



Back to Basics: Native Starches

Consumer demand for clean label products has caused many food manufacturers to reconsider their use of modified food starch.

This ingredient, used by dozens of industries, can be a challenge to replace. Starches manage texture, control moisture, and stabilize products such as yogurts, bakery items and convenience foods. To help manufactures reach their goals, Cargill's food scientists are developing ways to replace modified food starches with native starches.



Native starches

Native starches are basically pure forms of starch. They can be obtained from sources such as corn, wheat, potato, rice, cassava and tapioca. These long-chain carbohydrates are insoluble in cold water and swell to different degrees, depending on type and temperature.

Native starches have been used for decades in the food industry, but because of limitations such as breaking down when reheated or in acidic environments, some food manufacturers moved to using food starches which have been physically, chemically or enzymatically modified.

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Native starches may often be used to meet product needs

Cargill food scientists have studied the properties of dozens of native starches. They have discovered that via custom blending and careful formulations, these basic starches can successfully fulfill many product requirements.

Native starch functionalities:

- Thickening
- Texturizing
- Stabilizing
- Moisture retention
- Gelling
- Film forming
- Dusting
- Dough binding

Native starch applications:

- Bakery mixes
- Frozen cakes
- Sheeted snacks
- Batters & breadings
- Brewing adjuncts
- Dry mix soups and sauces
- Pet foods
- Processed meat
- Pudding powders
- Cold Process Salad dressings & Dips
- Frozen prepared entrée sauces
- Fruit Preps

Cargill's technical expertise in action:

A custom blend of tapioca and potato starch has been used to replace modified food starch. Neither native starch on its own could provide the ideal mouthfeel, texture and stability, but Cargill food scientists knew how to integrate the characteristics of both native starches to meet product demand. This custom blended starch can be used in frozen prepared entrée sauces to replace modified starch, as well as some hydrocolloids, to achieve the same texture and stability.

Native starches can also be combined with other label-friendly ingredients to meet product needs.

Removing the modified food starch from a product may impact its consistency, mouthfeel and stability. A simple swap is rarely the answer. Depending on the application, a native starch may need to be combined with another label-friendly ingredient solution to achieve the desired outcome.

Cargill's technical expertise in action:

A label-friendly and shelf-stable salad dressing formula was developed using a blend of native starches and pea protein. Cargill food scientists successfully replaced several ingredients, including modified starch, xanthan gum, and eggs, resulting in a simpler ingredient list.

Additionally, a label-friendly frozen cake formula was developed using a pre-gel native starch. Cargill food scientists successfully replaced modified starch while maintaining the same freeze/thaw stability.

Native
Starches

CONTACT

Visit cargill.com/labelfriendly or call 1-877-SOL-UTNS (765-8867)

The Cargill Advantage

Cargill offers a diverse selection of label-friendly, nature-derived texturizers. Our portfolio coupled with our integrated formulation and regulatory expertise enables product development with friendlier labels while maintaining quality, functionality and cost competitiveness.