Functionality of Modified Wheat Starch In Foods
Unique Features of Wheat Starch

• Bright white color
• No sulfite treatment
• High level of purity
• Bimodal granule distribution
• Distinct shape of cooked granules
• Paste viscosity increases with rate of heating
• Melt-in-your-mouth texture (non-sticky)
• Compatible with wheat flour-based foods
• Non-GMO
Uses of Wheat Starch

Bakery products remain the predominant application of wheat starch because of its compatibility with wheat flour. The added wheat starch has similar size, shape, and size distribution of granules, surface properties, swelling pattern, gelatinization characteristics, textural qualities, and composition as the wheat starch present in the flour.
Benefits as Thickener
Pregel 40

Soups

• Thickens the liquid to suspend food particulates

• Thins down to the desired consistency after retorting
Benefits as Thickener/Gelling Agent
Midsol 4

Pumpkin Pies

• Thickens fillings
• Enhances sliceability
• Imparts soft-gel texture
Benefits as Thickener/Moisture Retention
Pregel 40 and Pregel 46

Cake mixes

- Increases batter viscosity
- Enhances moisture retention
- Imparts crumb tenderness
- Prolongs freshness
Benefits as Adhesion Agent

Batter mixes

- Midsol Adhere provides adhesion
- Midsol Krisp imparts crispness
- Midsol 1 provides crispness
- Midsol 35 provides browning and crispness
Benefits as Tenderizer/Texturizer

Bakery mixes

• Pregel 40 and Pregel 46 exhibit excellent moisture binding resulting in tender texture of muffins and cakes; prolong shelf-life or freshness

Breakfast cereals

• Midsol Krisp promotes expansion during extrusion; imparts crispness; extends bowl life; blander flavor
Benefits as Tenderizer/Texturizer

Fish cake (*Kamaboko*)

- Midsol 50A imparts elasticity and soft texture; keeps product fresh and juicy due to good water retention; soft texture is retained after prolonged storage in the refrigerator
Benefits as Dusting Agent

Bread

• Midsol 1 functions as a swelling-resistant dusting agent in baking pans to facilitate bread release
Benefits as Structure Control Agent

French cruller donuts

- Pregel 10FC helps form a uniform structure with no blow-outs; good volume; well-defined ridges

Chinese dumplings

- Midsol 4 increases transparency and imparts strength to prevent bursting; prevents development of hard texture when stored under chilled conditions
Benefits in Reducing Fat Absorption

Deep-Fried Snacks (Indirect Expanded Snacks)

- Midsol Adhere, Midsol 1, Fibersym® RW, Midsol 46, and Midsol Krisp reduce fat absorption of deep-fried snacks
Benefits as Crisping Agent

Direct Expanded Snack (Corn Curl)

• Midsol Adhere, Midsol 1, Midsol Krisp and Midsol 46 increase crispness of corn curls

Indirect Expanded Snack (Snack Pellets)

• Midsol 1, Fibersym® RW, Midsol Adhere, Midsol 46, and Midsol Krisp increase crispness of deep-fried snacks
Benefits as Fiber-Fortifying Agent Fibersym® RW

Bakery Products, Pasta, Noodles, Breakfast Cereals, Snacks, and Confectioneries

- Substantially retains the integrity of the fiber after processing while maintaining or improving finished product quality

- Nutrient claims for “good source” or “excellent source” of fiber
Summary of Benefits of Wheat Starch

- Thickener
- Thickener/Gelling Agent
- Thickener/Moisture Retention
- Adhesion Agent
- Tenderizer/Texturizer
- Dusting Agent
- Structure Control Agent
- Reducing Fat Absorption
- Crisping Agent
- Fiber-Fortifying Agent