



FIBER-FORWARD NUTRITION BACKED BY DECADES OF EXTENSIVE RESEARCH

In search of health-forward nutrition to fuel a better-for-you lifestyle, today's consumers want foods that contain dietary fiber. **Fibersol® delivers well-tolerated dietary fiber as well as functional benefits**, all backed by highly reputable clinical studies conducted on actual Fibersol® products.

FIBERSOL® IS A PROVEN, WELL-TOLERATED DIETARY FIBER THAT CAN ENABLE CLAIMS IN A RANGE OF CATEGORIES:



Digestive Health



Prebiotic



Blood Sugar and Insulin levels



Triglycerides Levels



Satiety

Good Source of Fiber

Excellent Source of Fiber

Fibersol® is backed by over **30 years** of extensive clinical research and scientific data

Digestive Health

Prebiotic

Blood Sugar/Insulin

Satiety

Triglycerides

2

4

6

8

10

Grams Fibersol®/serving

FIBERSOL® IN THE BODY

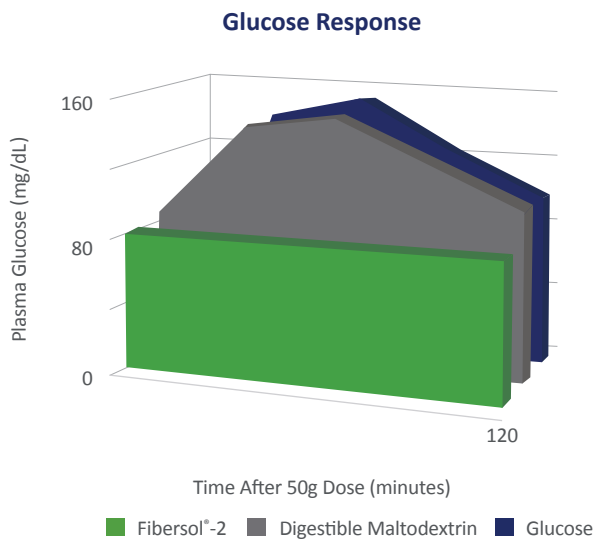
A HIGH-QUALITY, WELL-TOLERATED FIBER

Fibersol® can help deliver the desired benefits of fiber **without the digestive intolerance or gastric discomfort** of other types of dietary fiber.

Fibersol®
has over **4x**
the tolerance
of inulin.

Fiber	Limit	Reference
Fibersol®	68 grams per day	Y. Kishimoto et al., 2013
Inulin	10 to 15 grams per day	A. Bonnema et al., 2010
Oligofructose	5-10 grams per day	A. Bonnema et al., 2010
Polydextrose	15 grams per day	As codified by FDA

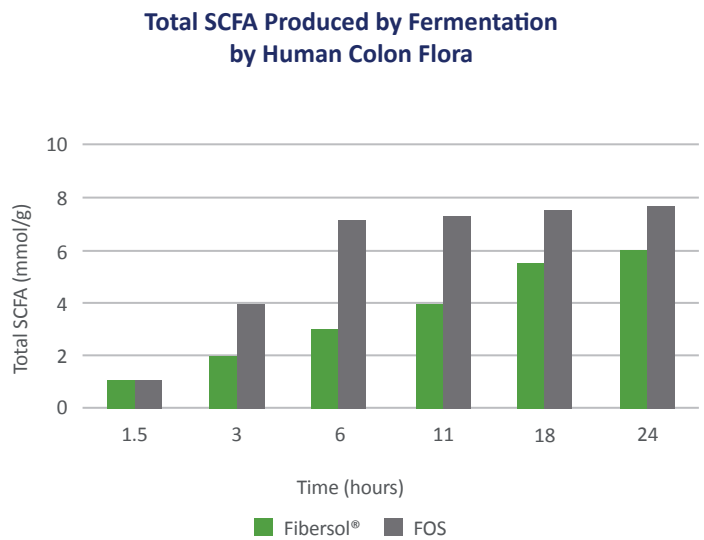
Fibersol® is **low in simple sugars**, making it a great ingredient for products formulated for reduced sugar and lower calories. 10g of Fibersol® adds just a skinny 0.02g of sugar (less than 0.1 calories from sugar!).



