

# PEKTOS CITRUS FIBER CF 1525

*Functional Citrus Fiber*



# CITRUS FIBER CF 1525 –facts

- ❖ 100% pure Citrus Fiber, produced from South-American, specially treated citrus peels.
- ❖ Pre-processing loosens the strong bonds between the hemicellulose, pectin, proteins and sugars. The expanded fiber matrix provides enhanced functionality.
- ❖ **CITRUS FIBER CF 1525 C**: fine particle size, 150 micron (100 Mesh)
- ❖ **CITRUS FIBER CF N 1525**: fine particle size, neutral taste, 150 micron (100 Mesh)
- ❖ **CITRUS FIBER CF 1525 A**: super-fine particle size, 70 micron (200 Mesh)
- ❖ Produced in Germany.
- ❖ Dispersions of CITRUS FIBER CF 1525 in water have a unique soft, non-flowing, syneresis-free, mousse-like texture, similar to a gelatinized starch slurry, and a smooth, non fibrous mouth-feel.
- ❖ High dietary fiber content (min. 70%), high ratio of soluble fiber/HM pectin (approx. 35%).
- ❖ Clean-label, E-No. free. Labelled as Citrus fiber, fruit fiber, plant fiber or similar.
- ❖ Fine, beige/yellowish powder, weak citrus note.
- ❖ Gluten-free (< 20ppm)
- ❖ Non-GMO
- ❖ GRAS
- ❖ Kosher, Halal

# CITRUS FIBER CF 1525 - *functionality*

## Water Binding Capacity.

- ❖ WBC = 13 – 15\* (1g fibre binds 13 – 15 g water), in aqueous dispersion with little mixing. \*PEKTOS method
- ❖ WBC increases strongly to WBC = 20 – 25\* and higher, through higher shear forces (high-speed mixer, homogenizer), creating a unique soft, non-flowing, stable mousse-like texture similar to a gelatinized starch slurry, without syneresis and with a smooth, non fibrous mouth-feel.
- ❖ Water binding capacity comparable to water holding capacity, strong affinity of the fiber to water.

## Quick hydration.

- ❖ CITRUS FIBER CF 1525 starts hydrating immediately after contact with moisture and rapidly absorbs water.

## Oil binding capacity.

- ❖ OBC = 4 (1g fibre binds 4 g of oil).
- ❖ Emulsion stabilization through water and oil immobilisation.

## Texture, structure, viscosity enhancement.

- ❖ CITRUS FIBER CF 1525 has a relatively low viscosity in water, which strongly increases in dispersions of 3% or higher.
- ❖ Produces viscosity and body, a smooth, rich texture and structure and stabilises the water in various food systems.
- ❖ Substitute or extension for thickening agents, stabilisers and emulsifiers.

**Gelation:** The pectin in CITRUS FIBER CF 1525 is mainly HM pectin and therefore gels in high sugar / low pH conditions.

**Process stability:** CITRUS FIBER CF 1525 demonstrates excellent heat, pH, salt, shear and freeze/thaw stability in food products.

# PDS

## Download Link

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## PRODUCT DATA SHEET



### PEKTOS CITRUS FIBER CF 1525

#### Origin, Raw Material, Production

PEKTOS CITRUS FIBER CF 1525 is

- Pure, undiluted, 100% Citrus Fiber.
- Produced from South American specially treated and processed citrus peels.
- Produced (milling, sifting, standardization) and packed in Germany.

#### Features, properties, functionality

Dietary fiber is the edible part of plants or analogous carbohydrates resistant to digestion and absorption in the human small intestine with complete or partial fermentation in the large intestine.

Dietary fiber includes polysaccharides, oligosaccharides, lignin, and associated plant substances. Functional fibers consist of isolated, non-digestible carbohydrates that benefit humans.

PEKTOS CITRUS FIBER CF 1525 is natural, gluten-free (EU limit < 20ppm), clean label, and multi-functional dietary fiber suitable for various food products through its high fiber content, water-binding and moisture retention capacity as well as the texture it creates and provides.

PEKTOS CITRUS FIBER CF 1525 is a fine or super-fine powder, beige with a yellowish tinge and weak citrus note.

- PEKTOS CITRUS FIBER CF 1525 C: fine particle size, 150 micron
- PEKTOS CITRUS FIBER CF 1525 A: Super-fine particle size, 70 micron

PEKTOS CITRUS FIBER CF 1525 is rich in soluble fiber, predominantly high ester pectin. The pectin remains functional, and

August 2022, v2

can gel in high solids and low pH conditions ( $\geq 58$  Bx,  $\leq$  pH 3.3).

