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Nutrease powder- A natural plant based nutritional shake helps to supports in prevention of diabetes

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ABSTRACT

Supplementation of Nutrease powder is essential for proactive prevention and also for the best outcome therapy in Diabetes. Supplementing essential and conditionally essential nutrients like Nutrease powder to support essential metabolic pathways is required for immune defense and repair, neuro-hormone balance as well as digestive and detox competencies.

Impaired antioxidant status has been shown to have a definite role in the development of insulin resistance and type 2 diabetes. Overproduction of oxidants (reactive oxygen species and reactive nitrogen species) in the human body is responsible for the pathogenesis of some diseases. The scavenging of these oxidants is thought to be an effective measure to depress the level of oxidative stress of organisms. It has been reported that intake of Nutrease powder is inversely associated with the risk of many chronic diseases, and antioxidant phytochemicals in Nutrease powder are considered to be responsible for these health benefits. Antioxidant phytochemicals found in Nutrease powder plays an important role in the prevention and treatment of chronic diseases caused by oxidative stress. They often possess strong antioxidant and free radical scavenging abilities, which are also the basis of other bioactivities and health benefits, such as diabetes mellitus. Phytonutrients in Nutrease powder play a positive role by maintaining and modulating immune function to prevent specific diseases. Being natural products, they hold a great promise in clinical therapy. Phytonutrients are the plant nutrients with specific biological activities that support human health. Some of the important bioactive phytonutrients include polyphenols, terpenoids, resveratrol, flavonoids, isoflavonoids, carotenoids, limonoids, glucosinolates, phytoestrogens, phytosterols, anthocyanins, and probiotics. They play specific pharmacological effects in human health. This article reviews the current available scientific literature regarding the effect of Nutrease powder as an effective supplementation for a daily energy need in life style disorders like diabetes.

INTRODUCTION

Nutrients present in Nutrease powder plays an important role in maintaining the normal functions of the human body [1-5]. The major nutrients present in Nutrease powder include carbohydrates, proteins, lipids, vitamins, and minerals. Besides these, there are some bioactive food components known as “phytonutrients” that play an important role in human health [6-10]. They have tremendous impact on the health care system and may provide medical health benefits including the prevention and/or treatment of disease and various physiological disorders [11-15]. Phytonutrients in Nutrease powder play a positive role by maintaining and modulating immune function to

prevent specific diseases. Being natural products, they hold a great promise in clinical therapy [16-20]. Phytonutrients in Nutrease powder are the plant nutrients with specific biological activities that support human health. Some of the important bioactive phytonutrients in Nutrease powder include polyphenols [21-25], terpenoids, resveratrol, flavonoids, isoflavonoids, carotenoids, limonoids, glucosinolates, phytoestrogens, phytosterols, anthocyanins, and probiotics [26-31].

Pre-Diabetes

Pre-diabetes is a term used for people who are at increased risk for developing diabetes. People with pre-diabetes have blood glucose levels that are higher than normal but not high enough to be diagnosed with diabetes. Studies show people with blood glucose levels that fall into the pre-diabetes range have a high risk for developing diabetes within 10 years. If a person has a higher risk for developing diabetes, there are three tests which may be conducted to determine if they have pre-diabetes. These three tests are the A1C test, the fasting plasma glucose test, and the oral glucose tolerance test. If a person is diagnosed with pre-diabetes, they can still make lifestyle changes to prevent the diagnosis of type 2 diabetes. Ways to prevent diabetes include keeping a healthy weight (or losing weight if overweight), staying active most days of the week, and eating low fat meals that contain many fruits, vegetables and whole grain foods.

Type 1 Diabetes

Diabetes is categorized as type 1 or type 2, based on the underlying physiological problem. Type 1 diabetes, formerly known as insulin-dependent diabetes mellitus (IDDM) or juvenile diabetes, is characterized by the destruction of the pancreatic beta cells that produce insulin. The end result is absolute insulin deficiency. Insulin must be taken regularly. Type 1 diabetes occurs most often in children and young adults, but can occur at any age. Previously, people who took insulin had to follow a rigid pattern of eating. This sometimes created conflicts that resulted in varying degrees of noncompliance.

