

The Benefits of Resistant Starch

- **Lowers insulin resistance**
- **Improves fuel for the brain**
- **Helps eliminate type II and III diabetes**
- **Reduces gut inflammation**
- **Treats “leaky gut syndrome”**
- **Treats metabolic syndrome**
- **Reduces food cravings**
- **Helps with weight loss**

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Resistant Starches

People that have a lot of adrenaline but are resistant to eating vegetables can benefit by adding foods that are designated as resistant starches into their meal plan.

In addition, when people have Type III diabetes (AKA insulin resistance in the brain), they have a hard time getting sugar (glucose) into their brain cells. Since this is one of the two primary fuels the brain needs to function, it results in the body releasing excess adrenaline to raise glucose levels for the brain via a process called gluconeogenesis.

In both these situations, one approach is to make sure that the brain is getting adequate amounts of the other fuel it requires, namely ketones. The best source of ketones is derived from coconut or MCT oil.

The other approach is to try and provide the brain with glucose by utilizing resistant starches (RS) in order to reduce insulin resistance by increasing insulin sensitivity. The fact that insulin sensitivity is increased indicates that not only are RS good for type III diabetes, but type II diabetes as well.

RS travels untouched through the small intestine into the colon, where the colonic bacteria metabolize it into short chain fatty acids – primarily butyrate. In other words, it is “resistant” to digestion and does not get absorbed into the body. Accordingly, it does not spike blood sugars or cause weight gain. It serves as an ideal prebiotic for healthy bacteria in our large intestine.

Other benefits of RS is that it lowers cholesterol and triglyceride levels and reduces the storage of fat. They increase the release of two different gut hormones that help to make a person feel full as well as take away cravings. Simply by adding RS to the diet, you can achieve a 50% reduction in abdominal fat. Butyrate, obtained by metabolizing RS, is helpful at burning fat, and counteracts the effects of a high fat diet. It increases the functions of mitochondria (the tiny power plants of cells), and increases insulin sensitivity by almost 300%. The end result is that it helps to treat or prevent metabolic syndrome – a common concomitant of type II diabetes.

Butyrate is also anti-inflammatory and has been shown to help treat ulcerative colitis and Crohn's disease. In addition, it tightens junctions between cells in the lining of the gut, preventing large molecules of protein from getting absorbed into the blood stream causing inflammatory reactions such as food sensitivity reactions as well as Hashimoto's thyroiditis felt to be caused by "leaky gut syndrome".

Side effects of resistant starches:

There are no serious downsides. The most common negative reaction to RS is bloating and gas. If it occurs, it is probably a sign that your gut is compromised. In this case, start slowly with only a tsp of your RS source and slowly increase as tolerated.

The Sources of Resistant Starch

1. Raw oats
2. Navy beans
3. Northern beans
4. Cannellini beans
5. Peas
6. Adzuki beans – also the densest source of magnesium
7. Kidney beans
8. Lentils
9. Black beans
10. Garbanzo beans
11. Lima beans
12. Pearl barley
13. Green bananas
14. Banana Peels
15. Potatoes (raw or cooked and cooled)
16. Sushi rice
17. Pumpernickel bread
18. Rye bread
19. Yams/sweet potatoes
20. Plantains
21. Muesli
22. Corn tortillas
23. Sourdough bread
24. Cooked millet
25. Brown rice
26. Rice pasta
27. Corn
28. Chickpeas
29. Pinto beans
30. Hi-maize flour

Of course, you can find varying levels of resistant starch in a variety of different foods. Cooking and then cooling can increase the amount of resistant starch. And there are some foods which are naturally inclined to have more in them. The richest sources are: raw potatoes, green bananas, plantains, cooked and cooled potatoes and rice, and cooked and cooled legumes (beans).

The kind of common foods which have the highest concentration of resistant starch, by far, has to be beans. Although all types have some, white beans – including navy, northern and cannellini – have the most.

Key Insight: Unripe bananas are important to remember for the purposes of resistant starch. The greener they are, the better they are for you! The more yellow they become, the less resistant starch they have. You can even eat the peels – just make sure you are ready for a bit of a different taste than you are used to from a banana.

When it comes to products that are super dense in resistant starch, two of the best ones available are potato starch and pea starch. They are commercially available and entirely flavorless. They can be easily absorbed in water, are free of plant toxins, and are hypoallergenic.

Bob's Red Mill Unmodified Potato Starch is a popular brand, found in most health food stores and grocery stores.

To get the benefits of resistant starch from foods like potatoes and rice, you need to cook them and then chill them—preferably for at least 24 hours. Cooking causes the starch to swell and absorb water, while chilling it causes it to crystallize into a form that resists the digestive process.

The easiest way to use chilled potatoes or rice is in salads—for instance, a classic potato salad made with avocado mayo, or rice tossed with

veggies and an olive oil dressing. By the way, beans develop even more resistant starch when they're cooled, so don't just eat them hot—also toss them into cold salads.

There are some cautions:

- If you've been diagnosed with small intestinal bacterial overgrowth (SIBO), resistant starch could worsen the condition. Be sure you heal your gut before adding this starch to your diet.
- Also limit resistant starch if you have irritable bowel syndrome, because it could aggravate your symptoms.
- Go slowly. Overloading your gut with resistant starch can cause gas and bloating.

The major benefits will be achieved by consumption of 15-45 grams/day. Research has shown that 30 gms/day is plenty.

One tbs of raw potato starch = 8 gms of RS.

Recommended protocol:

2 tbs raw potato starch in water in AM, followed by probiotic

2 tbs raw potato starch in water in PM

Add RS foods during the day (potato salad, rice pudding green banana in a smoothie, beans in a salad or side dish)

Or, add potato starch to thicken puddings or non-dairy yogurt

Or add it to almond or coconut milk

Or green banana in a fruit salad