LORYMA

Lory® Starch Iris is a functional, hot-swelling wheat starch, with a high share of small starch grains. This results in various process engineering-related benefits such as very homogeneous distribution of the particles in dispersions and very good gelation for a variety of applications.

Lory® Starch Iris: small starch particles – major effect

General properties

- Extremely small starch grains (< 10 µm)
- For the same quantity, ten times more particles than conventional maize or wheat starch, a hundred times more than potato starch
- Extremely large particle surface
- Powder with a clean, neutral taste and odour
- No E numbers
- Substitute for titanium dioxide and costly rice starches

Benefits:

- Free flowing and dispersible
- Homogeneous distribution in food
- Slow sedimentation
- Good digestibility
- High water absorption
- Pronounced gel formation after gelatinisation
- Ensures a firm texture
- Adds body to the flavour
- Label friendly

Application area number 1

Injections and tumbler brines

In meat products, Lory® Starch Iris promotes juiciness.
The large number of small starch granules evenly penetrate the animal tissue evenly and bind released water.
The brine only sediments slowly, thereby improving process reliability during production interruptions.

Benefits:

- The texture of the treated meat does not become watery
- Increasing juiciness
- Slow sedimentation, thereby increasing process reliability in the event of production interruptions/product changes
- Processing in the tumbler:
  a) small starch particles have a better tissue penetration than ordinary cereal or root starches
  b) no streak formation
- Processing per injection:
  a) no solid sediments, no clumping
  b) optimum needle mobility

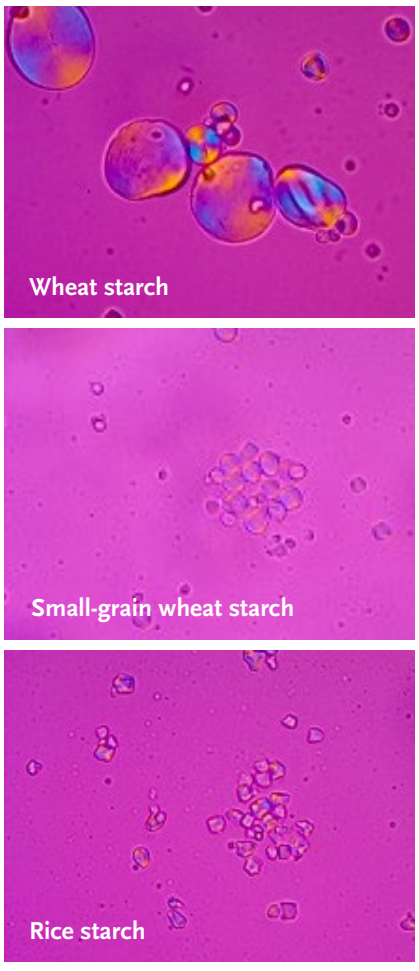
Application area number 2

Cooked and scalded sausages

Lory® Starch Iris binds the water released in the sausage mass during cooking and scalding processes, in addition to preventing the formation of "water pockets".
This is achieved, thanks to the even distribution of the small starch grains. The strong gelation reduces cooking loss as a result of heating and ensures a stable texture with excellent cut resistance and firm bite.

Benefits:

- Binds released water
- Even distribution of the starch avoids water pockets
- Less weight loss when heating
- Strong, smooth gelation
- Excellent cut resistance, stable texture and firm bite



Comparison of particle size/-form of wheat starch, small grain starch and rice starch. (magnification 400-fold)

Application area number 3

Dragées, confectionery and snacks

Lory® Starch Iris can be used as a white pigment when coating medical tablets or in coatings for foods such as nuts, crispies, chocolate or other chunky goods. Unlike colour additives such as titanium dioxide (E 171), Lory® Starch Iris poses no health risk. It is natural, unmodified and does not have an E number. Uniform narrow particle size distribution creates an even surface.

Benefits:

- Natural, white colour pigment with high degree of whiteness
- High fineness
- Even distribution
- Smooth surface
- Substitute for titanium dioxide and rice starch
- No E numbers
- High dry substance in the coating solution
- Ideal for white coatings (e.g., dragées)

	L*	a*	b*
Lory® Starch Iris L190005078	98.17	–0.10	2.34
Rice starch 1920078620	98.81	–0.18	2.21

L* indicates the brightness ("whiteness") Scale: 0 black; 100 white
a* indicates the components +red/green
b* indicates the components: +yellow/blue

Application area number 4

Convenience products

Dry soups, sauces and other powder blends are examples of applications that optimise Lory® Starch Iris as a carrier and release agent. Thanks to its small particles, wheat starch offers a large surface area on which other substances such as fats or flavours stick.

Benefits:

- Carrier substance with large particle surface
- High loading possible – for example with fats or flavours
- Substitute for rice starch, higher economic efficiency

Application area number 5

Baked goods

Lory® Starch Iris can also serve as a release agent, for example in icing sugar, or directly, for dusting dough pieces. The large number of particles reduces the contact of ingredients in reactive mixtures such as baking powder, which increases shelf life.

Benefits:

- Release and separating agent
- Improves the flowability
- Delays component reaction, extends shelf life
- No clumping
- Reduces the sticking together of doughs and semi-baked goods
- Substitute for rice starch – higher economic efficiency

Application area number 6

Breadings and Clear Coatings

In breadings, Lory® Starch Iris promotes the product's crispiness and ensures better adhesion. The small starch grains can penetrate the substrate's surface and bind water exactly where it is formed during cooking.
With a wafer-thin starch-based clear coating, French fries and other fried vegetables remain crispy for longer and absorb less fat.

- Coatings with crunch effect
- Improved adhesion to the substrate
- Supports film formation on the surface
- Protection of the substrate
- Clear coating protects visible spices and herbs
- Substitute for rice starch – higher economic efficiency