Salacia for Blood Sugar Control

It is a well known fact that eating carbohydrates raises blood sugar levels, and eating refined carbohydrates (processed sugars and starches) raises blood sugar levels the fastest. But no carbohydrates can be absorbed, and no blood sugar will budge, until the carbohydrates we consume—be they bagels, beans or bananas—are broken down into single units of monosaccharides.

Only monosaccharides—primarily glucose, but also fructose and galactose—are small enough to be absorbed through the intestinal villi. So an integral part of digestion involves breaking down complex carbohydrates into simple sugars. This process is dependent on enzymes. And alpha-glucosidase, an enzyme housed in the brush border of the small intestine, is among the most important.

Alpha-glucosidase breaks down disaccharides and polysaccharides into glucose. Anything that inhibits the activity of this enzyme reduces the rate of intestinal glucose absorption. This can help to prevent the rapid rise in blood glucose after a meal that spikes insulin levels and is associated with issues of blood sugar dysregulation.

A number of alpha-glucosidase inhibitors exist just for this purpose. Referred to as the “untapped diamonds of diabetology,” alpha-glucosidase inhibitors come in the form of either pharmaceutical drugs (acarbose, miglitol) or natural botanicals. Within this latter group, the Ayurvedic medicinal herb Salacia is a standout.

The Salacia species, which includes S. chinensis, S. oblonga and S. reticulata, is native to India, Sri Lanka, Thailand and China. The roots and stems of these woody, climbing plants have been used traditionally to support weight management and glycemic health. Salacia boasts a unique polyphenol profile and contains a range of bioactive compounds, notably Salacinol and Mangiferin. Extracts of Salacia and its constituents have been clinically studied for their ability to help modulate numerous metabolic targets—from lipogenic gene transcription and angiotensin receptor function to pancreatic lipase and alpha-glucosidase activity.

A recent double-blind, placebo-controlled study examined the effect of a proprietary Salacia chinensis extract on postprandial glucose and insulin response in healthy, overweight adults (BMI 24.5-29.5).
During each of four study periods, subjects were randomized to take one of three different doses of Salacia extract (200 mg, 300 mg or 500 mg capsules), or a placebo, along with a cup of sugar-water containing 75 grams sucrose. Blood draws were performed at baseline and at regular intervals up to 180 minutes following consumption of the capsule and sucrose-containing drink. After washout periods of one-week, subjects repeated the test with either a different dose of Salacia than taken previously, or the placebo, until each participant had taken all four types of capsules.

The results showed that, beginning at 30 minutes after sucrose loading, insulin levels rose less in subjects taking *Salacia chinensis* extract compared to placebo, even at the lowest dose (200 mg). Postprandial glucose levels also were lower in subjects when Salacia was consumed, with no harmful side effects or GI discomfort reported.

This was the first study published on the beneficial effect of *Salacia chinensis* extract (SCE) on postprandial blood glucose and insulin response in healthy people. A subsequent study in overweight and obese adults (BMI 25-35) yielded similar results: Compared to placebo, SCE helped reduce postprandial serum peak glucose by 6% and insulin by 11%. The SCE used in both studies was supplied as MetaVive™, a proprietary ethanolic extract rich in proanthocyanidins that contains standardized levels of polyphenols and Mangiferin.

Consuming a meal high in carbohydrates can lead to a rapid rise in blood sugar that spikes insulin. Over time, this mechanism may lead to metabolic problems such as insulin resistance and non-insulin dependent diabetes. Agents that safely delay carbohydrate absorption in the gut, such as the natural alpha-glucosidase inhibitor Salacia, help to inhibit postprandial hyperglycemia, reducing the impact of dietary carbohydrates on blood sugar and supporting overall metabolic health.

The Moss Nutrition product **Glycemic Select®** is a comprehensive nutritional supplement designed to be taken at mealtimes to help support a healthy metabolic response. Along with additional clinically researched ingredients, each 2 capsule serving of **Glycemic Select®** contains 200 mg of MetaVive™ *Salacia chinensis* extract.

**REFERENCES**