



full-fledged diabetic individuals, Roufs continued.

Greenleaf Medical has utilized the ingredient in ProSpinach (a appethyl powder to control cravings), SatisFIVE (flavored appetite control), Appethyl by Green Polkadot Box and Dr. David Williams by Healthy Directions. A common question that is asked about Appethyl, is how much spinach would you need to eat in order to reap the benefits of the extract?

"It is impossible to determine since Appethyl is processed in a particular way so as to make the product 'bioactive' the moment it is ingested allowing a person to reap the benefits of this product even after just one dose. Contrast this with fresh spinach that needs to be digested before releasing the active components that lie within each spinach cell, which by the time this happens, it is too late to reap the appetite suppressing effects," Roufs said.

When one does ingest one serving of Appethyl, 5 grams, it is equal to ingesting approximately three cups of fresh spinach, Roufs continued.

The difference between ingesting fresh spinach and the thylakoids extract is that Appethyl becomes active the moment it is ingested, which allows the extract to temporarily inhibit fat digestion, while the latter is not since the thylakoids in fresh spinach cells are inactive.

This product is derived from a healthy food, has shown to significantly reduce cravings for unhealthy foods, and has two well-controlled clinical trials demonstrating significant weight loss, and since excess body fat is the primary reason for having diabetes, losing the excess body fat only helps to reduce the excess amount of sugar in the blood, according to the company.

The standard American diet often includes large amounts of fats, sugars and carbs that affect the body's ability to process sugars from food into energy, harming the metabolism and ability to convert the mass amount of sugars into fuel for the body. Without a properly functioning metabolism, the glucose that the digestive track breaks

down is released into the blood stream, and without enough insulin to help absorb the glucose and use it in the body blood glucose levels skyrocket.

Again, diet and lifestyle are key factors in reversing or limiting these damaging affects. However, restrictive diets can be difficult, particularly when there are cravings for sweets. Diabetics need to be careful when it comes to ingesting high sugar content, and many turn to artificial sweeteners, which surprisingly, can lead to an increase in appetite.

David Munk, a writer at Utahbased Xlear, maker of XyloSweet and Lite&Sweet natural sweeteners, said that these two products are the closest tasting and baking experience to sugar out of all natural sugar replacements. "Other natural sweeteners on the market are much sweeter than sugar making it more difficult to use as a true sugar replacement,"

Munk continued.

Many natural sweeteners claim no calories, suggesting that the replacement is healthy. However, according to studies, zero-calorie sweeteners can lead to obesity, Munk said.

According to the Harvard School of Public Health, "the brain responds to sweetness with signals to eat more. By providing a sweet taste without any calories, however, artificial sweeteners cause us to crave more sweet foods and drinks, which can add up to excess calories."



XyloSweet and Lite&Sweet both have calories, although fewer than sugar, 40 percent and 75 percent less respectively. XyloSweet is 100 percent xylitol, which is a natural sweetener found in fruits and vegetables. Xylitol doesn't trigger an insulin reaction, according to Munk, which makes it a perfect sweetener for diabetics.

Lite&Sweet, is also made with xylitol with the addition of erythitol, a sugar substitute that looks and tastes like sugar. This blend of xylitol and erythitol doesn't give gastric issues either, Munk said. These sweeteners, while offering a truer taste to sugar than other artificial sweeteners, are also known to have oral health benefits as well.

#### **Natural Approach**

Nutrition expert and co-founder of Hippocrates Health Institute, Brian Clement, said that diet and exercise is the "entire ball of wax when it comes to blood sugar concerns." Diabetes in mainstream medicine is considered a chronic disease.

"The use of oral or injectable insulins are commonly employed often without guidance in changing lifestyles. We have observed a dramatic increase of people seeking personal responsibility in their conquest of blood sugar concerns," Clement said.

