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## Chicory root fiber meets the gold standard in all aspects: Taste, texture, inner-wellbeing and solid science.

When it comes to the importance of dietary fiber intake for a healthy nutrition, public awareness has been steadily growing over the last decades. Today, more than 60% of the US consumers are very concerned about maintaining a healthy digestion. Although vast parts of the world's population are still lacking a sufficient fiber intake, over 70% of American consumers actively try to consume more. In general, consumers look for convenient solutions and Americans eat fibers for a better digestion and bowel regularity and see it as part of a healthy diet.

With an abundant consumer interest for fiber, it is no surprise that over the last 10 years a multitude of options have come to the market: nature-made fibers from plants like inulin (chicory root fibers), synthetically-made indigestible products from starches and glucose syrups, polydextrose, and others.

Chicory root fiber has an abundance of sound supporting science related to digestive health, blood sugar management, weight management and many more aspects in place, even with an approved health claim by the European Commission for improvement of bowel regularity.

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connecting nutrition and health



## Fibers that consumers are really looking for.

Known to all marketers: today's consumers are triggered by naturalness - they simply consider natural products as "better". Consumer studies<sup>1</sup> show that two out of three Americans agree with this consideration; and in emerging markets, like Mexico and Brazil, this number is even higher than 80%.

But how do Americans define a "natural" product or ingredient?<sup>2</sup> "No chemicals", "no additives" and "coming from nature" take a prime position, right after "organic". But also "not processed/modified" is an important nominator for the American consumer.

Consumers like chicory root fiber! According to US consumers, chicory root fiber sounds healthy and like an ingredient that is good for them. 62% of Americans say chicory root fiber sounds natural – compared to other fibers on the market, this is a very high score (reference 1 scored 42%, reference 2 scored just 3%).

Simply looking at the sources where fibers are coming from, it is only natural that consumers prefer chicory root fibers. These fibers are actually made by nature, and then simply extracted from the root of the chicory plant via a pure hot water treatment. BENEО sources its fibers in the best growing areas in the Northern and Southern hemisphere.

Figure 1: "Please describe in a few words what the word 'natural' means to you when thinking of food and drinks."

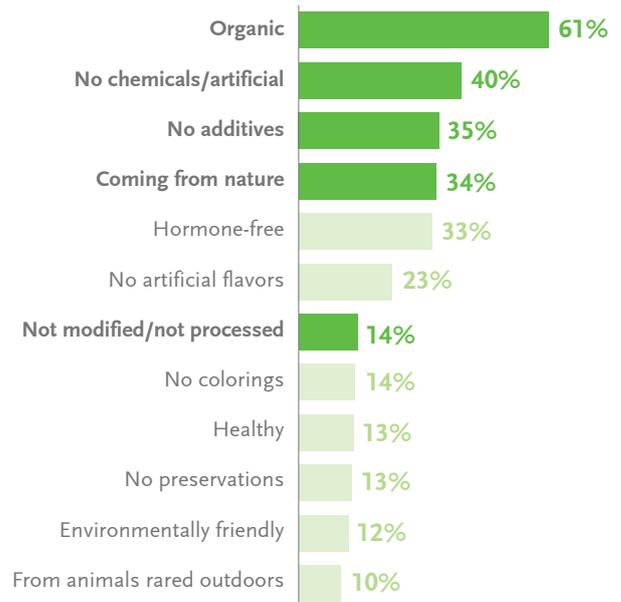
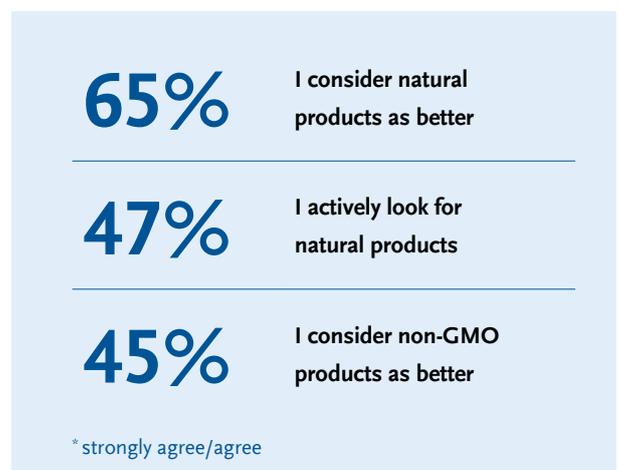


Figure 2: Natural and non-GMO ingredients are important to US consumers.\*



1: BENEО's international consumer fiber research (2012-2013); Q: "To what extent do you agree with "I consider natural products as better"?  
2: Source: Leatherhead Clean Label report, Nov 2011, US



## Chicory root fiber – one of the best researched fibers globally.

Over 20 years of nutrition research on chicory root fiber makes it one of the best researched fibers in the world. For many studies, BENEÓ worked in close collaboration with different universities pioneering in prebiotic research.

