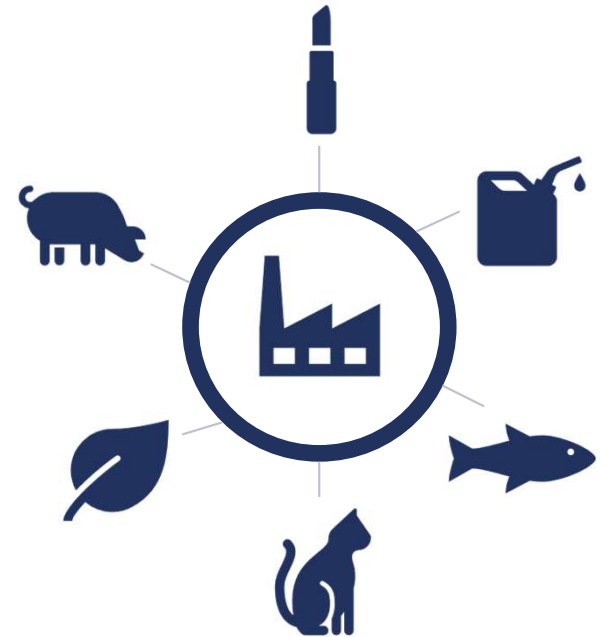
M€ turnover

WHAT DOES EMPRO DO?

Valorization of poultry industry by-products
Production of high-quality poultry proteins and fats
Using state-of-the-art technology & in-house developed and patented production processes

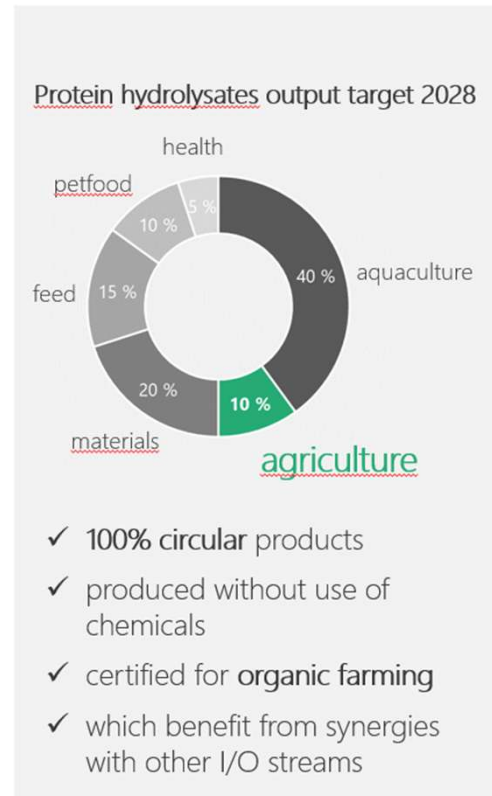
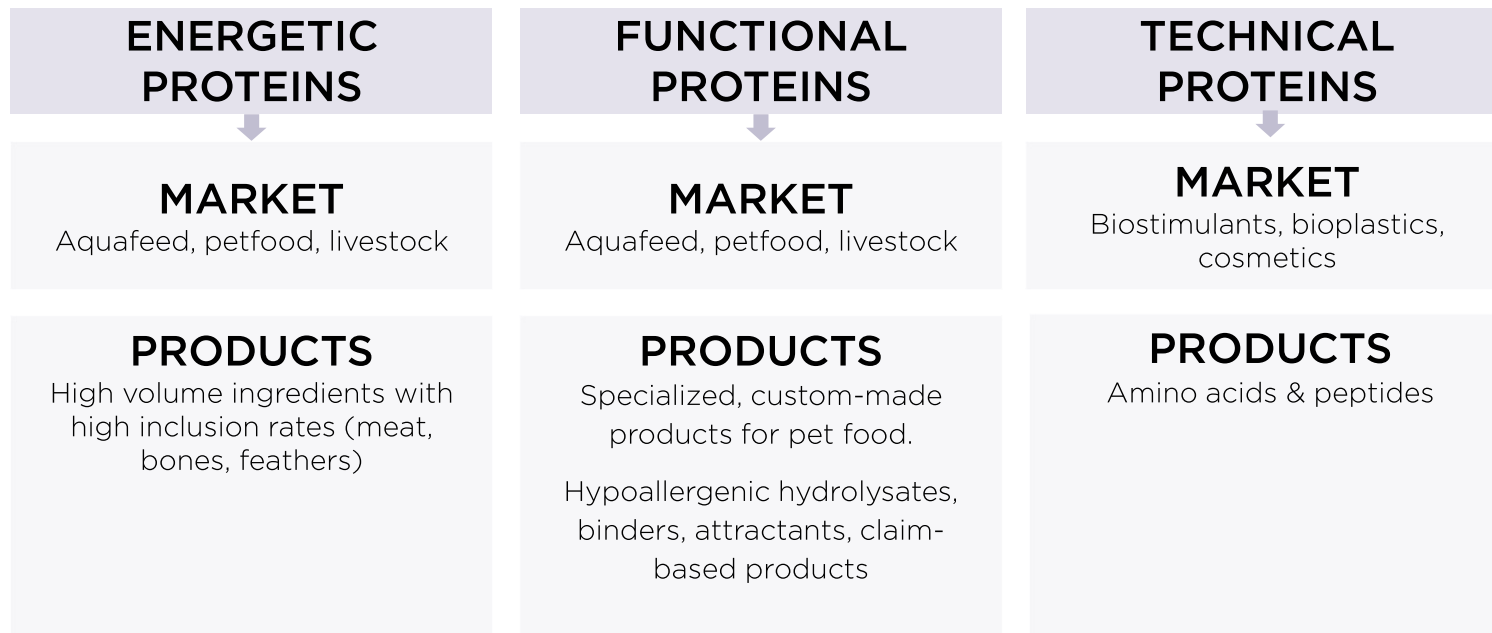
For various **sectors**:

