



**Limagrain**  
**Ingredients**



*Naturally*  
**Innovating**  
**Solutions**

# pet food

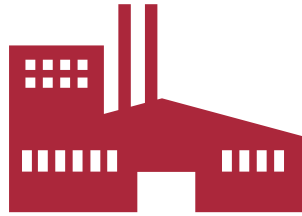
catalogue



● Naturally Innovating



# Industry expectations



- Control of food safety
- Innovation
- Control of costs
- Control of the processes

## Our strengths



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We are all consumers and we all expect that the industry provides us with healthier and tastier products from responsible integrated chains.

This is why Limagrain Ingredients' know-how makes so much sense! We develop and offer healthy and functional alternatives able to combine the technical, nutritional, and organoleptic qualities of products.

### R&D

The R&D unit fulfills various assignments: research on new grains and new ingredients, development of industrial pilot programs in its laboratories and tailored made support for its customers.

### clean label

For more than 30 years, Limagrain Ingredients' Clean Label expertise has allowed us to help our customers with their need for naturalness and nutrition.

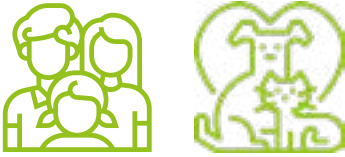
Our ingredients allow products to preserve their texture and processability while also greatly reducing the number of ingredients.

### LimaTrace

#### INTEGRATED CHAIN COMMITMENT

- ✓ Traceability
- ✓ Consistency
- ✓ Functionality
- ✓ SMETA Certification
- ✓ Respect of standards

# Market expectations



## Nutritional

- Complete feed
  - Healthy
- Highly digestible

## Acceptance

- Visually attractive
- Excellent taste and smell

## More personalised

- Energy available
- Special for fur, good bone development

## High quality

- Certified
- Extensively tested & controlled

## More natural

- No chemicals added
- All natural production process



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## Our solutions



## Functional flours

- Binders and texturizers made from wheat, maize, rice, pulses or a blend

## Puffed ingredients

- Wide variety of puffed cereals: maize, wheat, rice, spelt, etc.
  - Pregelatinized starch
- Different degrees of puffing possible

## Presco pellets & Milled

- Various puffed grains that are pelleted or milled afterwards
- Different bulk densities

## Native flours

- Wheat flours
- Maize flours and semolinas
- Specialty flours



Puffed grains for dogs, rodents and birds to enhance acceptance level of the feed as a whole



Nutritional and functional ingredients for a variety of pet food products



Ingredients for performance feed like muesli and feed pellets for horses



Texturizers for versatile dog/cat food and tasty pet snacks



Very digestible energy source with excellent binding properties for (cold) pressed pelleted dog food

# Summary ●●●

## P5. Presco gelatinised cereals

- Baby Meal
- Baby Pellets
- Baby Milled
- Presco Flour

## P8. Presco puffed grains & flakes

- Pet Puffed
- Pet Flakes
- Pet Mix

## P12. PetFlour functional flours

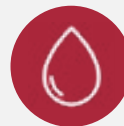
- PetFlour Wheat
- PetFlour Corn
- PetFlour Rice
- PetFlour Pulses

A complete range dedicated  
to Pet Food applications:



Dry Pet Food

- *Cold Pressed*



Wet Pet Food

- *Wet Canned*



Snacks & Treats

- *Baked*

- *Binder*



Veterinary Diets





# Presco gelatinised cereals

Limagrain Ingredients produces a wide range of attractive gelatinised cereals, produced with the unique Presco (for PRESsure COoking) technology. They meet the nutritional needs of pets. In addition, our products have unique functional properties such as high binding, high water and oil absorption capacities, as well as excellent smell and taste.

As they offer the highest digestibility of all nutrients, our pre-cooked ingredients are used in pressed pellets for pets such as dogs. As an ingredient in pet food, they ensure safe food intake, an attractive taste and maximum nutrient utilization. They also ensure good cold bonding and stability of the croquettes.

## Your challenges, our solutions:

### ● An improved palatability

These products are easy to use for improving palatability for all pets, thanks to a great aroma. Our wholegrains have a unique taste and highly digestible energy.

### ● Highest level of starch gelatinization

Presco Pressure Cooked cereals ensure the highest degree of starch breakdown while saving all other nutrients.

### ● Effective in fibre treatment

High raw fiber treatment to achieve new texture. Optimal for the best growth, maximum digestibility and high health status of the animals.

### ● Easy to use

The processability of our Presco ingredients is versatile and they can be easily added to any formulation, with a wide range of cereal base you can choose from (maize, wheat, barley, rice, sorghum, etc.)

# Presco gelatinised cereals

● In order to meet the technical requirements of our clients, the Presco gelatinised cereals are available in different forms: pelletized, coarse and finer flours or granulates.