Virtually **no serum glucose response** speaks to Fibersol®'s status as a low-calorie fiber

Reference: Okuma, K. (2002). J Appl. Glycosi. 49: 479-485 Study on the chemical make up and indicates that the structure of resistant maltodextrin will not be digestible because of the alpha 1-2 and 1-3 linkages present.

Fermentation of Fibersol® in the gut enhances mineral absorption and yields SCFAs*, which have many roles in **supporting optimal health, including supporting beneficial gut microbes.**



Measurements of SCFA after consumption speak to Fibersol®'s status as a **slow fermenting, well tolerated prebiotic**

Reference: Fahey, GC. J. Nutr., 130, 1267-1273 In vitro fermentation experiments on human colon microflora showing an increase in SCFA and a less aggressive reduction in pH compared to other fibers, e.g. FOS, which indicates less digestive discomfort from off-gas. *SCFA: short chain fatty acids



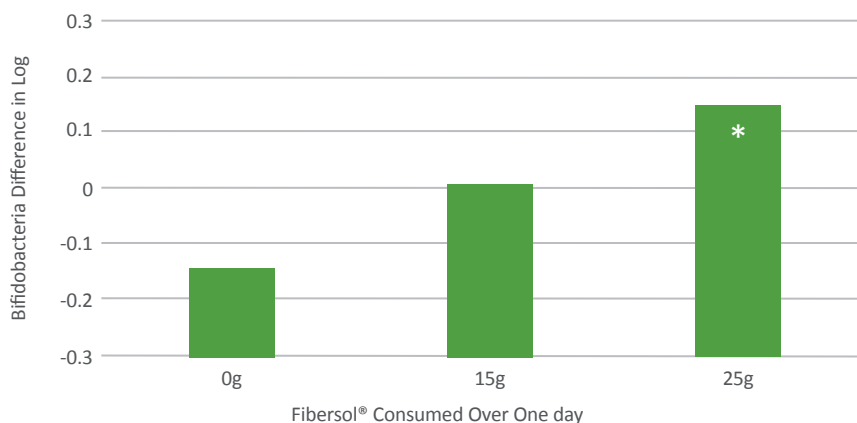
DIGESTIVE HEALTH

Fibersol® is a **prebiotic fiber** that **addresses consumers' interest in both healthy digestion and holistic gut health**. Not all fiber is equal! Only fiber that encourages the growth of beneficial bacteria within the gut can be called prebiotic.



Clinical studies show that **6g of Fibersol® per serving** may help **nourish the intestinal flora** and **maintain a healthy intestinal tract environment**.

BIFIDOBACTERIA COUNTS INCREASED SIGNIFICANTLY WITH INCREASING INTAKE OF FIBERSOL®



*p=0.0084 vs. 0g

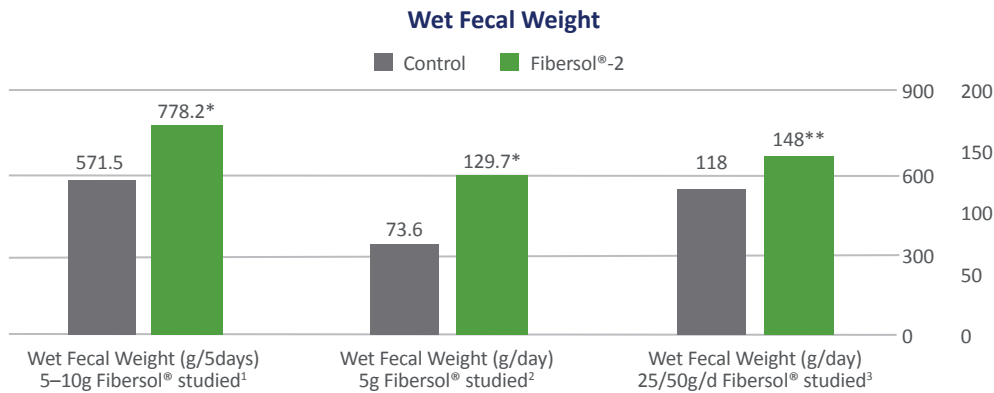
Reference: Burns A. (2018). Nutrition Research, 60, 33-42 25g/day Fibersol® double blind study (51 subjects) showed significant increase in fecal bifidobacteria counts.



