

Research finds diversifying your diet may make your gut healthier

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A loss of dietary diversity during the past 50 years could be a contributing factor to the rise in obesity, Type 2 diabetes, gastrointestinal problems and other diseases, according to a lecture by Mark Heiman, vice president and chief scientific officer at MicroBiome Therapeutics, at IFT15: Where Science Feeds Innovation hosted by the Institute of Food Technologists (IFT) in Chicago.

Heiman said diet is the principal regulator of the GI microbiome, the ecosystem of the human GI tract. The microbiome contains trillions of bacteria (microbiota) in a solution of unabsorbed macro- and micro-nutrients. The microbiota use the remnants from digestion to create new signaling molecules that allow the microbiota to communicate with a person's metabolic and GI regulatory system.

The microbiome needs a diverse diet to function optimally. However, current agricultural practices as well as climate change have contributed to a loss of that [diversity](#), with about 75 percent of the world's population consuming only five animal species and 12 plant species. Of those 12, rice, maize and wheat contribute 60 percent of all the calories, he said.

"Like any ecosystem, the one that is most diverse in species is the one that is going to be the healthiest," Heiman said. "In almost every disease state that has been studied so far, the microbiome has lost diversity. There are just a few species that seem to dominate."

In his research, Heiman found people with prediabetes and Type 2

diabetes had a different microbiome makeup than people without those health conditions. He created NM504, a formulation of inulin, beta glucan and antioxidants, and tested it in a pilot of 30 individuals, half of whom received the formulation twice a day. The remainder received a placebo. Those who received NM504 saw a shift in the makeup of their microbiome and, consequently, health benefits that included improved glucose control, increased satiety and relief from constipation.

After completing the NM504 research, Heiman looked at "heirloom" foods—foods that once were popular and now are rarely eaten—and whether adding them to the diet would have a beneficial effect. He developed MT303, derived from whole soybean pods, and found that it also shifted the makeup of the microbiome and resulted in positive health benefits on obese mice, including protection from colon inflammation and decreased weight gain.

Heiman said both of the studies showed health benefits from taking a therapeutic agent, but the results also point to the potential [health benefits](#) for people who make dietary changes.

"Think about diets and think about foods you eat," he said. "How can we get more diversity into our diets? And we may think less about fad diets where you eliminate a certain component to your diet."

Provided by Institute of Food Technologists

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