### A NEW FRONTIER FOR BENEFICIAL MICROBES: WEIGHT MANAGEMENT AND METABOLISM

Metabolic syndrome is the condition that often precedes blood glucose imbalance and includes fat accumulation at the waistline. Many children, teens, young people, baby boomers, and seniors are finding it hard to keep the stomach area slim. Instead, unhealthy fat is being accumulated which can raise our risk for serious disease.

### BENEFICIAL MICROBES MAY HELP WITH APPETITE CONTROL, SUGAR, AND FAT METABOLISM

Microbiologists are finding new information that may help us. Scientists stated, "Manipulation of gut microbiota through the administration of prebiotics and probiotics [beneficial microbes] could reduce intestinal low grade inflammation and improve gut barrier integrity, thus improving metabolic balance and promoting weight loss."<sup>2</sup> Gut microbiota appear to affect energy absorption, gut motility, appetite, glucose, lipid metabolism, and fat storage in the liver.<sup>2</sup>

As this science unfolds, interpreting the complex microbiology of the human body is creating much excitement and new information. To some extent, we may blame the microbes—not just poor eating habits and slacking off on regular exercise for some of our excess weight!

# WHAT IS A PREBIOTIC?

Microbiologists define a **true prebiotic** as an ingredient when it has accomplished these three things:

- 1. When it is proven to bypass digestion and reach the colon intact.  $^{\rm 3,4}$
- 2. When it stimulates the growth of types of bacteria shown to positively improve health.<sup>3,4</sup>
- 3. Fructooligosaccharides (FOS) reach the colon to stimulate growth of beneficial microbes in the colon .<sup>3,4</sup>

The bacteria called *Bifidobacteria* is stimulated to grow with prebiotics. This has been shown to improve weight loss and decrease fat accumulation in studies.<sup>3,4,5</sup>

DIGESTIVE<sup>+++</sup> contains true prebiotics. These are in the form of purified fructooligosaccharides (FOS) and those from Jerusalem artichoke, Dandelion leaves and Yacon Root.



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# COULD YOUR WEIGHT GAIN BE GUT RELATED?

With summertime approaching we look forward to warm weather, vacations, and outdoor activities. And, looking our best doesn't hurt either! The goal for many of us is to drop a few pounds before bathing suit season officially begins. Although it's common knowledge now that weight loss strategy involves a mix of diet and exercise, studies show that microbes inhabiting the intestinal tract may affect weight gain and sugar balance.

A study reported in Nature Medicine (2006) addressed the observation that certain microflora could actually make us fat.<sup>1</sup> The study showed that "obese" mice and "slim" mice had different populations of gut bacteria. Study results indicated that a certain type of microbe in the gut may have caused their obesity.<sup>1</sup>



### WHY IS DIGESTIVE\*\*\* BETTER THAN OTHER PROBIOTIC SUPPLEMENTS?

Microbes used in typical probiotic dietary supplements are very fragile and do not always stay alive during extended processing. Most yogurt brands available to consumers may contain the dietary requirements of a probiotic, but they are extremely high in sugar. Liquid probiotics may lose their effectiveness during shelf-life periods.



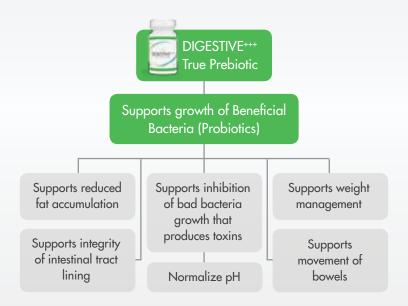
DIGESTIVE<sup>+++</sup> contains the active microbe called *Bacillus coagulans*. It was renamed from *Lactobacillus sporogenes* in 1957 because of different properties, as compared to other lactic acid producing *Lactobacillus* microbes. It reproduces by forming little capsules called spores, which have a stronger cell-wall type structure. They are stable at room temperature and remain viable during handling and for the duration of their shelf life. Studies showed active *Bacillus coagulans* is eliminated from the GI tract about seven days after supplementation, proving it is alive in the digestive tract.

DIGESTIVE<sup>+++</sup> also contains a full range of basic enzymes, which promote more complete digestion and assimilation of the nutrients from foods. Because prebiotics (fructooligosaccharides) have specific chemistry, digestive enzymes do not break them down.

# **ADDITIONAL WEIGHT LOSS TIPS**

If you're looking to lose a few pounds in addition to keeping your GI tract healthy, here are a few simple weight loss tips to help you:

- Keep calories low by eating lean proteins and limiting starchy carbohydrates (e.g., white bread, pasta, rice, and high sugar products).
- Incorporate small portions of healthy fats (nuts, avocados, seeds) to keep you sated for longer periods of time.
- Exercise! Walk, swim, and run around with your kids. Play interactive sports that get your heartrate up such as volleyball, tennis, or racquetball. Take classes in dance, Pilates, yoga, or try something completely new—there's no better time to try. Have a great summer!



These enzymes are formulated to function at the pH ranges throughout the GI tract.

Proper digestion is one of the most important things your body can accomplish and taking DIGESTIVE<sup>+++</sup> will help do that. Over the last 15 years, microbiologists have performed studies determining additional, important functions of beneficial microbes and prebiotic foods. This symbiotic partnership between our bodies and an optimal microbial ecosystem may help support proper weight management and metabolism.



These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.

#### REFERENCES

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