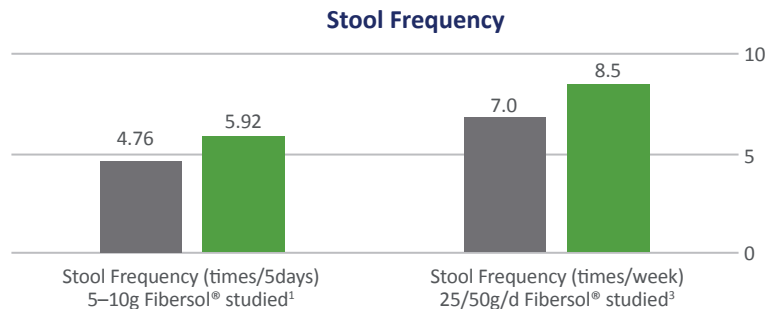
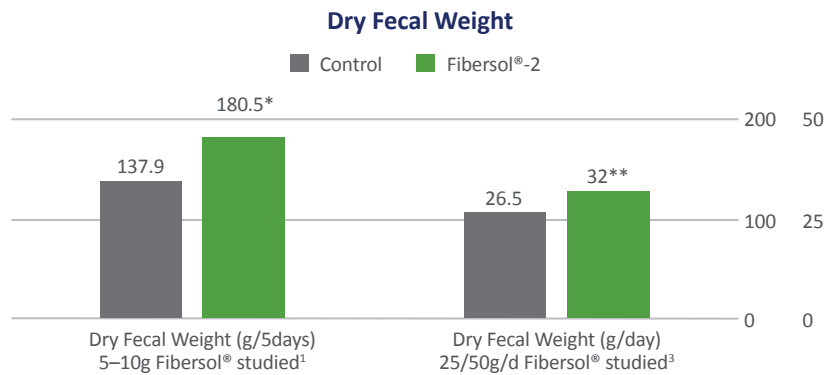
DIGESTIVE HEALTH



In a range of studies, **Fibersol®** was shown to increase wet and dry fecal weight. Increases in stool frequency were also reported.