Total dietary fiber content: > 70 %  
of which soluble: > 35 %  
of which insoluble: > 35 %

The treatment and processing of the peels in their country of origin after the harvesting and juice processing weakens the strong bonds between the hemicellulose, pectin, proteins and sugars and leads to an enhanced functionality through an expanded fiber matrix, resulting in a significantly improved water-binding capacity (WBC).

The WBC of PEKTOS CITRUS FIBER CF 1525 is 12 - 15g water/1g fiber with only little mechanical treatment (for instance, by stirring it into water), but up to 20 - 25g water/1g fiber with high-speed mixing, and even higher if the fiber dispersion is homogenized.

Oil binding capacity is approximately 4 g oil/1g of fiber.

PEKTOS CITRUS FIBER CF 1525 dispersions in water display have a soft, pasty, stable texture without syneresis. The mouthfeel is smooth without noticeable sandiness.

In food systems with free water, PEKTOS CITRUS FIBER CF 1525 creates viscosity, texture, and body; it stabilizes the water and shows excellent process stability (heat, pH, salt, shear, freeze/thaw stability). It is a good substitute for gelling and thickening agents, stabilizers, and emulsifiers.

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## PRODUCT DATA SHEET



### Applications and benefits

- Bakery products
  - Gluten-free bread and cakes
  - Yield increase and freshness prolongation
  - Egg and fat replacement.
- Processed meat
  - Texture improvement
  - Moisture retention
  - Yield increase
  - Emulsion stabilizer
- Ice cream and frozen food
  - Ice crystal size-reduction
  - Heat shock and melting behaviour improvement
  - Suckability improvement
- Sauces, marinades, dressings
  - Thickener
  - Binder
  - Texture provider
  - Tomato paste replacer
  - Fat replacement
- Fruit preparations
  - Pectin extension and replacement
  - Texture and mouthfeel optimization
  - Thickening
- Dairy products
  - Thickening and texture improvement
  - Syneresis reduction
  - Anti-caking agent for grated cheese
- Beverages
  - Mouthfeel, texture, body supplier
  - Fruit extension / replacement
- Health Food, Nutraceuticals, and Supplements
  - Fiber supplement
  - Soluble and insoluble fiber source
  - Slimming and weight management
  - Digestion improvement
- Pet Food
  - Fiber supplement
  - Thickening & water binding

To our best knowledge, the information contained herein is true and accurate. Still, all recommendations or suggestions are made without guarantee since we can neither anticipate nor control the different conditions under which this information and our products are used. Therefore, each manufacturer should evaluate its final products to determine compliance with all relevant federal, state, and local regulations. Further, we can disclaim all liability concerning its customers' infringement of third-party intellectual property, including, but not limited to, patents



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# TDS

**Please note:**  
The TDS in this presentation is meant as a general information only. It is not subject to the QM update service, and therefore may not be the current version.

Please contact us to get the latest version.

## Technical Data Sheet



### PEKTOS CITRUS FIBER CF 1525 A

<b>Description</b>	PEKTOS CITRUS FIBER CF 1525 A is a pure citrus fiber produced for the food industry from South America, specially treated and processed citrus peels.
<b>Declaration</b>	Citrus Fiber
<b>Applications</b>	Clean-label food for structure, water binding, and freshness
<b>Sensory</b>	Appearance: Free flowing powder Colour: light beige Flavour: typical
<b>Physical/Chemical</b>	Moisture: < 10 % Water binding: 10 - 14 g / g fiber Ash: < 4 % Particle size: max. 10 % > 70 Micron
<b>Microbiology</b>	Total plate count: < 5,000 cfu/g Moulds and Yeast: < 1,000 cfu/g E. Coli: negative in 1 g Salmonella: negative in 25 g
<b>Nutritionals</b>	Energy: ~ 950 KJ / 230 kcal Total Fat: < 2.2 % - Saturated: < 0.7 % Protein: < 7 % Carbohydrates: < 11 % - Sugar: < 2.0 Dietary Fiber: > 70 % Sodium: < 0.05 %
<b>Packaging</b>	In 22 kg multilayer paper bags with inner PE liner.
<b>Storage</b>	Keep in a dry and cool place (rel. humidity < 65 %), protected from direct light.
<b>Shelf life</b>	24 months from the production date in unopened packaging.