- Petfood
- Aquafeed
- Animal feed
- Agro (biostimulants)
- Materials (ingredients for bio-ethanol, biopolymers)
- Cosmetics

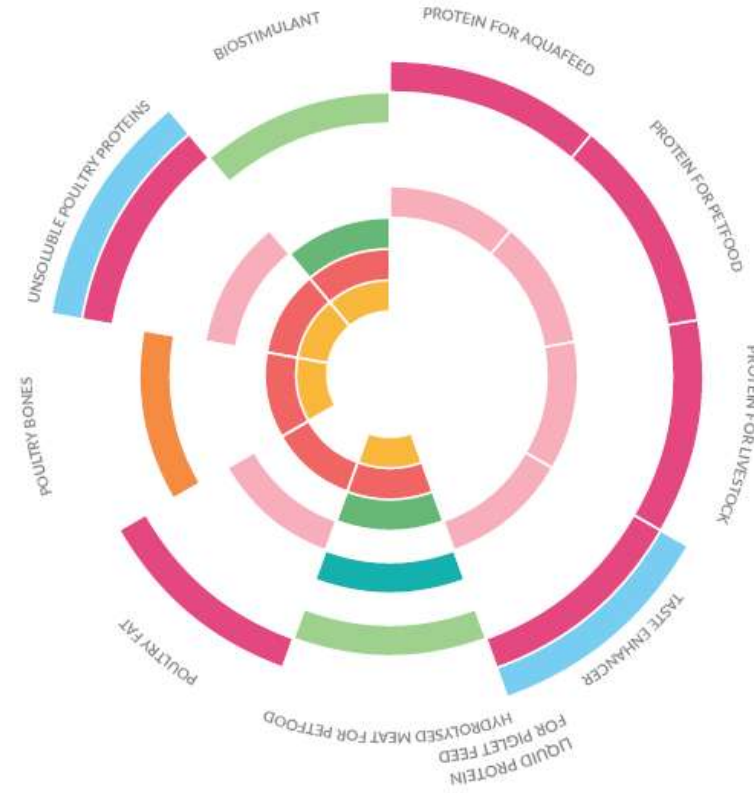
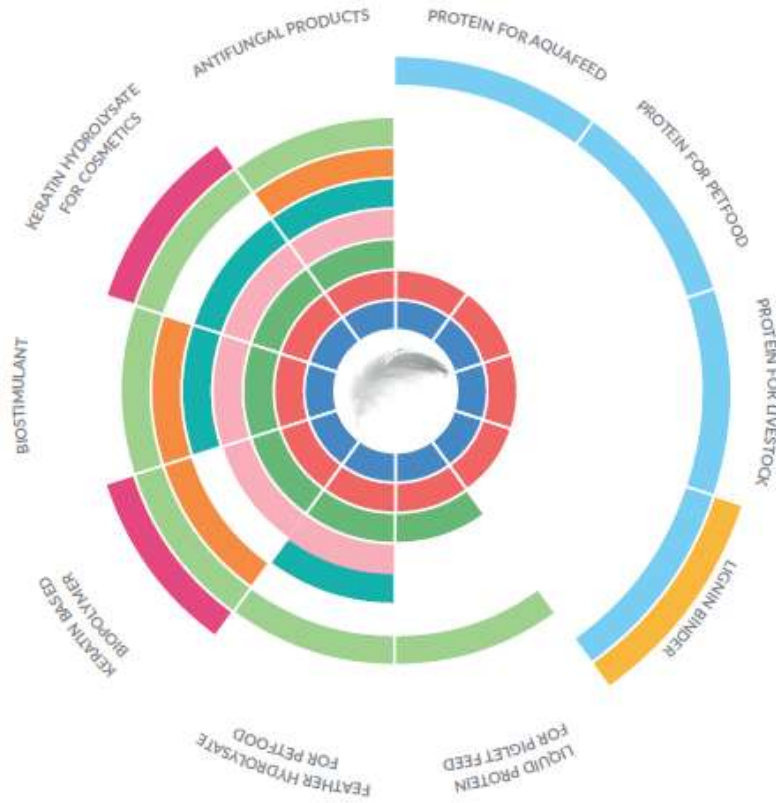


SYMBIOSIS IN SOLUTIONS

Empro focuses on custom-made, high-quality protein products, such as hypoallergenic hydrolysates and collagen.



SYMBIOSIS IN PRODUCTS AND PRODUCTION



STATE-OF-THE-ART PRODUCTION FACILITY



EXPERTISE

- Unique patented thermal hydrolysis process
- Patented low temperature air drying
- Strong background in by-product processing
- Deep understanding of raw materials
- Tailor-made technical solutions



STATE-OF-THE-ART PRODUCTION FACILITY

- Dedicated poultry facility (10.000 m²)
- Daily production: 100 tons of feathers & 90 tons of bones. Processing 70% of Belgium's raw materials market
- FCA approved



EMPRO: FUTUREPROOF



SUSTAINABILITY

- Leading in energy efficiency & recovery (35% energy recovery)
- European leader in odor control & water treatment
- Reduction of waste & CO₂ emissions
 - 5,400 hectares of land (7,714 football fields) saved annually
 - 79,440 tons CO₂ saved annually



INNOVATION & R&D

- R&D investment: €750,000 annually
- 7 patents & collaborations universities and institutes





Markets



MARKET: FEED

Processed poultry protein: from tradition to innovation

Traditional Use & Limitations

- Historically used as an energy source.
- Conventional processing methods: limited added value.