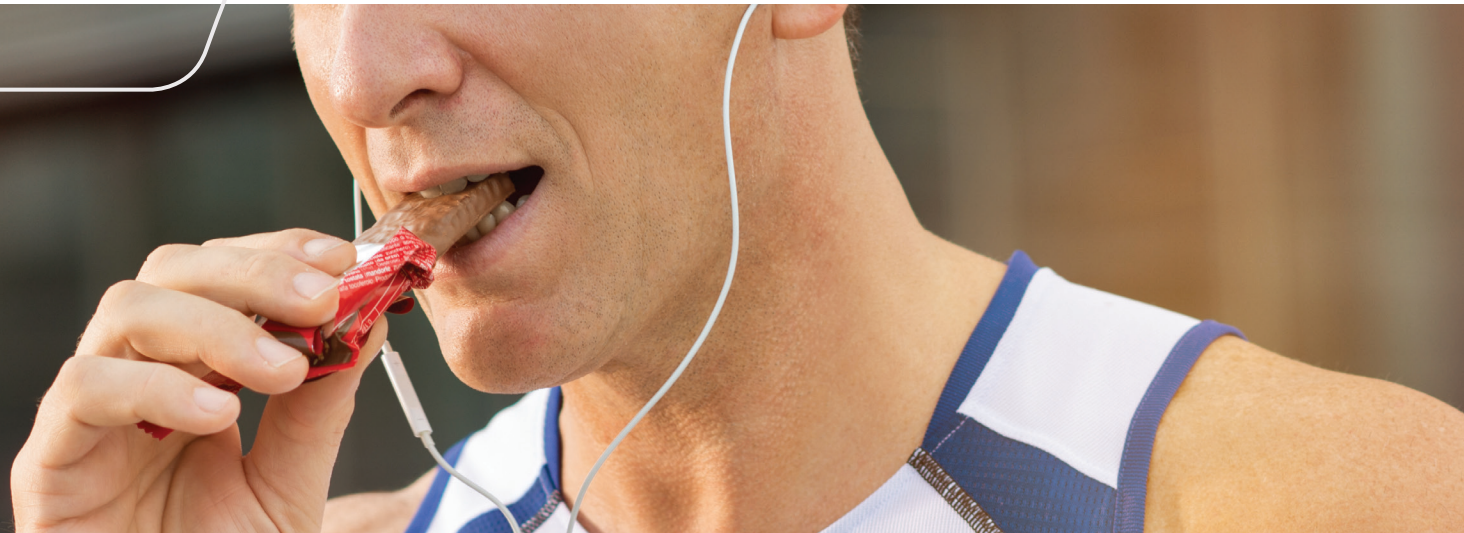


Clinical studies show that **4-8g of Fibersol®** with each meal helps support or maintain **intestinal regularity**.



¹Satouchi, M. et al (1993)
²Kishimoto, Y. et al (2009)
³Baer, DJ. et al (2014)

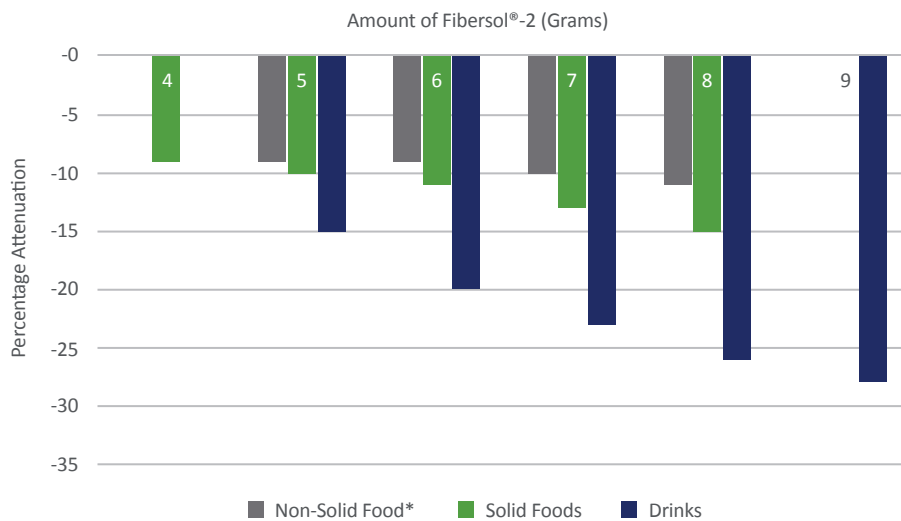
*p. value <0.05
**p. value=0.0001



POST-MEAL BLOOD GLUCOSE AND INSULIN

Fibersol® provides consumers **potential wellness benefits** as it **maintains steady blood glucose and insulin levels**. Consumers are making the connection between consuming a poor meal and then feeling low energy or experiencing a sugar crash.

FIBERSOL® ATTENUATES GLYCEMIC RESPONSE ACROSS PRODUCT CATEGORIES



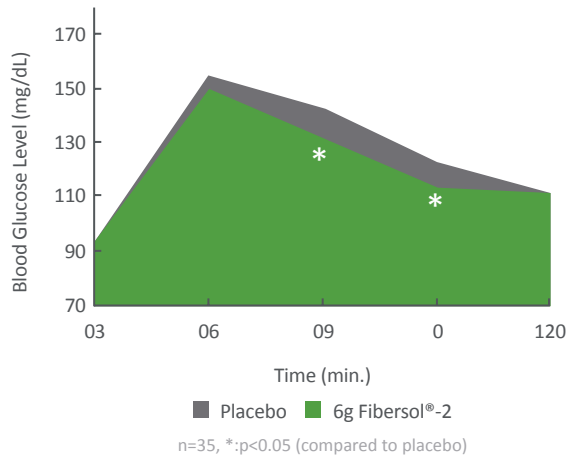
*Non-solid foods include tomato and miso soups, and soft foods like yogurt
 Reference: Tokunaga, K. (1999). J. Japan Diab. Soc., 42, 61-65