● The wide range of raw materials consists of corn, wheat, barley as well as rice and sorghum. Mixtures of these are also produced.

## Presco Baby Meal



● Presco Baby Corn Meal



● Presco Baby Wheat Meal

<b>Weight</b>	350 g/l	350 g/l
<b>Size</b>	100% < 3,0 mm	100% < 3,0 mm

## Presco Baby Pellets



● Presco Baby Corn Pellets



● Presco Baby Wheat Pellets



● Presco Baby Rice Pellets

<b>Weight</b>	550 g/l	550 g/l	550 g/l
<b>Size</b>	8,0 mm	8,0 mm	8,0 mm



● Presco Baby Sorghum Pellets



● Presco Baby Barley Pellets

<b>Weight</b>	550 g/l	550 g/l
<b>Size</b>	8,0 mm	8,0 mm

# Presco gelatinised cereals

## Presco Milled



● Presco Baby Corn Milled



● Presco Baby Wheat Milled



● Presco Baby Oat Milled

<b>Weight</b>	550 g/l	500 g/l	520 g/l
<b>Size</b>	90% < 1,0 mm	90% < 1,0 mm	75% < 1,0 mm



● Presco Baby Rice Milled



● Presco Baby Barley Milled

<b>Weight</b>	510 g/l	450 g/l
<b>Size</b>	90% < 1,0 mm	90% < 1,0 mm

## Presco Flour

- The finer version of Presco pre-gelatinised puffed cereals, for an improved texture and a nutritional boost of pet snacks & treats.
- Two very fine granulometries available (<250µm & <600µm).
- Can be easily expanded to other grains than corn and wheat.



- Ideal texture & palatability
- A wide range
- Easy digestibility
- Nutritional boost
- Cost-effective

### Nutritional values\*

Product	Particle size	Starch	Protein	Fat	Fibre
Presco Corn Flour 250	100% <250 µm	65% of which 84% is pre-gelatinised (direct available energy)	7.4%	3.4%	1.7%
Presco Corn Flour 600	85% <600 µm				
Presco Wheat Flour 250	100% <250 µm	62% of which 86% is pre-gelatinised (direct available energy)	10.5%	1.5%	1.9%
Presco Wheat Flour 600	85% <600 µm				

\*indicative data

# Presco puffed grains & flakes



Limagrain Ingredients offers natural puffed ingredients mainly based on grains like maize, barley or wheat. Rice or sorghum are used as attractive alternatives to those standard grains. They all can be used in a wide range of applications in various mixes, mueslis, dinners and pellets for dogs, rodents, horses, birds and other pets.



Their appealing shape and popcorn-like flavor and aroma raise the acceptance level of the feed as a whole. Presco puffed products contain a high degree of gelatinized starch. This makes the product more easily digestible than native starch, while having a high nutrient digestibility. This results in fewer intestinal disorders or diarrhea. Pets use the feed more efficiently and live longer and healthier lives.



## Your challenges, our solutions:

### ● Texture & Visual

Presco puffed grains are perfect for adding texture to your products. The grain's degree of expansion can be adapted to your needs to suit all types of recipes and create innovative feed solutions.

### ● Palatability & Nutrition

Our puffed ingredients have a unique taste while providing highly digestible energy and fermentable fibre. Thanks to the palatability and attractive aroma created by the special heat-treatment Presco (for PRESsure COoking), our ingredients are preferred by pets and horses.



# Presco puffed grains & flakes

- Presco puffed grains are made in our unique pressure-cooking process in which the starch is made highly digestible. This process also speeds up the absorption of all other nutrients. The nutritional values of the grains are retained optimally through the 100% natural Presco treatment. In addition, this process ensures the uniform expansion of the grains and greater homogeneity from one batch to another for consistent product quality.
- Limagrain Ingredients is constantly in touch with its market and has developed the Presco range with different forms and densities from whole grains to flakes and crushed grains.

## Presco Pet Flakes



● Presco Pet Wheatflakes



● Presco Pet Cornflakes

<b>Weight</b>	250 g/l	230 g/l
<b>Size</b>	95% > 6,0 mm 3% < 4,5 mm	95% > 6,0 mm 8% < 4,5 mm

## Presco Pet Mix



● Presco Tasty Corn

<b>Weight</b>	380 g/l
<b>Size</b>	90% > 5,6 mm 10% > 2,5 mm 5% < 2,5 mm

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**Presco puffed  
 grains & flakes**

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**Presco  
 Pet Puffed  
 1/2**