Market demand

- Increasing need for tailored, product-specific solutions



PETFOOD

- Seeking high-quality, claimable ingredients (often hydrolysed)
- Growing concerns over ingredient origin and ethical sourcing



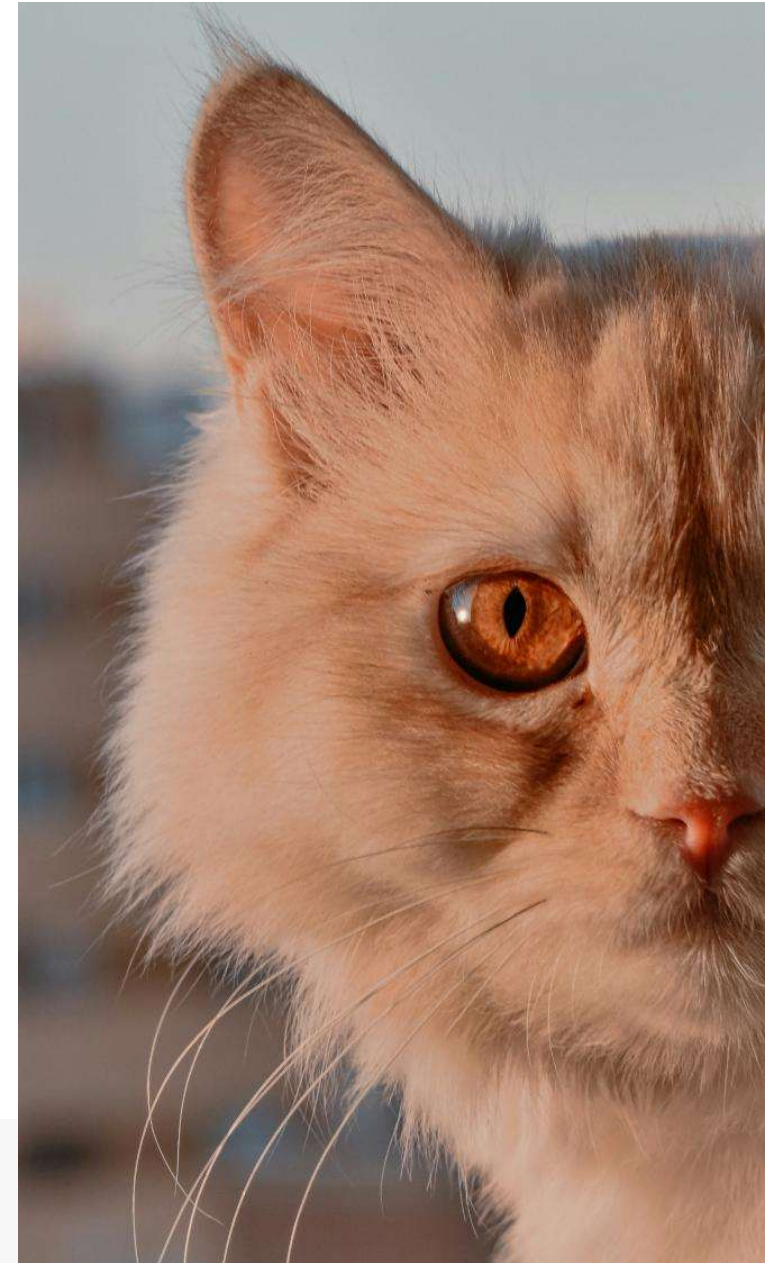
AQUAFEED

- Exploring alternatives to fishmeal
- Focused on securing reliable ingredients for a growing market



LIVESTOCK

- Poultry proteins offer a cost-effective protein source
- Usage is constrained by current regulatory implications



MARKET: AGRO

Biostimulants, organic fertilization & biocontrol

- Expertise in protein hydrolysis
- Extensive knowledge of plant physiology

BIOSTIMULANTS

- For the agricultural sector
- Liquid biostimulants based on amino acids and peptides
- To optimize crops' potential
 - To increase yield
 - Enhances resilience to stress
 - Optimization of nitrogen use
- Focus crops: potato, carrot, maize, onion, sugar beet, spinach