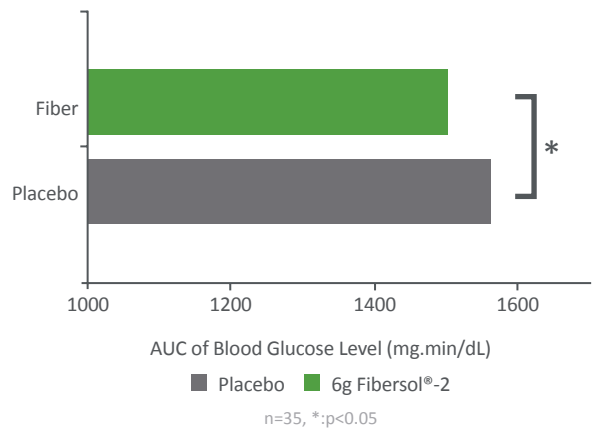
POST-MEAL BLOOD GLUCOSE AND INSULIN

5g of Fibersol® taken with a meal shows a significant improvement in post-meal blood sugar levels and insulin response.

Post-meal Blood Glucose Response

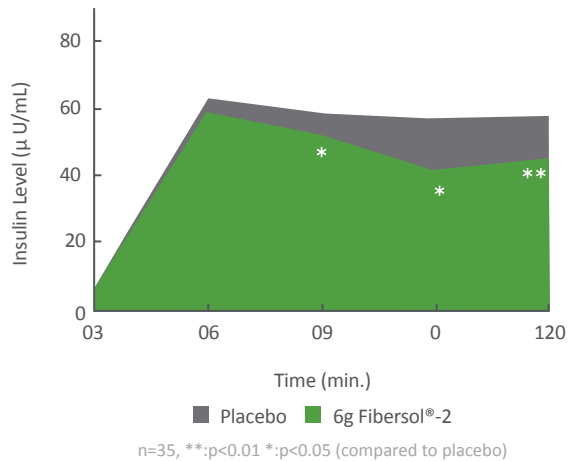


120min-AUC of Blood Glucose Response

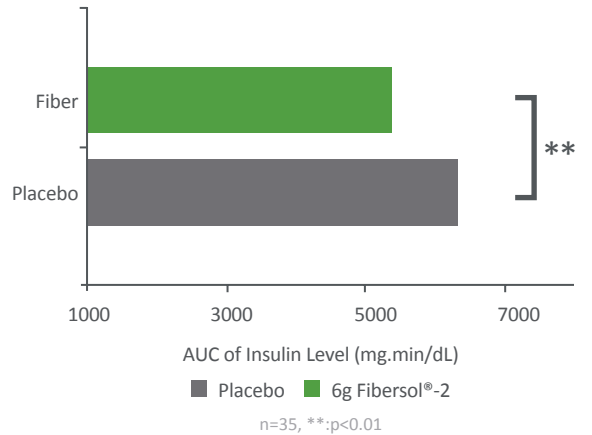


Clinical studies show that 4-6g of Fibersol® helps reduce blood sugar levels and helps minimize blood sugar spikes after a meal.

Post-meal Blood Insulin Response



120min-AUC of Insulin Response



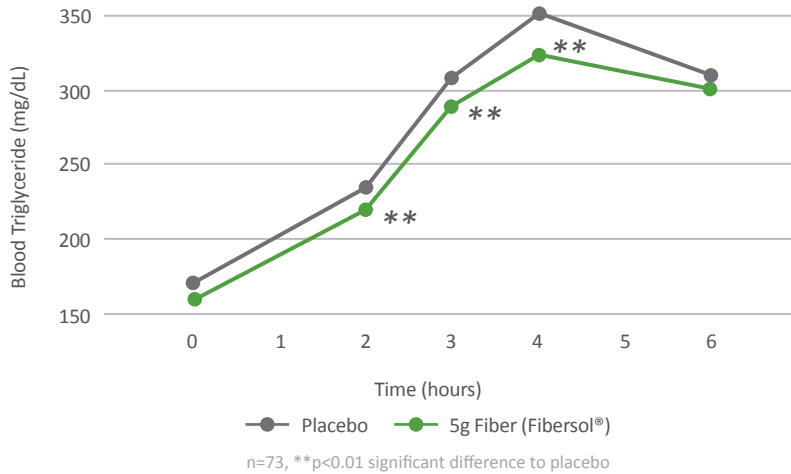
Reference: Yuasa, M. et al (2004) Jpn Innov Food Ingrid Res 7:8-93



