



**LIMAGRAIN  
AND THE QUALITY  
OF ITS AGRI-FOOD  
PRODUCTS  
IN 5 QUESTIONS**

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## 1.

## AGRI-FOOD PRODUCT QUALITY, WHAT DOES THAT MEAN?

Limagrain's agri-food products are the various types of production resulting from the activities of **Limagrain Coop**, **Limagrain Ingredients** and **Jacquet Brossard** (Group Business Units).

These are  
**raw materials**  
(wheat, corn, pulses),  
**ingredients**  
(flours, semolinas, etc.),  
and **bakery products**  
(cakes, breads).



## AGRI-FOOD PRODUCT QUALITY, WHAT DOES THAT MEAN?

Their quality is essentially defined by

### 3 criteria



#### HEALTH QUALITY

This element **guarantees the food safety of products**. The goal is to eliminate the risk of contamination by foreign bodies, chemical risks, microbiological risks, the presence of mycotoxins, allergens, etc.



#### NUTRITIONAL QUALITY

This element relates to the content of sugar, salt, saturated fatty acid, or fiber, **in line with public health goals**, like in France with PNNS<sup>(1)</sup> recommendations.



#### ORGANOLEPTIC QUALITIES

This element relates to the product's **taste, texture, shape, softness** and **visual aspect**.



Today, consumers and industry also look for authenticity and naturalness, which is reflected in the demand for **simplified recipes with short, transparent lists of ingredients**.

There is also a growing interest in the **use of plant-based proteins** as a substitute for animal protein.

<sup>(1)</sup> PNNS: the PNNS charter (French national health and nutrition program) is a public health plan that aims to improve the health condition of the French population by acting on one of its deciding factors: nutrition. Jacquet Brossard has thus committed to reduce the amount of sugar and saturated fatty acid in its products, increase fiber content, and implement a fitness and well-being program for employees.

## 2.

## LIMAGRAIN INTEGRATED CHAINS, AN ASSET FOR AGRI-FOOD PRODUCT QUALITY?

**Since 1983,**

**Limagrain**

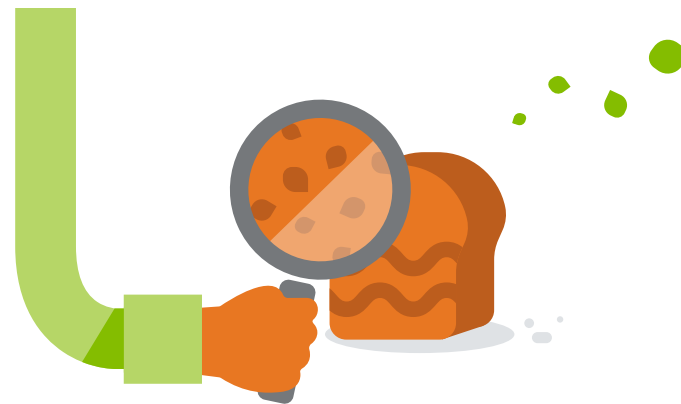
has been building unique agri-food chains that allow it to manage the entire chain, from raw materials to the finished products.

### TRACEABILITY

To guarantee a reliable level of traceability, from research, to production, to distribution, **Limagrain** has implemented quality management systems that **meet the highest European and international standards.**

Health controls, supervision plans, quality charters:  
a set of recognized controls and practices that ensure

**trust and credibility  
at each link in the chain.**



2.

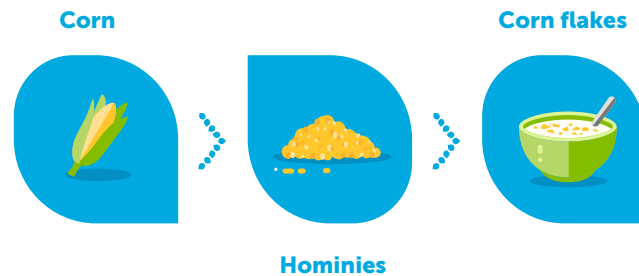
## LIMAGRAIN INTEGRATED CHAINS, AN ASSET FOR AGRI-FOOD PRODUCT QUALITY?