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## Technical Data Sheet



### PEKTOS CITRUS FIBER CF 1525 A

<b>Country of Origin</b>	Germany
<b>HS Code</b>	1302.3900
<b>Purity / Compliance</b>	
<b>Heavy metals</b>	Contents of heavy metals comply with Regulation 1881/2006/EC setting max levels of certain contaminants in foodstuff.
<b>Pesticides</b>	Residues of pesticides comply with the requirements of Regulation 396/2005/EC on max residue levels of pesticides in or on food of plant origin.
<b>GMO</b>	PEKTOS CITRUS FIBER CF 1525 A does not consist of genetically modified organisms and is not produced from genetically modified raw materials as defined in Regulations (EC) 1829/2003 and 1830/2003.
<b>Allergens</b>	The product does not contain allergens listed in Annex II of Regulation (EC) 1169/2011 and its current amendments.
<b>Irradiation</b>	The product is processed without the use of irradiation.
<b>General</b>	PEKTOS CITRUS FIBER CF 1525 A complies with the EU Food Regulations and Swiss Food Laws and the EC Regulations on the hygiene of foodstuffs.  Please consult your country's laws and food regulations before using the product.

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## Technical Data Sheet



### PEKTOS CITRUS FIBER CF 1525 C

<b>Description</b>	PEKTOS CITRUS FIBER CF 1525 C is a pure citrus fiber produced for the food industry from South America, specially treated and processed citrus peels.
<b>Declaration</b>	Citrus Fiber
<b>Applications</b>	Clean-label food for structure, water binding, and freshness
<b>Sensory</b>	Appearance: Free flowing powder Colour: light beige Flavour: typical
<b>Physical/Chemical</b>	Moisture: < 10 % Water binding: 10 - 14 g / g fiber Ash: < 4 % Particle size: max. 5 % > 150 Micron
<b>Microbiology</b>	Total plate count: < 5,000 cfu/g Moulds and Yeast: < 1,000 cfu/g E. Coli: negative in 1 g Salmonella: negative in 25 g
<b>Nutritionals</b>	Energy: ~ 950 KJ / 230 kcal Total Fat: < 2.2 % - Saturated: < 0.7 % Protein: < 7 % Carbohydrates: < 11 % - Sugar: < 2.0 Dietary Fiber: > 70 % Sodium: < 0.05 %
<b>Packaging</b>	In 22 kg multilayer paper bags with inner PE liner.
<b>Storage</b>	Keep in a dry and cool place (rel. humidity < 65 %), protected from direct light.
<b>Shelf life</b>	24 months from the production date in unopened packaging.