POST-MEAL TRIGLYCERIDES

Fibersol® helps **maintain lower triglyceride levels**, offering consumers **potential wellness benefits**. Today, consumer awareness around the impact of high triglyceride levels on the arteries and overall health is growing.

Fibersol®-2 Attenuation of Post-Meal Triglycerides

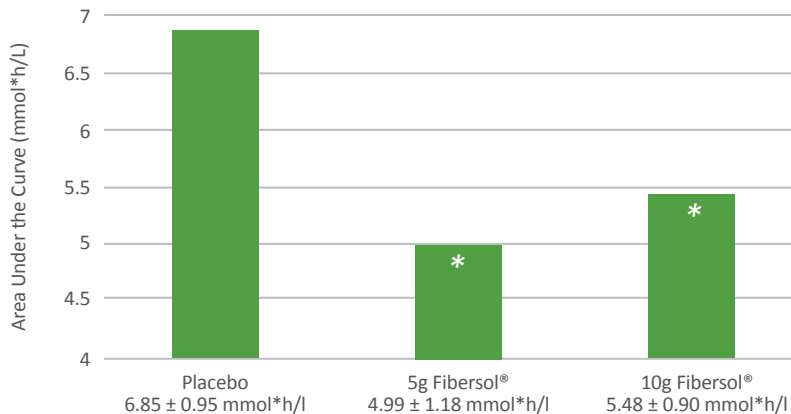


Participants consumed a carbonated beverage with a high-fat meal. The participants whose beverage included 5g of Fibersol® showed significant lowering of postprandial serum triglycerides.

Reference: Tanaka, T. et al. (2011), *Jpn. Pharmacol Ther.*, 339: 813-821 Randomized double-blind crossover study (90 subjects) on carbonated beverage with 5g resistant maltodextrin taken with high fat meal (41g fat) showed significant lowering of postprandial serum triglycerides.

Clinical studies show that **5-6g of Fibersol® per serving** helps **attenuate the rise in blood triglycerides** following the meal and helps **retain health blood triglyceride levels**.

Post-Meal Serum Triglyceride Levels
Fibersol®-2 helps retain healthy levels



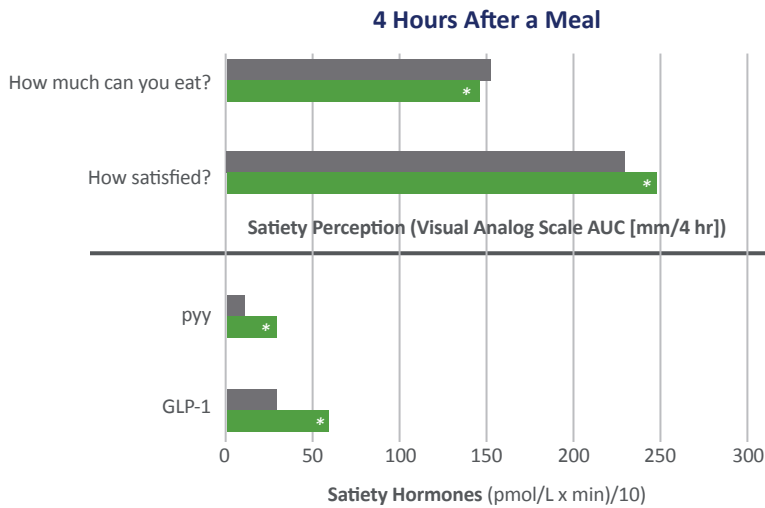
Participants received high-fat meals over a period of days with and without Fibersol®. At 5g and 10g served with a meal, Fibersol® helped retain healthy triglyceride levels.

