



Healthy4life.ca Newsletter - March 2020

Holistic nutrition includes body, mind and spirit. Articles will address each area.



Resistant Starch - RS

I have had so many questions about resistant starch from all of you that I decided to dedicate this newsletter to resistant starch. It can reduce blood sugar levels, improve insulin sensitivity and reduce your appetite which is helpful for weight loss.

Resistant starch is a starch that is resistant to digestion. It passes through your stomach and small intestine. It cannot be digested by amylases in the small intestine. When it gets to your colon or large intestine it ferments. It is food for the beneficial bacteria in your microbiome. The beneficial bacteria digest the resistant starch and produce short-chain fatty acids like butyrate. It is also known as botanical resistant or digestion resistant.

Resistant starch or carbohydrates act like soluble, fermentable fiber. A food can have more than one type of resistant starch. The amount of RS changes with heat and cooling.

There are different types of RS. Some papers discuss 4 types others 5 types. In my upgrading courses, we are always taught about 5 types. The science behind the types is explained well in the NIH National Institutes of Health link listed under

resources.

Type 1 or RS I: bound within fibrous cell walls, found in legumes, cereal grains and seeds.

Type 2 or RS II: found in raw potato, ginkgo starch and unripe banana.

Type 3 or RS III: created when particular starches cooked and cooled through a process called retrogradation and happens when potatoes, other starchy vegetables and rice are cooked and then cooled, overnight in the refrigerator. It changes the glycemic index of the food.

Type 4 or RS IV: man made through a chemical process into a highly cross-linked starch that changes its structure and restricts enzymatic hydrolysis.

Type 5 or RS V: single-helical amylose-lipid complex, heat stable.

RS is good for you and can help with many things including stabilizing blood sugar, bowel motility and in managing weight.

Resistant Starch Resources:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3823506/>

Clinical Study Different Types of Resistant Starch Elicit Different Glucose Responses in Humans Journal of Nutrition and Metabolism Volume 2010, Article ID 230501, 4 pages <http://dx.doi.org/10.1155/2010/230501>

<http://hopkinsdiabetesinfo.org/what-is-resistant-starch/>

<https://www.healthline.com/nutrition/resistant-starch-101>

<https://www.consumerreports.org/healthy-eating/resistant-starch-may-speed-weight-loss-and-improve-health/>

<https://www.prevention.com/food-nutrition/a20500723/resistant-starch-helps-with-weight-loss/>

Detox Tips for March

Increase resistant starch in your diet. Detox your lungs of carbon dioxide by breathing deeply all the way down in your diaphragm and then exhaling every last bit of air out of your lungs. Repeat several times a day.

**Be healthy 4 lfe,
Cathy Ferren RHN**

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