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## Technical Data Sheet



### PEKTOS CITRUS FIBER CF 1525 C

<b>Country of Origin</b>	Germany
<b>HS Code</b>	1302.3900
<b>Purity / Compliance</b>	
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<b>Irradiation</b>	The product is processed without the use of irradiation.
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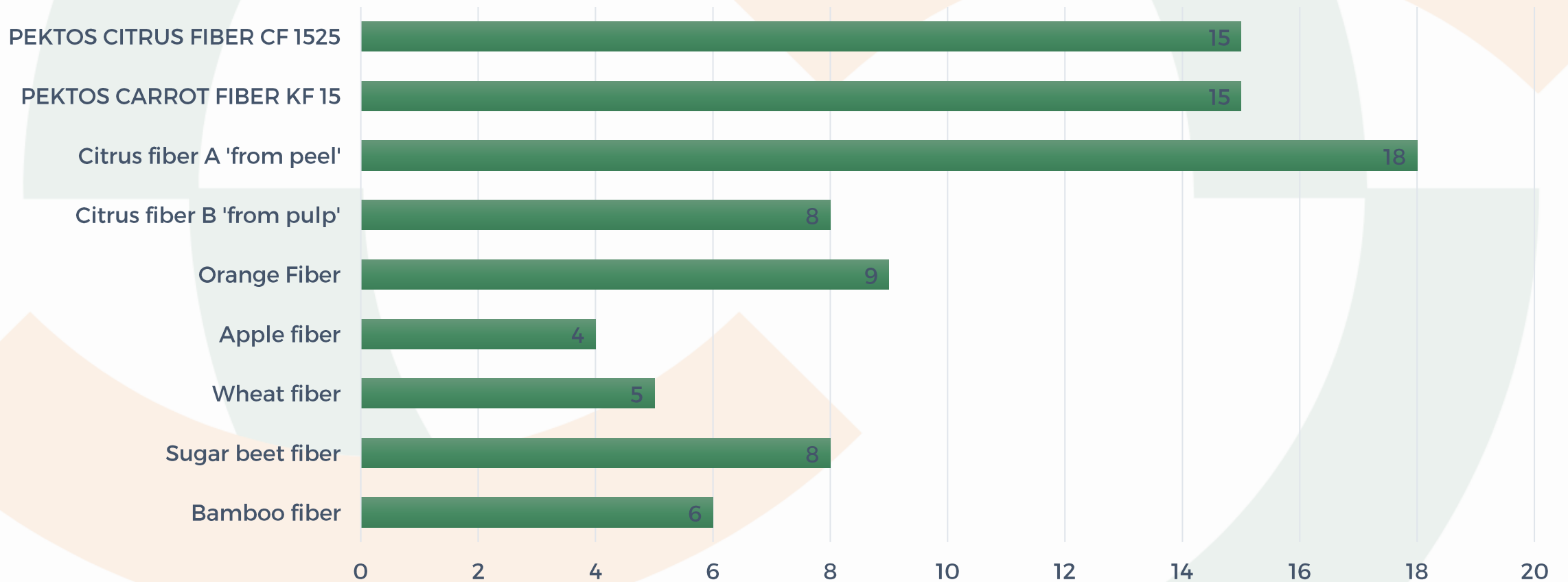
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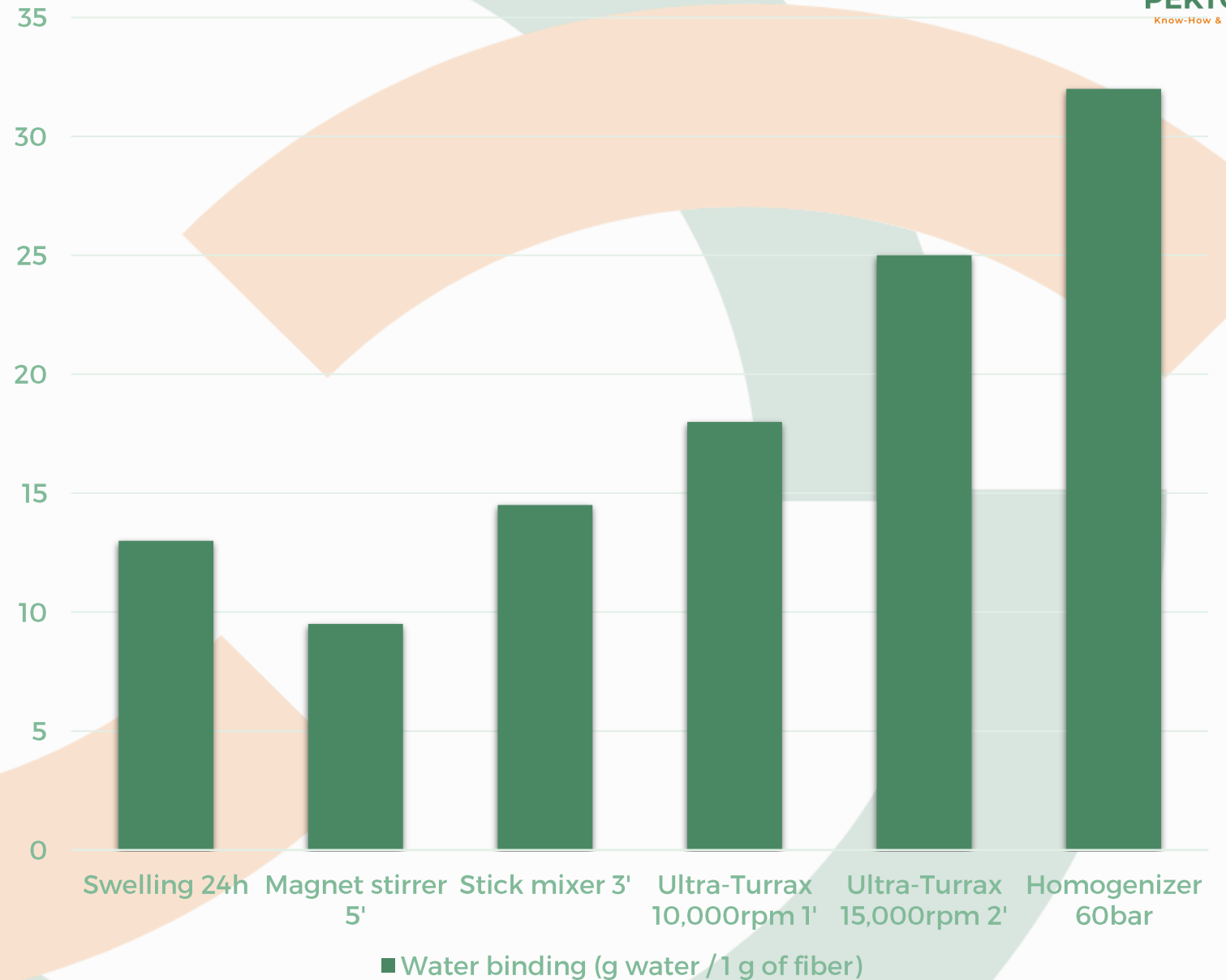
# Water Binding Capacity of various commercial fibers