Reference: Kishimoto, Y. et al. (2007), *Eur. J. Nutr.*, 46:133-138 Single blind study (13 subjects) using high fat meal (50g fat) and placebo, 5g Fibersol® and 10g Fibersol®. Both Fibersol® doses resulted in significant reduction in triglyceride.



SATIETY

Fibersol® provides products with satiety benefits that help consumers feel fuller, longer. Prompted by everything from weight management efforts to holistic health concerns, consumers are looking for positive nutrition and satisfying eating experiences.

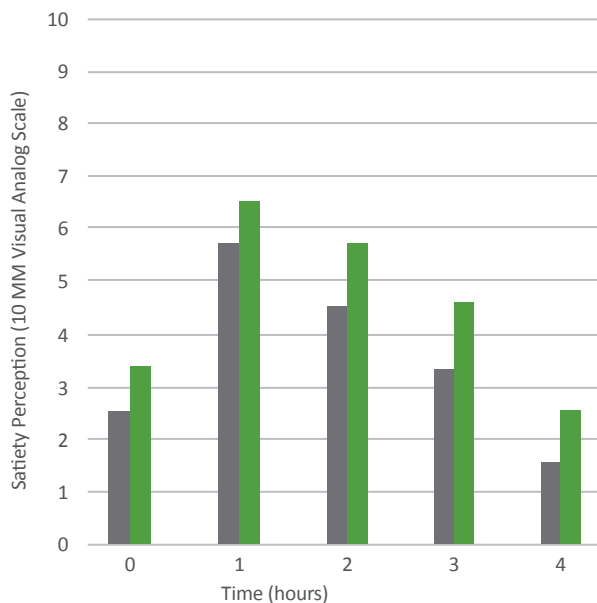


■ Without Fibersol®-2
■ With 10g Fibersol®-2

In both qualitative (reported satiety perception) studies and quantitative studies (measurement of satiety hormones peptide yy and GLP-1), results showed statistically significant improvement of satiety at up to 4 hrs.

Reference: Ye, Z. (2015). Nutritional Research, 35, 393-400
*p>0.05

Clinical studies show that 10g of Fibersol® with a meal may delay hunger and stimulate appetite-regulating hormones.



Satiety Perception

■ Control
■ 11g Fibersol®

Study participants consumed a beverage in the morning and reported on satiety throughout their day. Participants whose beverages included Fibersol® reported higher levels of satiety.

Reference: Fernandez-Raudales, D. (2018). J. FNS., 9, 751-762

Scale: 10 = Extremely satisfied, 0 = Not at all satisfied

CLAIMS YOU CAN TRUST



DIGESTIVE HEALTH

At 4-8g of Fibersol® daily, clinical studies have shown that Fibersol®:

- Helps support or maintain intestinal regularity
- Helps relieve occasional constipation
- May support gut health
- Improves stool consistency (selected studies)



PREBIOTIC

At 6g of Fibersol® per serving, clinical studies have shown that Fibersol®:

- May help nourish the intestinal flora and maintain a healthy intestinal tract environment



SATIETY

10g of Fibersol® with a meal may:

- Delay hunger and stimulate appetite-regulating hormones



POST-MEAL BLOOD GLUCOSE AND INSULIN

At 4-6g of Fibersol® with each meal, clinical studies have shown that Fibersol®:

- Helps reduce blood sugar levels after a meal
- Helps minimize blood sugar spikes after a meal



POST-MEAL TRIGLYCERIDES

At 5-6g of Fibersol® with each meal, clinical studies have shown that Fibersol®:

- Helps attenuate the rise in blood triglycerides following the meal
- Helps retain healthy triglyceride levels

THE POWER OF TWO

Fibersol® is supported by the joint venture between Archer Daniels Midland Company, Matsutani Chemical Industry Co., Ltd., and Matsutani America, Inc., a global selling and marketing partnership combining strong technical and scientific expertise with a vast global production and transportation network, for a high-quality food ingredient backed by attentive, reliable service and supply.

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