● **Presco Pet  
 Wheat**



● **Presco Pet  
 Wheat kernels**



● **Presco Pet  
 Broken Wheat 365**

<b>Weight</b>	200 g/l	340 g/l	365 g/l
<b>Size</b>	95% > 5,6 mm 3% < 2,5 mm	100% > 2,5 mm	12% > 3,0 mm 5% < 1,0 mm



● **Presco Pet  
 Corn**



● **Presco Pet  
 Maize**



● **Presco Pet  
 Barley**

<b>Weight</b>	200 g/l	200 g/l	230 g/l
<b>Size</b>	10% > 9,5 mm 5% < 2,5 mm	85% > 9,5 mm 10% > 5,6 mm 5% < 5,6 mm	50% > 4,0 mm 5% < 3,0 mm

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**Presco puffed  
 grains & flakes**

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**Presco  
 Pet Puffed  
 2/2**



● **Presco Pet  
 Rice**



● **Presco Pet  
 Sorghum LD**



● **Presco Pet  
 Durum Wheat**

<b>Weight</b>	110 g/l	200 g/l	85 g/l
<b>Size</b>	60% > 3,5 mm 5% < 2,5 mm	95% > 2,5 mm 5% < 2,5 mm	95% > 3,5 mm 5% < 2,0 mm



● **Presco Pet  
 Millet**



● **Presco Pet  
 Dinkel**

<b>Weight</b>	110 g/l	125 g/l
<b>Size</b>	95% > 2,0 mm 3% < 2,0 mm	5% < 3,0 mm

# PetFlour functional flours



The special PetFlour ingredients developed by Limagrain Ingredients are made of flour and subject to heat treatments. The drying of the flour deactivates the enzymes and sterilises the flour. In addition, the flour's water content can be regulated by drying it until the desired water content is achieved. When the flour is extruded, the starch granules are extracted from their original structure. This process means that the starch can swell and the flour is dispersible in cold water.

Nutritional values and functionalities are essential factors for developing innovative pet food treats. Nutritional values refer to the calorie and protein content, while functionality may represent various elements such as solubility, softness, binding or flexibility.

The pet food must also have good composition as this plays an important role for a healthy life of the pets.

# PetFlour

Binding nature  
to nutrition



## Your challenges, our solutions:



### ● Nutrition & diversity

Release of the highest functional properties of grain for feed and feed ingredients such as target solubility or viscosity with the guarantee of high assimilable nutrients by using a wide range of raw materials such as wheat, corn, rice, peas and others.

### ● Natural & Clean Label

100% Clean Label "flour" solutions in the finished product.

### ● Microbiology & stability

Our flours meet the strict microbiological requirements of our customers and industry. Through various technological and thermal treatments of the flours as well as the targeted selection of raw materials, we can adjust our products accordingly. This is reflected in the long shelf life and high stability of the flours.



# PetFlour functional flours

# PetFlour

Binding nature  
to nutrition



## PetFlour Wheat

● Our range of functional flours for pet foods brings a difference and extra added value. They have an excellent binding capacity and are able to give the end product the texture you desire.



Product Name	Applications	Process	Moisture Content	Grind fineness
PetFlour 21101	<ul style="list-style-type: none"> <li>● Snacks &amp; Treats</li> <li>● Binder</li> </ul>	Wheat flour	max. 14,5%	10% > 180 µm
Petflour 21102	<ul style="list-style-type: none"> <li>● Wet Canned</li> <li>● Baked</li> <li>● Binder</li> </ul>	Whole wheat flour	max. 15,5%	80% < 250 µm
PetFlour 21201	<ul style="list-style-type: none"> <li>● Snacks &amp; Treats</li> <li>● Wet Canned</li> </ul>	Heat treated wheat flour	max. 14,0%	10% > 150 µm 60% < 100 µm
PetFlour 21501	<ul style="list-style-type: none"> <li>● Snacks &amp; Treats</li> <li>● Baked</li> <li>● Binder</li> </ul>	Pre-gelatinised wheat flour	max. 10,0%	100% < 160 µm

# PetFlour functional flours

## PetFlour

Binding nature  
to nutrition



### PetFlour Corn

● The functional flours produced from corn have excellent binding capacity and bring a high starch content.



Product Name	Applications	Process	Moisture Content	Grind fineness
PetFlour 22501	<ul style="list-style-type: none"> <li>● Snacks &amp; Treats</li> <li>● Cold Pressed</li> <li>● Binder</li> </ul>	Pre-gelatinised corn flour	max. 10,0%	95% < 160 µm



### PetFlour Rice

● Our functional flour made from rice is an excellent choice to produce any grain and gluten free pet food product.



Product Name	Applications	Process	Moisture Content	Grind fineness
PetFlour 23501	<ul style="list-style-type: none"> <li>● Snacks &amp; Treats</li> </ul>	Pre-gelatinised rice flour	max. 10,0%	100% < 160 µm



# PetFlour functional flours



## PetFlour Pulses

● Functional flours made from pulses are specially designed for non grain pet food. In addition they are rich in starch and high in protein. They are therefore an excellent choice for producing high end snacks and treats.