WBC in g of water/g of fiber, average value from various tests and methods



# PEKTOS CITRUS FIBER CF 1525

WBC versus  
Shear Rate of 3%  
dispersions



# CITRUS FIBER CF 1525 *Texture vs. Shear Rate*



**2.5% dispersions  
magnet stirrer (left) / stick-blender (right).**



**2.5% dispersion, Ultra-Turrax 10,000rpm, 1 min.**

**No Syneresis!!**



**2.5% dispersion, Ultra-Turrax 15,000rpm, 2 min.**

# CITRUS FIBER CF 1525 *Applications & Functions*

**Processed meats** *Texture supplier, yield improvement, moisture binding, emulsion stabilizer.*

**Bakery** *Gluten-free, freshness extension, fat reduction, egg reduction, yield increase.*

**Fruit preps** *Pectin extension, thickening, gelling, texture, mouth-feel, syneresis control.*

**Ice cream, ice lollies** *Ice crystal size reduction, suck-ability and melting improver.*

**Dairy** *Thickener, syneresis reduction, grated cheese anti-caking agent.*

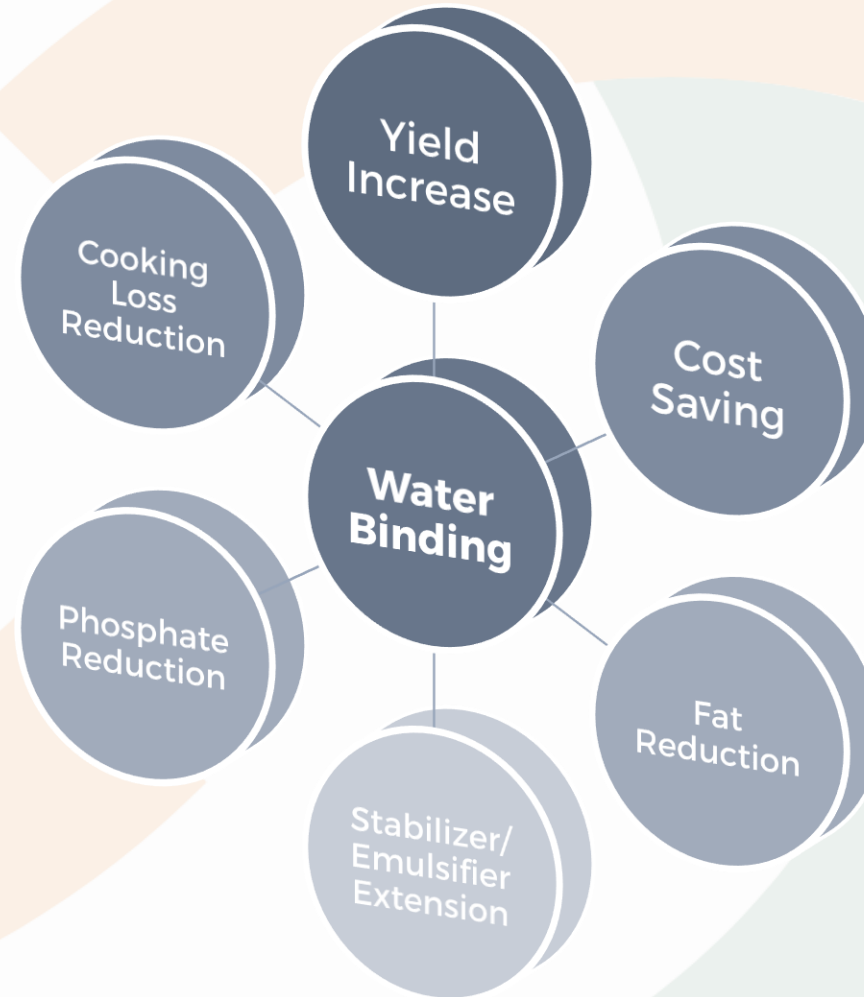
**Sauces, dressings** *Thickener, texture provider, emulsion stabilization, fat reduction.*

**Beverages** *Mouth-feel, body, texture, fruit extension, thickener.*

**Health Food** *Insoluble & soluble fibre source.*

# CITRUS FIBER CF 1525 A *Processed Meat*

Cooked Sausages  
Marinades  
Canned Meat & Fish  
Coatings  
Beef Patties  
Fillings  
Pasta Fillings  
Meatballs  
Cured Meats