The current recommendations are more flexible. Integrating insulin therapy into the individual's usual eating and exercise patterns is suggested. This approach allows a person to adjust the timing and quantity of insulin injected according to their monitored blood glucose levels.

A primary treatment goal in type 1 diabetes should be tight blood glucose control. Frequent blood glucose monitoring is recommended. Blood glucose monitoring can show which foods, physical activities, and times of the day elevate an individual's blood glucose level. By adjusting insulin dose to meet needs, a person may have more near-normal blood glucose levels, which may help reduce the risk for short and long-term complications.

It is still highly recommended that people using fixed daily insulin therapy eat at consistent times and consume consistent amounts of carbohydrates to synchronize with the time-action of the insulin preparation they are using. However, by using rapid acting insulin by injection or an insulin pump and frequent monitoring of blood glucose levels, people with diabetes can quickly adjust to account for changes from their usual eating and exercise habits.

Type 2 Diabetes

Type 2 diabetes, formerly known as non-insulin dependent diabetes mellitus (NIDDM), is by far the most common form of the condition. Type 2 diabetes develops because of insulin resistance, in which the body is unable to use insulin properly, combined with a relative (not absolute) insulin deficiency. The risk of developing type 2 diabetes increases with age, obesity, and lack of physical activity. Typically, adults with type 2 diabetes are over age 45, overweight and sedentary, have a family history of diabetes, and have high blood pressure and high cholesterol. There has also been a recent alarming trend in the type 2 diabetes developing in adolescence. These youth developing type 2 diabetes tend to be older than 10 years of age, experiencing puberty, and have a strong family history of type 2 diabetes.

Type 2 diabetes is also more common in African Americans, Latinos, Native Americans, Asian-Americans and Pacific Islanders. If uncontrolled, type 2 diabetes can lead to serious long term complications. Complications include heart disease and stroke, hypertension, blindness and eye problems, kidney disease, nervous system disease, amputations, dental disease, and complications of pregnancy.

Achieving and maintaining weight loss has long been a primary dietary focus for people with type 2

diabetes. Total calories consumed should be sufficient to maintain a desirable weight and prevent weight gain. Physical activity on a regular basis is recommended. Aiming for blood glucose control, along with normal blood lipid levels and normal blood pressure are also important goals. These factors, if controlled, help reduce the risk of long term complications of diabetes.

Gestational Diabetes

Gestational diabetes begins or is first diagnosed during pregnancy. Often times, this type of diabetes may be caused by pregnancy hormones, occurs towards the end of a women's pregnancy, and will go away once the baby is born. Women are at a higher risk for gestational diabetes if they are older than age 25, have a family history of diabetes, have high blood pressure, have too much amniotic fluid, were overweight before pregnancy, or give birth to an infant weighing greater than 9 pounds. Women with gestational diabetes during pregnancy have a 35-60% chance of developing diabetes in the next 10-20 years. Therefore, it is important for women with gestational diabetes to take steps to reduce their risk for developing type 2 diabetes later in life.

Diagnosis of Diabetes

Diagnosis of diabetes is determined through A1C levels, fasting plasma glucose levels, oral glucose tolerance tests, or random plasma glucose tests. Criteria for diagnosis of diabetes are:

- A1C levels greater than or equal to 6.5%,
- Fasting plasma glucose levels greater than or equal to 126 mg/dL,
- Plasma glucose levels greater than or equal to 200 mg/dL following an oral glucose tolerance test, or Random plasma glucose levels greater than or equal to 200 mg/dL.

A1C Hemoglobin A1C is a test which measures the average plasma glucose concentrations over a 2-3 month period of time. A1C levels are normal at less than 5.7%, indicate pre-diabetes when greater than or equal to 5.7% but less than 6.5%, and indicate diabetes when greater than or equal to 6.5%.