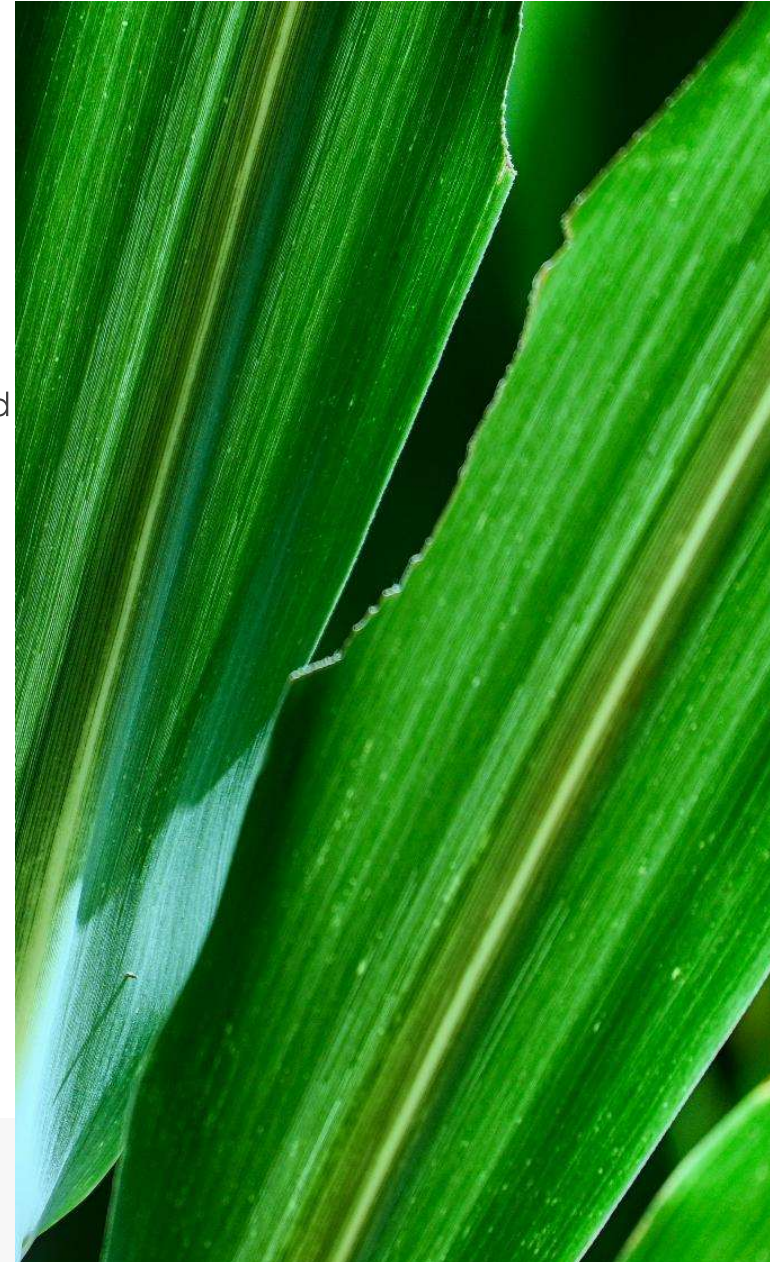


MARKET: MATERIALS

Biopolymers & Surfactants

KEY INDUSTRY TRENDS:

- 2023: EU ban on microplastics: only biodegradable components allowed
- Poultry hydolysates: 25% enzyme cost reduction in 2G bio-ethanol production
- Scalability: available raw materials, proven technology
- Unique bioactive properties (antimicrobial, antidiabetic, and antihypertensive). Hydrophobic nature (water - repellent)
- Stable and durable. High stability in different environments (resistant to proteolytic microorganisms, enzymes, chemical and mechanical stress)
- Not from foodchain.
- Biocompatible, biodegradable



MARKET: COSMETICS

KERATIN FOR PERSONAL CARE

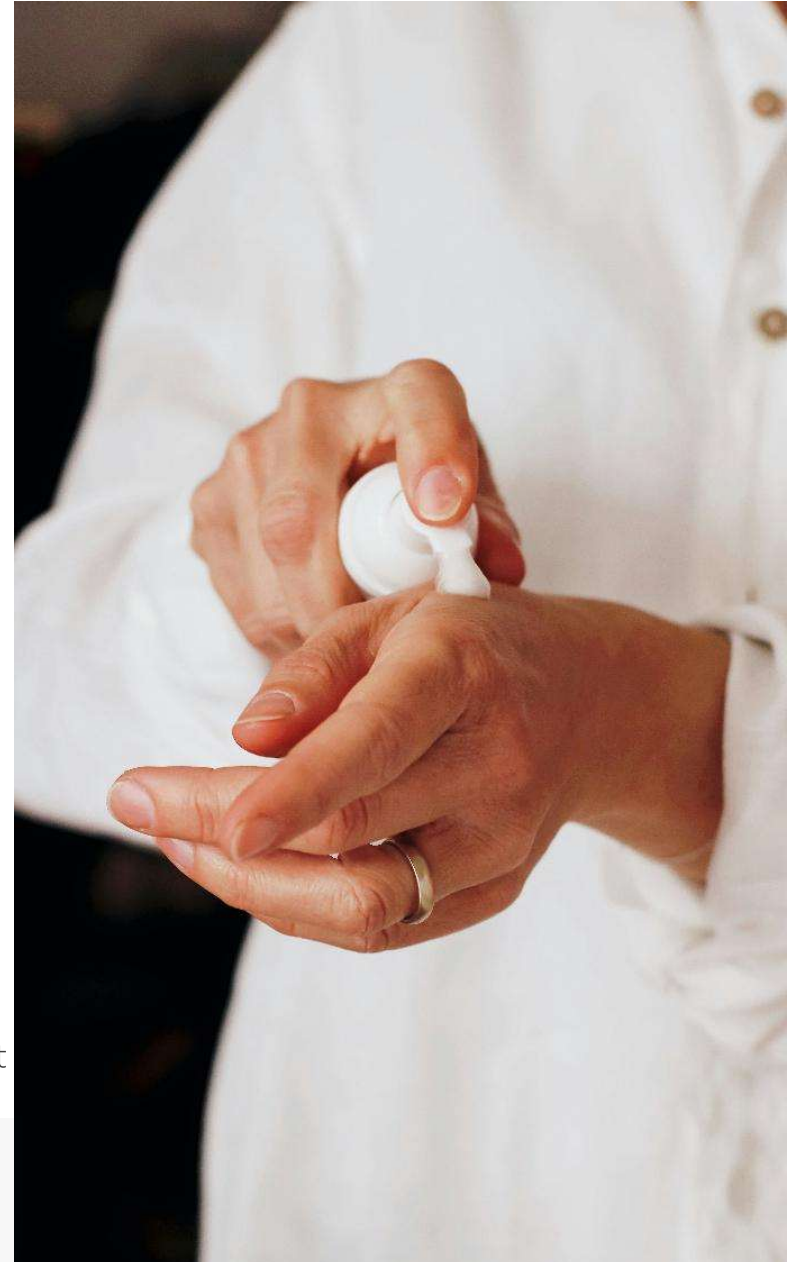
- Hydrolyzed keratin is used in shampoos and skincare products
- We developed methods to hydrolyze and deodorize keratin for optimal use