# CITRUS FIBER CF 1525 C *Fruit Preparations*

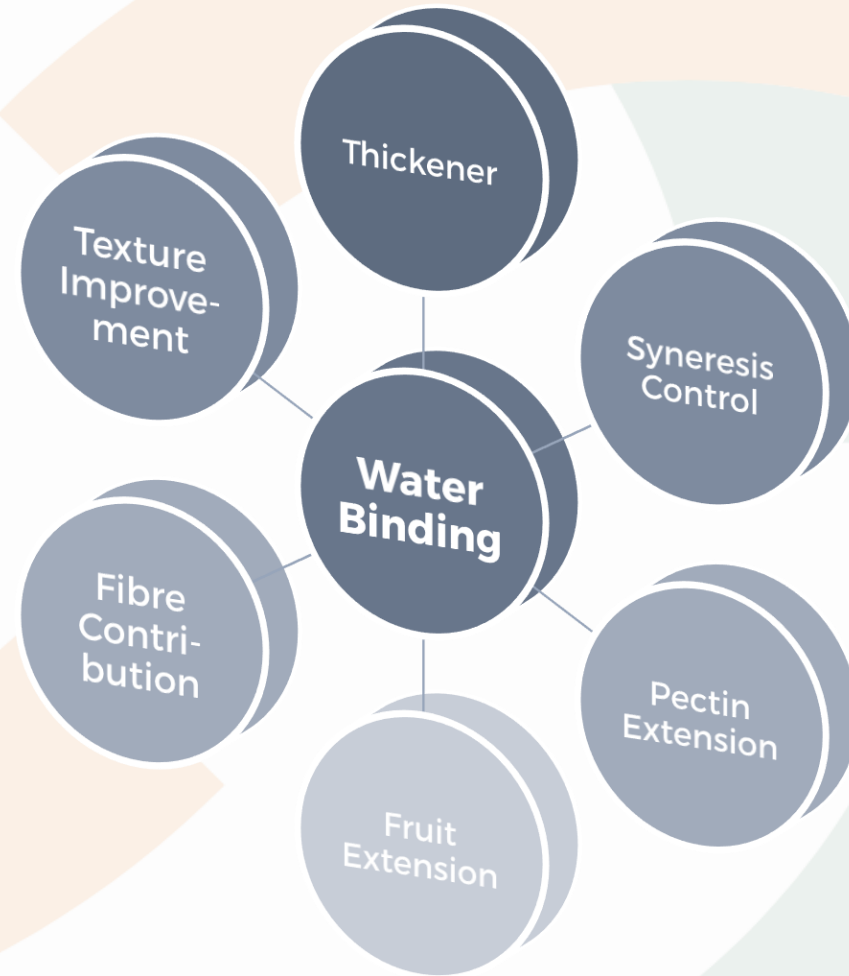
## Bakery Fillings

- - Post bake
- - Pre-bake

## Injection Jams