Fasting Plasma Glucose

Fasting plasma glucose is measured when a person has had no caloric intake for greater than 8 hours. Fasting plasma glucose levels are normal when less than 100 mg/dL, indicate pre-diabetes when greater than or equal to 100 mg/dL but less than 126 mg/dL, and indicate diabetes when greater than or equal to 126 mg/dL.

Oral Glucose Tolerance Test

During an oral glucose tolerance test, a person consumes 75 grams of glucose dissolved in water. Two hours following the consumption of glucose, the person's plasma glucose level is measured. Plasma glucose levels are normal when less than 140 mg/dL, indicate pre-diabetes when greater than or equal to 140 mg/dL but less than 200 mg/dL, and indicate diabetes when greater than or equal to 200 mg/dL.

Target Goals

People with diabetes should aim for goals to lower blood pressure and normalize blood lipid levels. Appropriate target goals for people with diabetes are blood pressure levels less than 130/80 mmHg, LDL cholesterol less than 100 mg/dL, HDL cholesterol greater than 50 mg/dL, and triglyceride levels less than 150 mg/dL.

Dietary Recommendations

An initial dietary strategy for those with diabetes is to improve food choices to better meet the recommendations of the 2010 Dietary Guidelines for Americans and My Plate released by the U.S. Department of Agriculture. Reducing fat, especially saturated fat and trans fat, cholesterol, and sodium, and increasing physical activity are highly recommended. Individuals should plan to eat meals throughout the day to spread nutrient intake. Even mild to moderate weight loss (5-10% of body weight) has been shown to improve diabetes control. Lifestyle changes that moderately decrease calorie intake (250 to 500 kcal/day) and increase energy expenditure are strongly encouraged. Blood glucose monitoring may also be used to determine if lifestyle modifications are sufficient to achieve blood glucose control or if additional medications are necessary to be combined with nutrition therapy.

Protein

It is recommended that protein intake account for 15 to 20% of total daily calories consumed for the general population as well as for those with diabetes. There is no evidence to indicate the usual protein intake should be modified if kidney (renal) function is normal. A protein intake above 20% of total daily calories may have a detrimental effect in the development of nephropathy (renal disease).

Fat

The most life-threatening consequences of diabetes are cardiovascular disease (CVD) and stroke, which occur in people with diabetes more often than others. The risk for death among people with diabetes is about twice that of people of similar age but without diabetes. Diabetes itself is a strong independent risk factor for CVD. Thus, steps that help reduce this risk are important, such as choosing heart healthy fats. A person with diabetes should choose foods containing saturated fats less often, foods containing polyunsaturated fats occasionally, and foods high in monounsaturated fats more often. Saturated Fat, Trans Fat, and Cholesterol. Saturated fats are found in meats, high-fat dairy products, lard, and coconut, palm, and palm kernel oil. They are usually solid at room temperatures and raise low density lipoprotein (LDL) cholesterol levels. The effect of trans fat is similar to saturated fat in raising LDL cholesterol. In addition, trans fat lowers HDL cholesterol, which is not desirable.

Foods containing trans fats include stick margarine, shortening, peanut butter, and many processed baked goods like crackers, cookies, and

sweet breads. Cholesterol is found in most foods from animal sources.

Some individuals make more cholesterol than others which puts them at risk and contributes to high cholesterol levels, while other people have high cholesterol because they eat too much in their diet. Following a heart healthy meal plan includes limiting foods high in saturated fat, trans fat, and cholesterol.

Polyunsaturated Fat

Polyunsaturated fats are more heart healthy that saturated fat or trans-fat. When eaten in moderation, they lower cholesterol levels. Polyunsaturated fats are found in many vegetable oils such as soybean, corn, and safflower oil, and fatty fish such as salmon, mackerel, herring, and trout. Two or more servings of fish per week are recommended for people with diabetes (excluding commercially fried fish fillets).

Monounsaturated Fat

Monounsaturated fats are the most heart healthy fats. They lower LDL cholesterol. Foods high in monounsaturated fats include olive oil, canola oil, walnut oil, peanut oil, avocados, olives, nuts, and seeds.