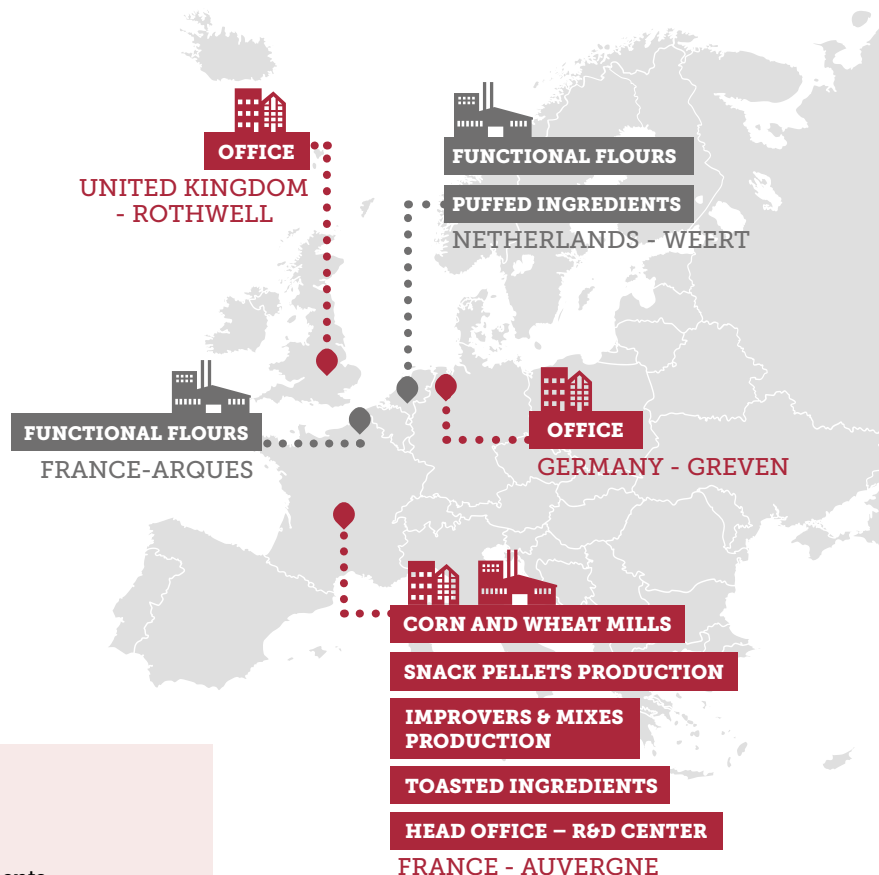
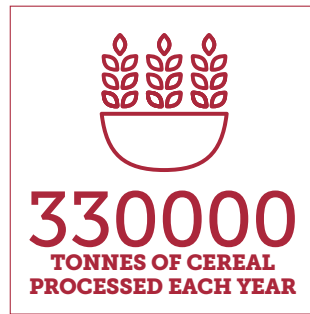
Product Name	Applications	Process	Protein Content	Grind fineness
PetFlour 25501	<ul style="list-style-type: none"> <li>● Snacks &amp; Treats</li> <li>● Cold pressed</li> <li>● Sausage type</li> <li>● Raw pet food</li> </ul>	Pre-gelatinised pea flour	12%	5% > 250 µm
PetFlour 25502	<ul style="list-style-type: none"> <li>● Cold pressed</li> <li>● Sausage type</li> <li>● Raw pet food</li> </ul>	Pre-gelatinised pea flour	12%	20% > 500 µm
PetFlour 25503	<ul style="list-style-type: none"> <li>● Snacks &amp; Treats</li> <li>● Cold pressed</li> <li>● Sausage type</li> <li>● Raw pet food</li> </ul>	Pregelatinised pea flour	22%	50% > 1000 µm
Petflour 25701	<ul style="list-style-type: none"> <li>● Snacks &amp; Treats</li> <li>● Cold pressed</li> <li>● Sausage type</li> <li>● Raw pet food</li> </ul>	Heat treated faba bean flour	30%	5% > 630 µm

# Proud to be part of Limagrain

Limagrain is a French agricultural cooperative and the 4<sup>th</sup> largest seed company worldwide.

Its control of agricultural and industrial challenges, international reach, and massive annual investment in R&D feed into and inspire its subsidiary, Limagrain Ingredients, making it unique.

Being part of Limagrain means having a global awareness of the challenges faced by the agri-food industry, today and tomorrow. It also means having the human resources, material and technological capacity to anticipate, prepare for, and respond to them.



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