Thanks to its integrated chains, **Limagrain** is **the only seed company that connects breeders, farmers, industrialists, distributors, and consumers.**

### VARIETY CREATION

Customer expectations are known and they guide the Group's research and development areas, which provide new adapted varieties.

Within the chain, **Limagrain** creates and produces **Europlata semolina corn varieties** that are then processed into hominies<sup>(1)</sup> by **Limagrain Ingredients**. These corn varieties are specially adapted to corn-flake manufacturing.



### THE PRODUCTION AND PROCESSING OF RAW MATERIALS

Using the varieties created, the Cooperative's farmers produce wheat and corn grain that is processed to become ingredients (flour, semolina, etc.) and then used in breads and cakes.



The wheat grown by the Cooperative's farmer members in Limagne Val d'Allier is processed into flour in **Limagrain Ingredients'** mills. With this flour, **Jacquet Brossard** makes sandwich loaves and hamburger buns in its factory. All of this within a radius of 50 km!

<sup>(1)</sup> Hominies: hominies – or flaking grits – are fragments of corn grain that can be used in various applications such as Breakfast Cereals (corn flakes) or Snacks (puff cakes).

## 3.

## HOW IS LIMAGRAIN IMPROVING THE RECIPES OF ITS AGRI-FOOD PRODUCTS?

Each day, teams involved in marketing, research, or production work on **developing and improving recipes**, in accordance with nutritional recommendations and in response to industry and consumer expectations.

The teams are also careful **not to impair the products' organoleptic qualities** (taste, texture, etc.).

**Limagrain Ingredients** offers a wide range of natural solutions to improve the nutritional quality of products,

such as ingredients that reduce the number of calories or saturated fat content but at the same time increase the amount of fiber and plant-based protein.

**Limagrain Ingredients** designs **FUNCTIONAL FLOURS** that are enriched with, among other things, **protein and fiber**, while also maintaining their technical functionalities.



**Limagrain Ingredients** works on **THE GERM**, one of the most nutritional parts of cereal grains.

Naturally rich in protein, fiber, unsaturated fat, vitamins (vitamin E, group B vitamins), and minerals (potassium, phosphorus, magnesium), wheat or corn germ is an ingredient of interest for **increasing the nutritional density<sup>(1)</sup> of a food product.**

<sup>(1)</sup> Nutritional density: ratio between the overall quantity of nutrients for the energy it provides.

### 3. HOW IS LIMAGRAIN IMPROVING THE RECIPES OF ITS AGRI-FOOD PRODUCTS?

**Jacquet Brossard**, committed to improving its recipes by signing a Voluntary Commitment to Nutritional Progress Charter in 2016.

Today, all the goals have been reached and the products contain:

#### Less SUGAR

In 2020, **44%** of Brossard products already had reduced sugar content.

In 2021, **44%** of the Jacquet line-up (aside from crispy products) has gone « No Added Sugar » (including the entire sandwich loaf line-up).

#### Less SALT

In 2020, **75%** of Jacquet soft products had less than 1.1% salt<sup>(1)</sup>

and **75%** of its crispy products had less than 1.3% salt.

#### More FIBER

In 2020, **100%** of Jacquet products and **89%** of Brossard products were a source of fiber<sup>(2)</sup>.

Thanks to these improvements, **Jacquet Brossard** products have a Nutri-Score A or B for bakery products and C or D for pastries (see Question 5).



In addition to improving recipes that allows it to offer products with better nutrients, **Limagrain** has also developed a solution that meets **health expectations**.



**Limagrain Ingredients** has contributed to **the development of innovative wheat**, with high fiber and resistant starch content, also called **HIGH AMYLOSE WHEAT**, to **meet consumers' health and fiber needs**.