COLLAGEN FOR SKIN AND JOINT HEALTH

- Our ingredients contain high collagen levels (Type 1 & Type 2)
- Used in cosmetics (mainly skincare) and preventive medicine
- We developed a unique process to extract high-purity Type 2 collagen from cartilage for use in functional food and pet nutrition

MEAT HYDROLYSATES FOR FOOD APPLICATIONS

- Our meat hydrolysates can replace binders and flavor enhancers in meat products





Sales



SALES: OUR EXPORT MARKETS

- Empro exports to various countries worldwide
 - Turkey
 - Bangladesh
 - Pakistan
 - Afghanistan
 - Iraq
 - Iran

Examples of Asian countries
- Empro has export licences for following countries:
 - Philippines
 - Thailand
 - Vietnam
 - India



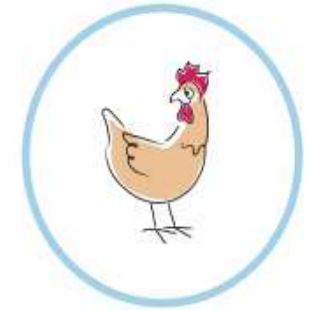


Production

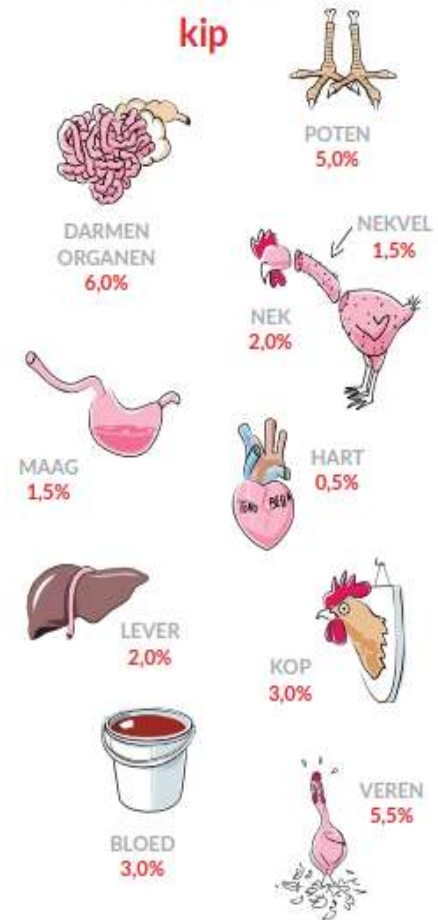


FROM WASTE TO VALUABLE RESOURCE

- Base: by-products (waste) from poultry
 - Chicken feathers
 - Skins
 - Bones
 - Meat residues
- These raw materials are rich in proteins but are indigestible in their pure form.
- Patented production processes
- Hydrolysis processes: Breaking down protein chains to make them digestible.