In total, 157 human intervention studies are published on chicory root fiber, delivering strong evidence for 7 distinct physiological benefits, mentioned in the table below. Chicory root fibers - inulin including short chain inulin (oligofructose), fructo-oligosaccharides (FOS) - and galacto-oligosaccharides (GOS) are the only scientifically proven prebiotic dietary fibers today. Health benefits related to chicory root fiber intake are established in the following areas:

### Inner well-being with chicory root fibers.

The support of digestive health is one of the key benefits of dietary fibers – if scientifically proven for the individual dietary fiber – as is the case for chicory root fiber, evidenced by a positive EFSA opinion and approved health claim. A higher bowel activity is perceived – you feel that it works without distress. Also this aspect is addressed in the EFSA evaluation and approved health claim, resulting in the conclusion of a dosage of 12g daily. In the relevant study following EFSA's gold standard in study design the improvement was achieved without gastrointestinal distress.

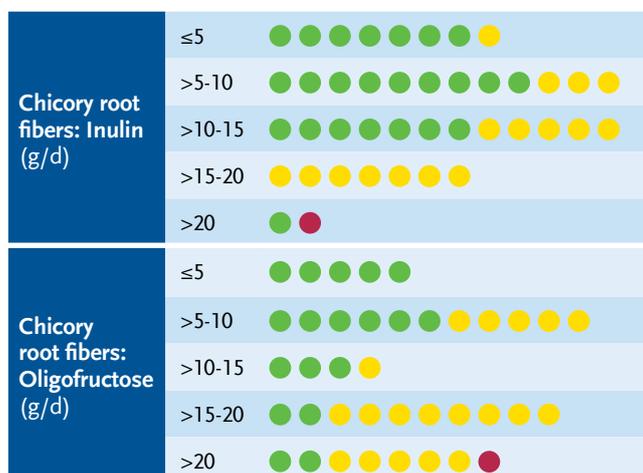
When comparing the different fibers available on the market, and their study results on digestive comfort, chicory root fiber (Inulin and Oligofructose) shines as “very well” to “well tolerated” ingredient (Figure 4). In addition, excellent test results for chicory root fiber even indicate that the beneficial prebiotic effect can already be achieved with much lower daily dosages.

When you “feel” your fiber intake, you know that it works. This is common for all fibers and fiber-rich food like beans, onions, plums or cabbage. It's all about finding your personal fiber balance – moving towards a better digestive health in your own comfortable way. For some, piling up the fiber is the right move – for others, it's a road of trial and adjust.

Figure 3: Chicory root fibers: the best evaluated individual fiber with a history of 20 years of nutrition research.

Numbers of published human intervention studies with chicory root fibers (inulin & oligofructose)	
Prebiotic effect	45
Bowel function	36
Satiety / Energy intake	19
Body weight management	16
Blood glucose postprandial	14
Blood glucose management	17
Mineral absorption	10

Figure 4: Chicory root fibers: positive tolerance scores in a multitude of human intervention studies.



#### CATEGORIZATION OF EACH TRIAL: COLOUR CODES

- “very well” or “well tolerated” without or with non-significant increase of GI\* symptoms
- “well tolerated” with mild to moderate, yet significant GI symptoms
- “not well tolerated”
  - ≥25% of subjects with severe (increase in) flatulence
  - (key symptoms) and/or diarrhea and/or
  - remarkable number of dropouts due to
    - severe GI symptoms /discomfort and/or
    - too much occasions with severe GI symptoms

\* GI: Gastro Intestinal

## Convincing in every sense.

BENEO chicory root fibers offer a whole range of valuable benefits – for food manufacturers and consumers alike. Our range of ingredients can help you to produce healthy food products that will perfectly match today’s expectations. Together, we can contribute to better nutrition and health.

Figure 5: BENEO chicory root fibers - your best option.

<b>Natural origin</b>	Chicory root fibers are extracted from the chicory root by hot water, i.e. they are natural plant based dietary fibers.
<b>Extensive research</b>	20 years of high quality nutrition research on chicory root fibers is reflected!
<b>Important health benefits</b>	Health benefits related to chicory fiber intake are: prebiotic, fermentation, bowel function, digestive health, calcium absorption & bone health, blood glucose management, weight management, energy intake and satiety. Strong basis for nutrient content claims and structure function claims
<b>Digestion support with good tolerance</b>	GI tolerance scientific review proves that chicory fibers are well tolerated and other fibers are not better tolerated. Feeling of digestion is what fibers should deliver if they are functioning.
<b>Consumer preference</b>	Chicory root fibers have a healthy, natural appeal for consumers.

## Always at your side: Profit from our interdisciplinary expertise.

BENEO Inc is the commercial entity of BENEO group in the American region. Our experience comprises valuable insights. No matter if your question concerns process technology, if it is marketing related or if it is about legislation and regulations. With nutritionists, marketers, regulatory professionals, technical food engineers and a competent sales force throughout the world, there is always a BENEO expert that can help you. It’s the combination of advanced ingredients and specialist knowledge together with access to a global network of experts which makes BENEO a unique business partner.

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