**AFTER 20 YEARS OF RESEARCH**, the first such wheat variety has been developed.

It produces **a flour that contains 10 times more fiber than standard flour**<sup>(3)</sup>.

It can also be used in a wide range of applications.

The use of **LIFYWHEAT** in recipes has made it possible to obtain nutritional (fiber) and health (blood sugar) claims.

<sup>(1)</sup> Salt: in accordance with recommendations by ANSES – French National Food Health Safety Agency – which estimates that 2 g of sodium per day (or close to 5 grams of salt) is sufficient to avoid any deficiency and that beyond that, there are proven risks.

<sup>(2)</sup> Fiber: 100% for the entire Jacquet line-up, 80% of the products are a source of fiber (contain at least 3 g of fiber for 100 g) and 20% are rich in fiber (contain at least 6 g of fiber for 100 g).

<sup>(3)</sup> Flour containing 25% fiber - Standard flour contains 2.5% fiber.



4.

## WHAT SOLUTIONS DOES LIMAGRAIN OFFER TO MEET THE NEW EXPECTATIONS OF INDUSTRY, CONSUMERS, AND SOCIETY IN GENERAL?

Food crises have caused consumers to take a closer look at their food and there is a high demand for **authenticity and naturalness**.

For industry, the challenge is now to present new recipes with a list of ingredients that is short, simple, transparent, and without any controversial nutrients, but that have equivalent taste qualities and usage (preservation, fermentation).

### PALM OIL FREE PRODUCTS

**Jacquet Brossard** continues its commitment to eliminating palm oil from all its products by replacing it with **rapeseed oil**.



Since 2011, **100%** of Jacquet breads have been made without palm oil.

And **as of 2020**, it has been removed from **70%** of Brossard products (goal of 100% by 2025).

### NATURAL INGREDIENTS

**Limagrain Ingredients** is dedicated to showing the natural benefits of grains and cereals by developing **100 % natural ingredients** (Clean Label<sup>(1)</sup>).

Milling, thermal treatment, pressure cooking, extrusion... None of the manufacturing processes at Limagrain Ingredients' production sites require chemical treatments.

**Cereclean** is a fermented wheat flour by **Limagrain Ingredients** that ensures better shelf life for bread processing products, identical to that of a chemical preservative, without any impact on the taste or texture.

This flour can replace, for example, chemical preservatives currently used such as calcium propionate (additive E282), potassium sorbate (additive E2020), or alcohol.

**Jacquet Brossard's** approach is to **limit the use of controversial ingredients**

in its recipes: reduction/elimination of additives, elimination of fructose-glucose syrup, elimination of hydrogenated fat.

In 2020, **40%** of Jacquet products were additive free.

In 2020, **71%** of Brossard products were glucose-fructose syrup free (goal of 100% by 2025).

<sup>(1)</sup> Clean Label: Clean Label is a recipe improvement approach that aims to reduce and/or remove additives and other controversial ingredients.

4.

**WHAT SOLUTIONS DOES LIMAGRAIN OFFER TO MEET THE NEW EXPECTATIONS OF INDUSTRY, CONSUMERS, AND SOCIETY IN GENERAL?**

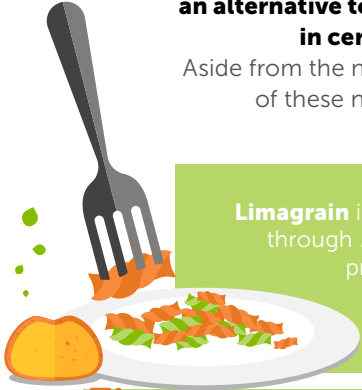
**PLANT-BASED PROTEINS**

Today, more and more consumers want to substitute part of animal protein with plant-based proteins.

In light of this trend, **Limagrain is developing a new integrated chain for pulses.**

Very rich in protein and complementary to cereals, pulses are **an alternative to animal protein** and help **avoid deficiencies in certain food diets** (vegan, vegetarian).

