

Natural yet sustainable indulgence

Wheat-derived functional blends optimize production processes and provide added value

For an increasing number of consumers, ingredient lists play a crucial role in their purchasing decisions: they should be as concise as possible and dominated by natural ingredients. However, convincing product quality and smooth production processes are also important criteria for manufacturers when selecting ingredients. Loryma, a leading producer of wheat-based raw materials for the food industry, shares its expert knowledge by acting as a supportive service partner for product development. The company's functional blends enable both the sensory optimisation of proven products and the development of innovative new offerings on existing production lines, such as plant-based sausages or low-carb pastries. The wheat starches used for the blends work as stabilisation systems, and support bonding, adhesion and emulsification in both meat and meat-free dishes. Thus, they ensure the specific sensory characteristics of the finished food product, as well as optimal shape, and allow manufacturers to create healthy, sustainable food without compromising on taste.

Optimal binding for meat and meat-free products

More and more people around the world are abstaining from meat, or at least trying to reduce their consumption. There are many different reasons for this, all of which have led to ever-increasing demand for plant-based convenience products. Nevertheless, consumers do not want to miss out on a feeling of indulgence – and this includes an appealing look and authentic texture. Best-sellers in the plant-based market are sausages and breaded products such as nuggets or schnitzel.

For vegetarian sausages, Lory® Bind is designed to give the delicate skin of cooked meat alternatives a strong inner bond. The typical mouthfeel of a bratwurst, however, is achieved with the optimal combination of vegan casing and vegetarian sausage meat. When it comes to the production of breaded products such as schnitzel or nuggets, Loryma's binders create a stable inner structure while preventing the formation of a water film between the product surface and breading, thus enabling it to stick better. Such products should be juicy and tender on the inside, but crispy on the outside.

Keeping sensory appeal consistent on an industrial scale can be a challenge, especially when using meat products that naturally fluctuate in quality. Additionally, breaded convenience products usually undergo several temperature cycles during the course of production: pre-frozen, steam-cooked, ~~deep-frozen~~ and then reheated by the consumer prior to consumption. Pre-treatment with a liquid

seasoning such as Lory® Inject can help to retain the meat's desirable properties. The ingredient improves taste and compensates for liquid loss during preparation, and additional additives such as phosphates and hydrocolloids are not necessary. This makes the ingredient ideally suited to the growing demand for shorter, easily understandable and E number-free labels.

Flawless and stable breading and batter

The sensory quality of batter is vital for both meat and meat-free products - it should be crispy and adhere firmly to the food, and yet resistant to the production and packaging process. Loryma's wheat-based adhesion systems are optimised for a wide variety of applications and product surfaces. Wet batters and dustings are available, all of which support various textured coatings such as breadcrumbs, cornflakes and doughs. The perfect match depends on the production process and the nature of the meat. A moist, rather rough surface such as pork escalope has different demands on adhesion than the dry, smooth surface of a chicken breast, for example. During the deep-frying process, bubbles of steam form between the breading and the meat surface, which weakens the bond and reduces product quality. Specially developed wheat starches can counteract this, ensuring a reliable adhesion throughout the entire process. The breading structure is gas permeable thus preventing the formation of steam bubbles.

Wheat-based and application-specific ingredients

For ultimate flexibility, Loryma offers various types of blends that can be adapted to individual needs. The main product categories are binders, breadings and brine additives, with ingredients suited to different process and production requirements. The way a product is prepared prior to consumption defines the necessary consistency and structure, and there are three categories that can be controlled with the use of functional starch blends.

First are ready-to-eat applications, which means those that are consumed cold, direct from the packet. But if the bite and mouthfeel need to be consistent in a product that can be eaten hot or cold, the mixes will provide an irreversible internal structure. Finally, the wheat derivatives can replicate the texture of grill and pan products, with the raw foodstuff only developing its final firmness and texture when prepared for consumption.

When it comes to the processing of pre-cooked applications, the functional mixes can be combined with the remaining ingredients in an "all-in" process. Gradual processing is also possible in order to achieve the cooking effect for applications at the final preparation stage. In this case, the dry Lory®

Bind mixture is activated with water to create a binding matrix before being added to the other ingredients. The advantage of this method is batchwise production using just one mixing aperture.

Healthy and tasty at the same time

More and more consumers want sustainable, healthy and yet easy to prepare convenience products. With the help of the functional Lory® Bake range, manufacturers can develop snacks that are high in protein and fibre, but low in sugar. Examples include low-carb blueberry muffins, as well as savoury and sweet protein bars and cereal bites. The characteristic sensory profile of fine baked goods usually comes from a high sugar and fat content. However, in order to create a healthy but still tasty product, manufacturers must preserve texture and flavour while optimising nutritional values. The functional base compound Lory® Bake is free of added sugars and rich in proteins. The use of wheat proteins and specially modified starches makes it possible to achieve a good texture with significantly reduced carbohydrate content. A blueberry muffin made with Lory® Bake High Protein, for example, has around 30% fewer calories, 25% less fat, 50% less carbohydrates and over 80% less sugar, yet three times as much protein than its classic counterpart. The blend can be freely customised with additional components, and therefore used in a number of different ways. Manufactured products are particularly suitable for the frozen food sector and the food service industry.

A step towards greater sustainability

In the future, all the building blocks that are important for a balanced and, at the same time, environmentally friendly and sustainable diet will gain in importance. The world population is growing yet many resources are limited. However, wheat, as one of the oldest cultivated plants, can be considered future-proof and sustainable: Almost 99 per cent of each grain can be utilised through the production of co-products, thus ensuring a resource-saving approach to the environment. Loryma focuses not only on the supply of food ingredients, but is also heavily involved in research and development. Manufacturers can rely on individual support from the initial product idea through product development to scale-up and market readiness. The use of highly functional ingredients is a further step towards satisfying consumer demand for sustainable products, while also positively influencing their desirable and expected properties.

About Loryma:

Loryma, member of the Crespel & Deiters group, is a producer of globally distributed wheat proteins, wheat starches and functional blends with an expertise of more than 40 years. The company is located in Zwingenberg (Germany), where experts develop future-proof solutions that simultaneously meet the needs of the food industry as well as the rising requirement for healthy nutrition in a growing world population. The responsibly and regionally sourced ingredients optimise stability, texture and flavour of meat and fish, vegetarian and vegan applications, baked goods, convenience products and confectionery. High quality raw materials combined with in-depth knowledge in processing make Loryma a reliable partner for service, product development and supply of tailor-made solutions fitting today's demands.

For further information, please visit: www.loryma.de/en/

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