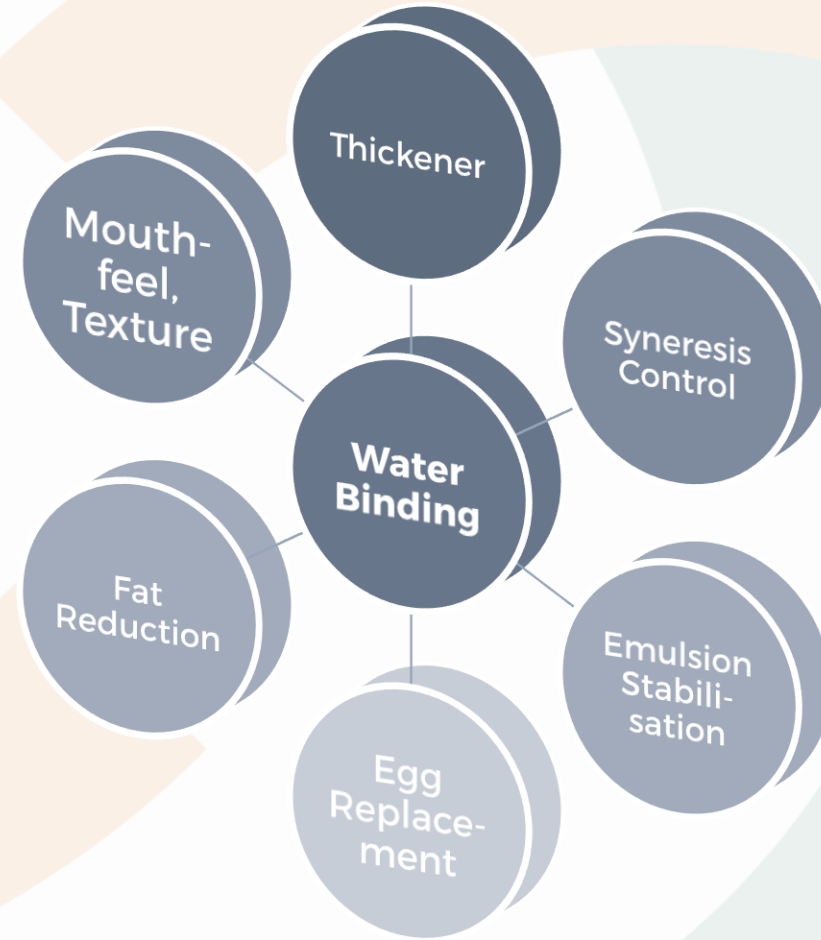
## Ice Ripples

## Yogurt Fruit Preparations



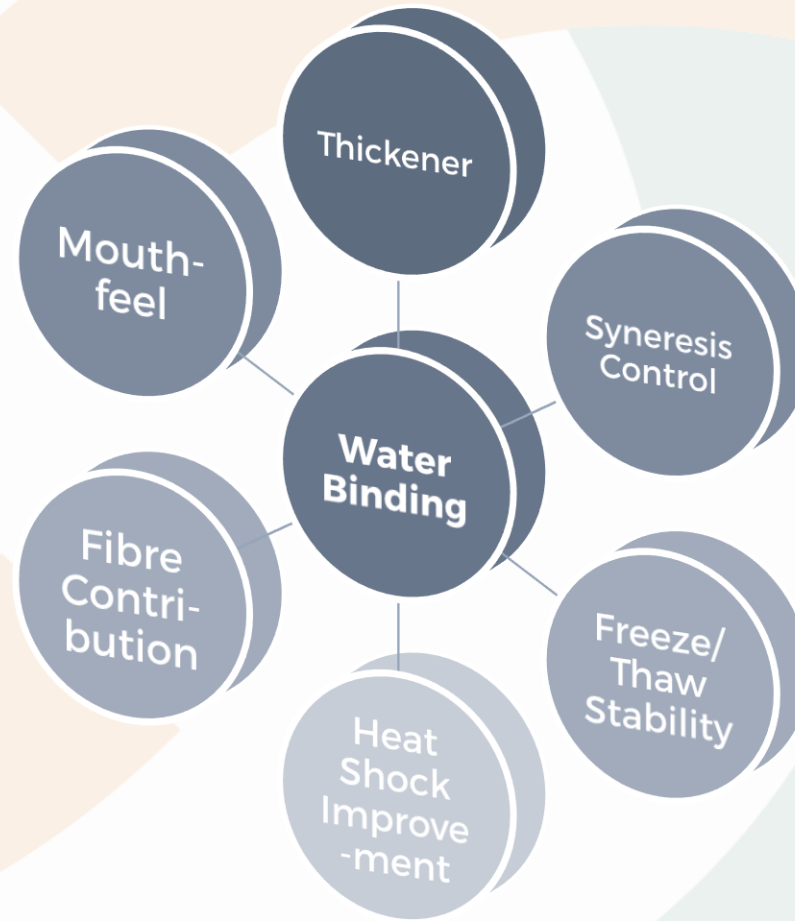
# CITRUS FIBER CF 1525 C *Sauces, Condiments*