Aside from the nutritional benefits, the technical functionalities of these nutrients are also appreciated by industry.



**Limagrain** is building an integrated chain for pulses, particularly through *Nutrinat*<sup>(1)</sup>, to offer consumers finished and balanced products made from plant and cereal-based proteins. One example is spiral pasta made from pulses and wheat available under the « **Les Graineurs** » label.

**Limagrain Ingredients** has developed **Chich'Baguette**, a milling mixture that combines the benefits of wheat and dry legumes (chickpeas, red lentils, peas). This mix allows artisan bakers to make baguettes rich in plant-based proteins and a source of fiber.

**Limagrain** creates plant-based proteins. For example, textured plant-based proteins provide texturization for plant-based products. These are plant-based versions of « meat substitutes » or « instant » flour made from pulses, which provides viscosity without heating.

**FREE OF STANDARDIZED PESTICIDE RESIDUE**



For baby food and animal nutrition chains, subject to very strict regulations regarding the presence of pesticides,

**Limagrain offers products with rates of residue below authorized standards.**

This approach has been expanded to other types of products and is helping specifications **move towards products free of standardized pesticide residue.**

Limagrain has implemented the *Filières Limagne* Charter. It is a collective approach that involves farmer members, **Limagrain Coop, Limagrain Ingredients** and **Jacquet Brossard** in building a responsible agri-food chain with a positive carbon footprint. All the players in the chain have agreed to offer quality nutritional products (Health), fight against global warming (Environment), and create and share value (People-oriented).

<sup>(1)</sup> Nutrinat: a company based in Castelnaudary (Aude, France), specialized in products made from pulses and cereals.

## 5.

## HOW DOES LIMAGRAIN GUARANTEE THE QUALITY OF ITS AGRI-FOOD PRODUCTS?

**Quality control** is ensured by dedicated teams throughout the product manufacturing process.



These departments also work together with the intelligence, legal affairs, research, and marketing departments to guarantee the product's compliance, feasibility, and quality.

### CONTROL OF THE AGRI-FOOD CHAIN

In addition to the numerous follow-ups and controls carried out along the entire production chain, **Limagrain** has established **quality management systems (QMSs)**.

These tools ensure product traceability that can follow the product back from the point-of-sale to the farmer.

In 2020, **98%** of the sales of the Group's companies that have industrial sites were covered by a QMS.

A **"food defense"**<sup>(1)</sup> approach was also created to avoid the risk of malicious acts at manufacturing sites.

<sup>(1)</sup> Food defense: protection of the agri-food chain.

5.

## HOW DOES LIMAGRAIN GUARANTEE THE QUALITY OF ITS AGRI-FOOD PRODUCTS?

### CERTIFICATIONS

**Limagrain Coop**, **Limagrain Ingredients** and **Jacquet Brossard**

are subsidiaries whose expertise has been recognized and certified.

These certifications mean that the products have been subject to strict specifications, from the raw materials and throughout the production chain:

traced chains, CRC® chain, Red Label, ISO 22000.

**Limagrain** also complies with the special regulations for baby food and animal nutrition

(see Question 4).



### PANELS

Bakery products are subject to organoleptic analyses before being distributed.

To carry them out, **Jacquet Brossard** uses consumer panels or sensory analysis laboratories.



### NUTRITIONAL INFORMATION

As part of its approach to transparency towards consumers, **Jacquet Brossard** was one of the first industrial bread and cake manufacturers in France to indicate the **Nutri-Score**<sup>(1)</sup> on its product packaging

(A or B for bakery products, C or D for pastries).

The Business Unit also indicates other elements such as *No Sugar Added* or *Palm Oil Free*.

**Everything is done to ensure the customer is informed and satisfied.**

<sup>(1)</sup> Nutri-Score: Nutri-Score, also called the 5-color system, is a European nutritional labeling system using a logo with 5 values that go from A to E and green to red, determined according to a food product's nutritional value.