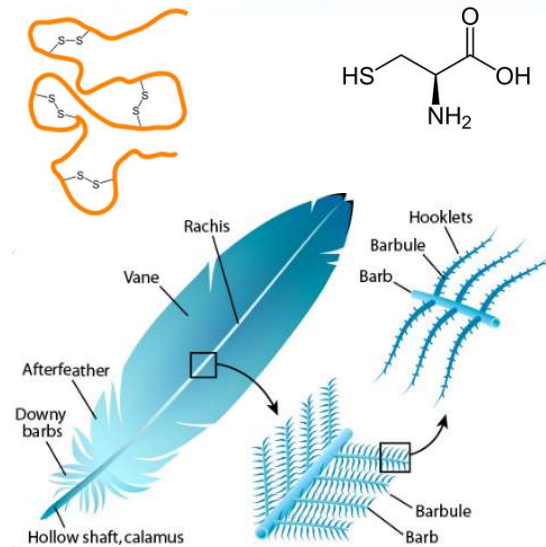


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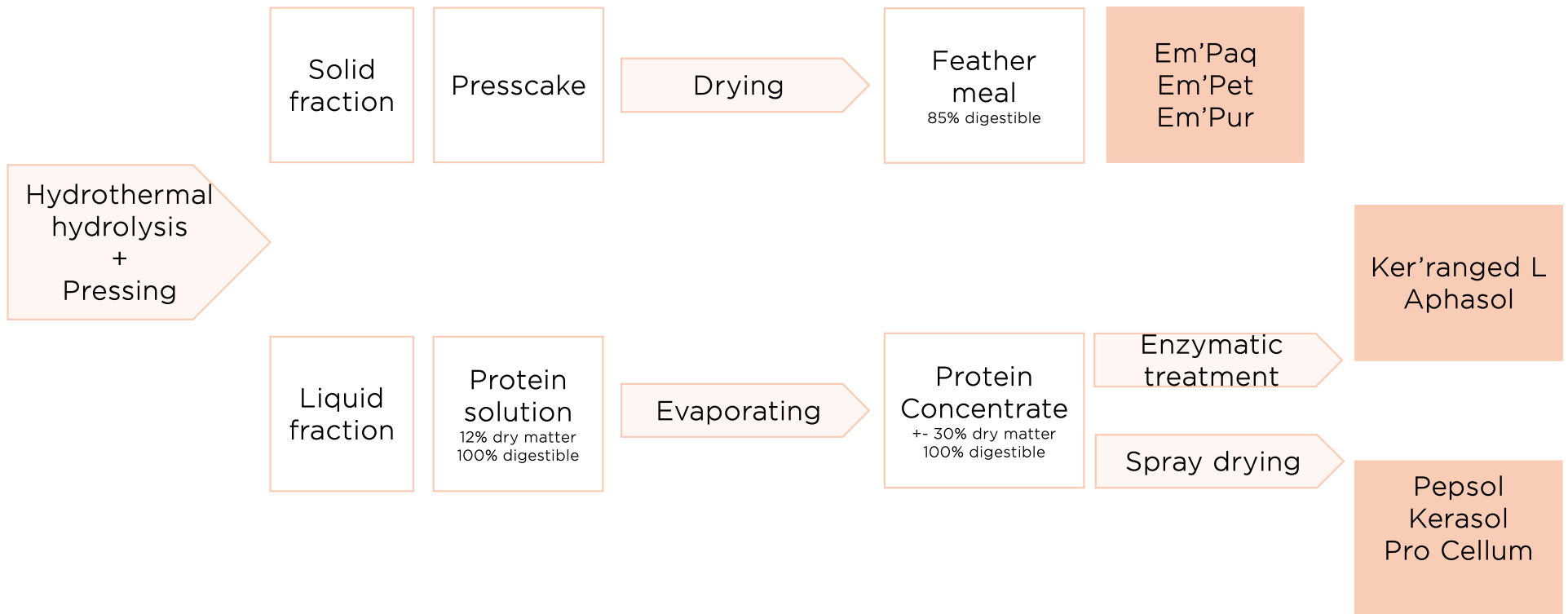


PRODUCTION PROCESS: FEATHERS

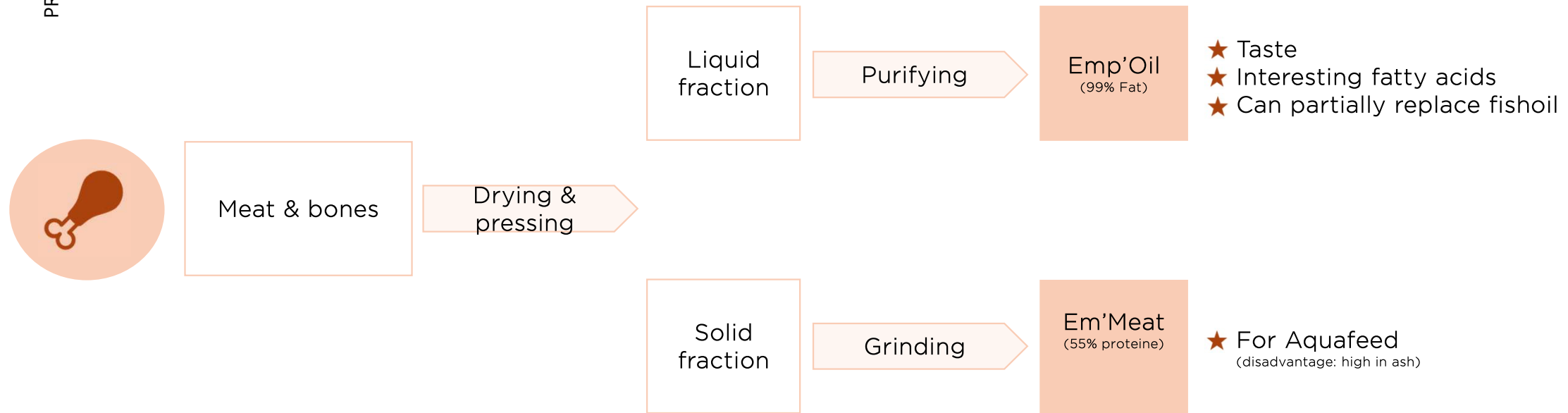
1. Supply and storage raw fresh feathers
 2. Conditioning raw material (removing unwanted particals)
 3. Hydrolysis (hydrothermal, no use of chemicals)
 4. Drying
- Low ecological“footprint”: low use and recovery of energy + water
 - Critical parameter: hydrothermal hydrolysis of feathers
 - Feather structure: keratine
 - Inside the keratin, there are strong bonds called disulfide bridges which are formed by an amino acid called cysteine
 - To break down the feathers into smaller, usable components, hydrothermal hydrolysis is used -> feathers are heated under high pressure with water (steam) to break them apart



PRODUCTION PROCESS: FEATHERS



PRODUCTION PROCESS: MEAT



PRODUCTION PROCESS: SKIN



Chicken skin

Drying & pressing

Em'Crisp

- ★ Taste: high palatability
- ★ Interesting nutritional composition
- ★ Contains high content of fat and proteins