Dressings  
Sauces  
Marinades  
Soups  
Instant Soups  
Mayonnaise



# CITRUS FIBER CF 1525 C *Frozen Food*

Ice Cream  
Sorbets  
Ice Lollies  
Frozen Dough  
Pizza Toppings



# CITRUS FIBER CF 1525 C *Bakery, Snacks*

**Bread & Buns**

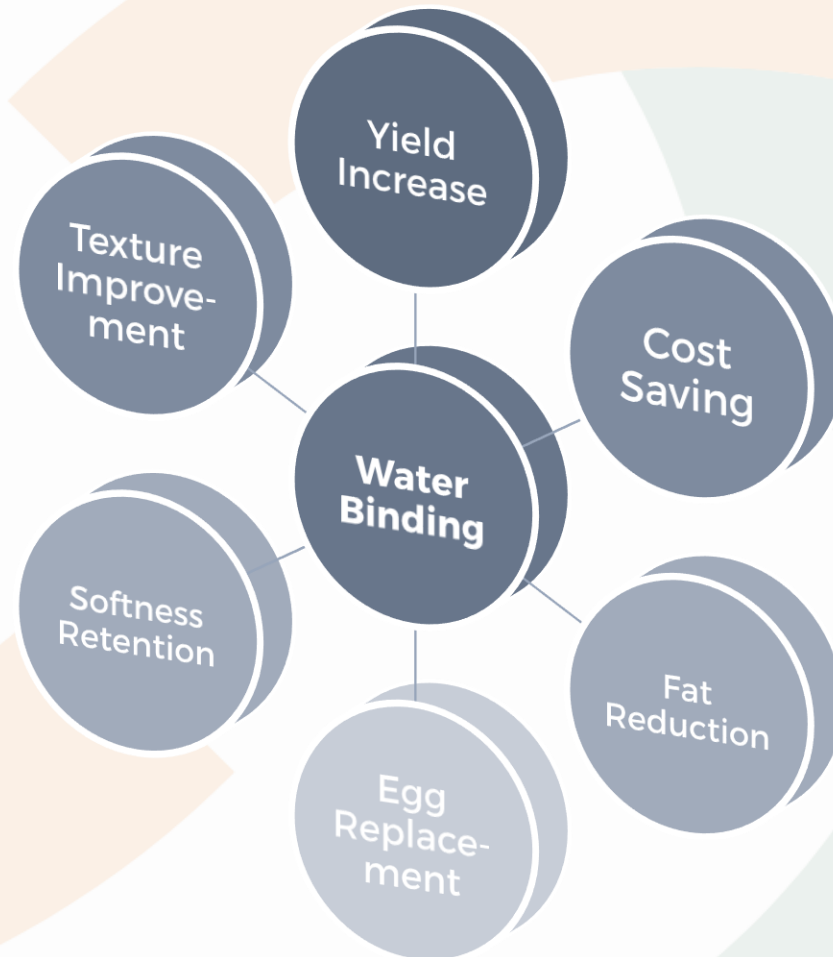
**High Fibre Bread**

**Cakes, Muffins**

**Nutritional Bars**

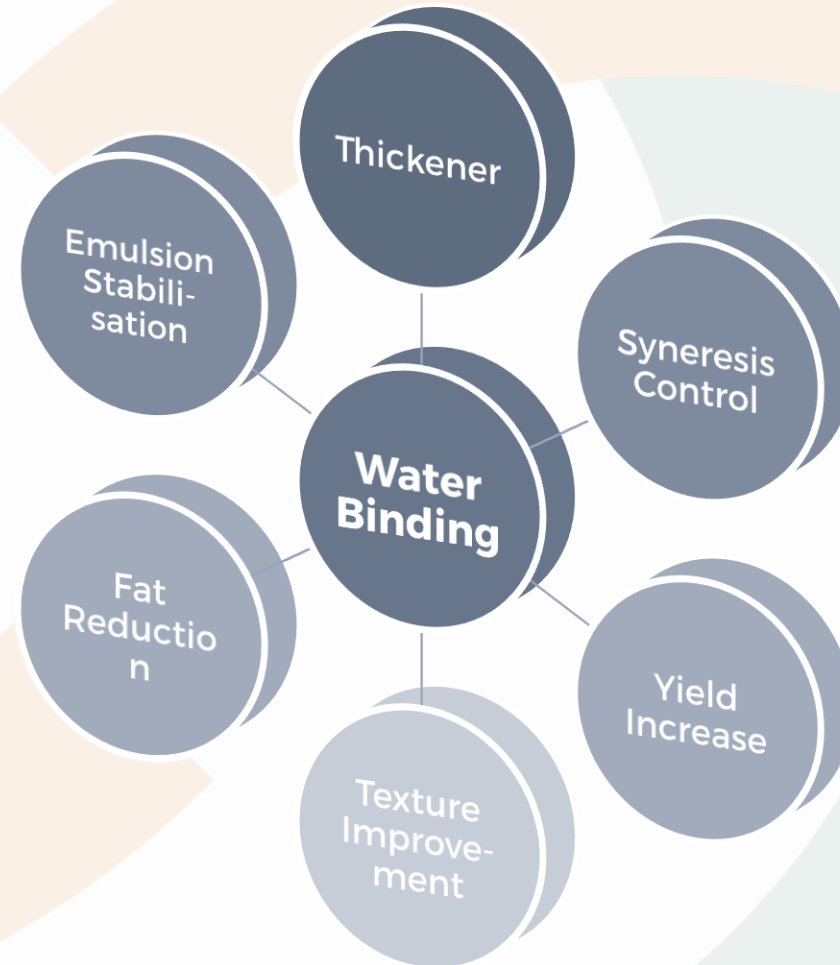
**Crackers**

**Gluten-free Bread**



# CITRUS FIBER CF N 1525 *Dairy*

Yoghurts  
Cooking Cream  
Cream Cheese  
Spreads  
Quark/Cottage Cheese  
Sour Cream/Schmand  
Butter Spread



# CITRUS FIBER CF 1525 C *Beverages*

'Near water' Drinks  
Fibre Drinks  
Liquid Breakfasts  
Juice Drinks  
Smoothies  
Meal Replacement Beverages  
Instant Beverages