"One of the most common medications is Glucophage, which I believe is the safest of the diabetes medications. If treatments have fallen out of favor it's because they're not addressing the deeper cause like inflammation and microbiome abnormalities. It's not just obesity that causes diabetes, and treatments need to be multi-layered," Dr. Raphael Kellman, director of the Kellman Center for Integrative and Functional Medicine and author of *The Microbiome Diet*, said.

In order to incorporate natural products and dietary supplements into a patient's program, natural practitioners need to do so methodically, Dr. Kellman said. Starting with the foundation and use targeting compounds to heal the gut and microbiome, and reduce inflammation. After that, you can add supplements and herbs that affect insulin resistance.

Initially, doctors gave insulin to patients with diabetes, however while helpful to those with type 1 [diabetes], an insulin deficiency, type 2 diabetics have insulin resistance. With this resistance, and the addition of more insulin into the body, the treatments normally result in massive weight gain, causing even worsening insulin resistance, Jacob Teitelbaum, MD, director of the Practitioner Alliance Network, said.

"Sadly, almost every diabetes treatment has resulted in actually increasing morbidity and mortality, with the exception of the old medication metformin. As is usually the case, the toxicities don't seem to become publicized until after the medication's patent wears off and generics become available. People have become appropriately aware of the limitations that standard medicines face treating diabetes, and are turning to holistic alternatives," Dr. Teitelbaum continued.

Practitioners working with patients who have metabolic diseases should know about their history and lifestyle habits. Clement has found that education and emotional and practical support is crucial.

The most critical treatment step for meta-

bolic syndrome and blood sugar issues is first and foremost: avoid excess sugar intake and all of its forms. "It is recommended that people begin by getting rid of soda and fruit juices," Dr. Teitelbaum said.

"Everyone agrees this type of diet change is beneficial for health but additionally, research shows these foods have an adverse effect on the microbiome which in turn causes insulin resistance and ultimately elevated glucose," Dr. Kellman added. He stressed the importance to eat plant-based natural foods, and to avoid processed and refined foods.

Small fish, vegetables (especially root vegetables), and foods that contain prebiotics like jicama, radish and Jerusalem artichoke are beneficial choices.

Supplementation is also important—particularly supplements that can help improve glucose control and insulin sensitivity. These supplements include things like chromium, gymnema sylvestre and cinnamon (mentioned as previously), vanadium, banaba leaf, and even butyrate to help heal the intestine, Dr. Kellman said.

The herb, berberine at 200 to 500 mg, two to three times a day will also help lower blood sugar, as well as brewers yeast at

about 9 g daily, Dr. Teitelbaum shared.

In the last six decades at the Hippocrates Health Institute, Clement said, they have removed high saturated fats and sugars that cause blood sugar concerns. The institute also utilizes high protein plant-based diet and high protein plant-based supplements in the battle against blood sugar regulation. "Protein figuratively acts as a magnet, coagulating and collecting the sugar in the blood, helping to remedy the insulin and pancreatic concerns that this disorder [metabolic syndrome] brings," Clement said.

Dr. Teitelbaum makes sure patients optimize their insulin sensitivity by getting some sun and vitamin D, exercising and optimizing thyroid and testosterone levels, making sure they are not too high in women and optimizing the levels in men.

By understanding the deeper causes, practitioners can better serve and help their patients when it comes to their blood sugar and metabolic health. "By improving overall health, the metabolic function will improve as well," Dr. Kellman concluded. "Diet, exercise, sleep and stress levels all play a part. Movement and a clean diet that nourishes the body and the needs of the microbiome can have a great impact."

- Approximately 8.1 million diabetics in the U.S. don't even know they have diabetes.
- Type 2 diabetics, have insulin resistance, when more insulin is added they experience weight gain.
- Protein acts as a magnet, coagulating and collecting sugar in the blood.
- The more sedentary a patient becomes, the less exercise they recieve—deafting the purpose of good diet and exercise as a treatment.

### **FOR MORE INFORMATION:**

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