Disadvantage: raw material is scarce






























Products



PRODUCTS SPECIFICATIONS

PRODUCT	POWDER LIQUID	TYPE PRODUCT							BASIC PREMIUM	
EM'PAQ	Powder	Feather meal				x	x	xx	BASIC	Same product as Em'Pet
EM'PET	Powder	Feather meal				x	x	xx	BASIC	Same product as Em'Paq
EM'MEAT	Powder	Meat meal				x	x	x	BASIC	50% proteins
VIVAMEAT	Powder	Poultry meal				x	x	xx	BASIC	Excellent fishmeal replacer
PRIME PET BALANCE	Powder/ Liquid	Meat hydrolysate				x	x	x	PREMIUM	Premium petfood, balanced profile
PRIME PET PRO	Powder	Meat hydrolysate				xx	x	xx	PREMIUM	Premium petfood, high in proteins
PRIME PET GOLD	Powder	Collagen type II				x	x	xx	PREMIUM	Super premium, collagen II
EM'CRISP	Powder	Meat meal				x	xx	xx	PREMIUM	
EM'CHICKEN	Powder	Meat meal				x	xx	x	PREMIUM	
PEPSOL	Powder	Hydrolysate				xx	x	xx	PREMIUM	
EMPOIL	Liquid	Poultry oil				xx	xx		PREMIUM	Flavor enhancer, high amount of omega 3 and fatty acids

PETFOOD: PROTEIN MEAL



PRICE / QUALITY



HIGH IN PROTEIN



AMINO ACID PROFILE

Em'Pet

Exceptional digestibility

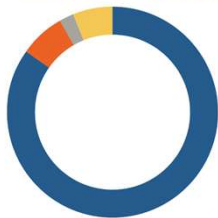
High in protein

Nutritional excellence

Product characteristics

- Hydrolysed feather meal.
- Reduces fishmeal in aquadiets by 10% without affecting growth or feed conversion.
- Developed and produced in Belgium.

Nutrient composition



- Protein 85%
- Fat 7%
- Ash 2%
- Moisture 6%

Digestibility: > 85%
Pepsin digestibility at 0.02% enzyme concentration relative to total protein content.

Em'Meat

Exceptional palatability

High digestibility

Balanced protein source

Product characteristics

- Hydrolysed poultry meat meal.
- Provides excellent nutritional properties, making it a sustainable protein source for pet food, with great taste and aroma to enhance palatability.
- Developed and produced in Belgium

Nutrient composition



- Protein 50%
- Fat 12%
- Ash 32%
- Moisture 6%

Digestibility: > 90%
Pepsin digestibility at 0.02% enzyme concentration relative to total protein content.

Viva'Meat

Exceptional palatability

High digestibility

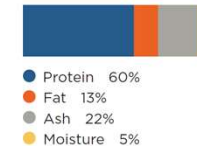
Balanced protein source

Product characteristics

- Hydrolysed poultry meal.
- Offers excellent nutritional properties, making it an ideal sustainable protein source for pet food, with great taste and aroma to enhance palatability.
- Available in three formulations, offering protein content options of 60%, 65%, or 70%, tailored to meet specific needs.
- Developed and produced in Belgium.

Nutrient composition

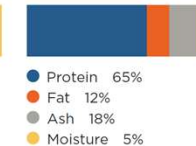
Viva'Meat 60



- Protein 60%
- Fat 13%
- Ash 22%
- Moisture 5%

Digestibility: > 90%

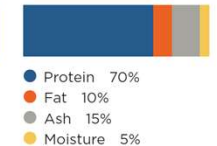
Viva'Meat 65



- Protein 65%
- Fat 12%
- Ash 18%
- Moisture 5%

Digestibility: > 90%

Viva'Meat 70



- Protein 70%
- Fat 10%
- Ash 15%
- Moisture 5%

Digestibility: > 90%

Pepsin digestibility at 0.02% enzyme concentration relative to total protein content.



PETFOOD: FUNCTIONAL PROTEINS



CLAIM PRODUCTS



MEAT MEAL



FOOD GRADE

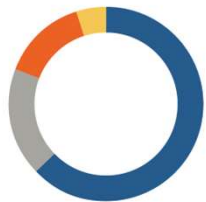
Em'Chicken

Exceptional palatability | Meat meal

Product characteristics

- Premium food-grade chicken meal made from fresh, chilled chicken meat.
- **Nutritional excellence:** high-quality, sustainable protein source.
- **Outstanding flavor:** intense chicken taste and aroma.
- **Superior binding:** higher collagen content ensures strong, compact pellets after extrusion.
- Developed and produced in Belgium

Nutrient composition



- Protein 63%
- Fat 14%
- Ash 18%
- Moisture 5%

Digestibility: >90%
Pepsin digestibility at 0.02% enzyme concentration relative to total protein content.

Em'Crisp

High in proteins | Exceptional palatability | Superb binding

Product characteristics

- Hydrolysed poultry meat meal
- Provides excellent nutritional properties, making it a sustainable protein source for pet food, with great taste and aroma to enhance palatability.
- Developed and produced in Belgium.

Nutrient composition



- Protein 75%
- Fat 15%
- Ash 5%
- Moisture 5%

Digestibility: >90%
Pepsin digestibility at 0.02% enzyme concentration relative to total protein content.



PETFOOD: FUNCTIONAL PROTEINS



Emp'Oil

Flavor enhancer	Low FFA	Rich in omega fatty acids
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Product characteristics

- **Premium quality:** very low peroxide value (PV < 2 meqO2/kg) and free fatty acids (FFA < 2%), ensuring longer shelf life.
- **Nutritional benefits:** rich in omega-3 and omega-6 fatty acids for healthy skin, shiny coats, and improved joint health.
- **Ideal for pets:** supports mobility in senior and active animals.
- **Palatability:** flavorful, aromatic chicken oil enhances taste in pet food pellets.
- Developed and produced in Belgium.

Fatty acids composition



PETFOOD: FUNCTIONAL PROTEINS



HYPO - ALLERGIC



HEALTH



PREMIUM

Prime Pet Pro

Hypo-allergenic	Meat meal	Superior flavor and aroma
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Product characteristics

- Hydrolysed poultry meat meal.
- Made from fresh food-grade poultry for high-end pet food.
- **Rich in protein:** supports muscle growth, immune health, and vitality.
- **Optimal nutrition:** high digestibility meets the needs of active and growing pets.
- **Enhanced palatability:** natural flavor and aroma ensure superior taste appeal.
- Developed and produced in Belgium.

Nutrient composition



- Protein 75% (±2%)
- Fat 7% (±2%)
- Ash 14% (±2%)
- Moisture 5% (±2%)

Digestibility: > 95%
Pepsin digestibility at 0.02% enzyme concentration relative to total protein content.

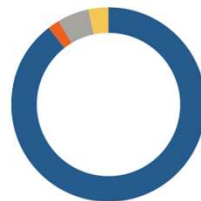
Prime Pet Gold

Collagen II	For premium petfood	Cost-effective
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Product characteristics

- Functional premium collagen type 2 ingredient.
- **Alternative poultry source:** patented process.
- **Premium add-on:** enhances quality.
- **Health benefits:** supports joints, mobility, skin, coat, and digestion.
- Available in large volumes, lower cost, meets pet food standards.
- Developed and produced in Belgium.

Nutrient composition



- Protein > 85%
- Fat 2%
- Ash 5%
- Moisture 3%



AQUAFEED: ENERGETIC PROTEINS

 ENERGY

 BOOST

 GROWTH

Em'Paq

Exceptional digestibility

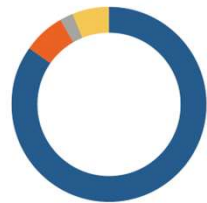
High in protein

Nutritional excellence

Product characteristics

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- Developed and produced in Belgium.

Nutrient composition



- Protein 85%
- Fat 7%
- Ash 2%
- Moisture 6%

Digestibility: > 85%
Pepsin digestibility at 0.02% enzyme concentration relative to total protein content.

Em'Meat

High digestibility

Balanced protein source

Product characteristics

- Poultry meat meal.
- Offers excellent nutritional properties, making it ideal to partially replace fishmeal in aquadiets, providing a sustainable protein source with great taste and aroma.
- Developed and produced in Belgium.

Nutrient composition



- Protein 50%
- Fat 12%
- Ash 32%
- Moisture 6%

Digestibility: > 90%
Pepsin digestibility at 0.02% enzyme concentration relative to total protein content.

Viva'Meat

Cost-effective

High digestibility

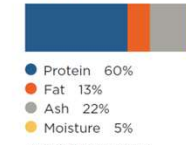
Balanced protein source

Product characteristics

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Nutrient composition

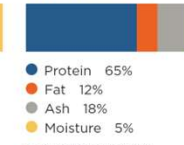
Viva'Meat 60



- Protein 60%
- Fat 13%
- Ash 22%
- Moisture 5%

Digestibility: > 90%

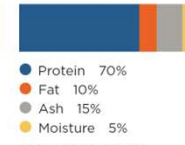
Viva'Meat 65



- Protein 65%
- Fat 12%
- Ash 18%
- Moisture 5%

Digestibility: > 90%

Viva'Meat 70



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- Fat 10%
- Ash 15%
- Moisture 5%

Digestibility: > 90%

Pepsin digestibility at 0.02% enzyme concentration relative to total protein content.



AQUAFEED: ENERGETIC PROTEINS

 ENERGY

 BOOST

 GROWTH

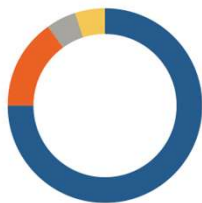
Em'Crisp

High in proteins	Exceptional palatability	Superb binding
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Product characteristics

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Nutrient composition



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- Fat 15%
- Ash 5%
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Pepsin digestibility at 0.02% enzyme concentration relative to total protein content.

Emp'Oil

Flavor enhancer	Low FFA	Rich in omega fatty acids
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Product characteristics

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- **Palatability:** flavorful, aromatic chicken oil enhances taste in pet food pellets.
- Developed and produced in Belgium.

Fatty acids composition



- MUFA (mono unsaturated FA) 43.56%
- PUFA (poly unsaturated) 30.56%
- SFA (saturated FA) 25.30%



AQUAFEED: ATTRACTANTS

Pep'Sol

Ultra-high protein

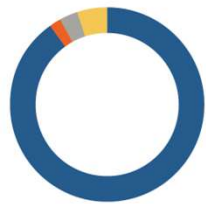
Attractant

Soluble & binding

Product characteristics

- Premium spray dried feather hydrolysate for aquafeed.
- Combines excellent nutrition and attractant properties, serving as an alternative to fishmeal in aquadiets.
- Its high solubility and small peptides enhance pellet binding, palatability, and feed intake, boosting fish and shrimp performance.
- Developed and produced in Belgium.

Nutrient composition



- Protein >90%
- Fat <2%
- Ash <3%
- Moisture <5%

Digestibility: >97%

Pepsin digestibility at 0.02% enzyme concentration relative to total protein content.