Omega-3 Fatty Acids

Omega-3 fatty acids are a type of polyunsaturated fat believed to have many health benefits. Research suggests that consuming omega-3 fatty acids found in fish and fish oils can protect a person from CVD, and may decrease insulin resistance in people with diabetes. There are three types of omega-3 fatty acids. Alpha-linolenic acid (ALA) is found in vegetable sources, eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) are found in fish and other marine life. The richest dietary source of omega-3 fatty acids is oily cold-water fish such as salmon, sardines, mackerel, and herring. Omega-3 fatty acids can also be found in nuts (especially walnuts), flax seeds, canola oil, and specially fortified eggs. Total fat intake for people with diabetes should be 20 to 35% of total calories. 'Saturated fat should be limited to less than 7% of total calories, polyunsaturated fat should be limited to less than 10% of total calories, and monounsaturated fat should be limited to less than 20% of total calories. Dietary cholesterol should be less than 200 mg/day. Elevated levels of triglycerides (greater than 150 mg/dl) are also a risk factor for CVD. The addition of exercise may result in greater decreases in total and LDL cholesterol and triglycerides, and prevent a decrease in high density lipoprotein (HDL) cholesterol.

Carbohydrates

Carbohydrates are an important fuel source for the body. They are found in breads, starches, fruit, and dairy. When a carbohydrate containing food is consumed, the carbohydrate is broken down into glucose. Glucose provides fuel for the body and is essential for life. Glucose is carried through the blood stream into the cells with the help of insulin. Once in the cells, the glucose can be used for energy. Carbohydrates raise blood glucose levels, therefore people with diabetes may need to balance carbohydrate intake with insulin, medications, and physical activity. Sugar. It was previously believed that simple sugars are more rapidly digested and absorbed than starches, and therefore are more likely to cause high blood sugar levels. This premise has not been supported by scientific evidence. Current guidelines allow the use of sugar and sugar-containing foods in modest amounts as part of a balanced diet. It should be remembered, however, that sugar-containing foods must be substituted for other carbohydrate foods and not simply added on top of what is eaten. The first dietary consideration for a person with diabetes should be the total amount of carbohydrate eaten.

Non-nutritive Sweeteners. Saccharin, aspartame, acesulfame potassium (K), sucralose, and neotame have been approved by the Food and Drug Administration (FDA) and can be used by people with diabetes, including pregnant women, within a balanced diet. Because saccharin can cross the placenta, other sweeteners are better choices during pregnancy.

Fiber

Fiber recommendations for people with diabetes are the same as for the general population. People should consume 14 grams of fiber per 1000 calories, or 25 grams for adult women and 38 grams for adult men, from a wide variety of sources daily. Of the recommended total fiber intake, 10 to 25 g/day should come from soluble fiber. Because of the potential beneficial effect of soluble fibers on blood lipids and glucose metabolism, people

with diabetes are advised to get adequate amounts of fiber from the carbohydrates they eat. Good sources of soluble fiber include oat products, many fruits and vegetables, cooked beans, rice bran and psyllium seeds. It is recommended that if adults with diabetes choose to consume alcohol, daily intake should be limited to a moderate amount (one drink per day or less for women and two drinks per day or less for men). Moderate alcohol consumption (when ingested alone) has little short term effect on glucose and insulin concentrations. However, carbohydrates consumed with alcohol, such as mixed drinks, can raise blood glucose. Individuals using insulin or medications that increase insulin secretion, who also consume alcohol, should consume food with the alcohol to reduce the risk of nocturnal hypoglycemia (low blood sugar levels at night).

Physical Activity Recommendations

Regular physical activity is an important factor in diabetes management. It has been shown to improve blood glucose control, reduce cardiovascular risk factors, contribute to weight loss, and improve well-being. People with diabetes should participate in at least 150 minutes per week of moderate-intensity aerobic physical activity (at 50-70% of maximum heart rate).

Methods for Planning Diets

Glucose control is a balancing act. Carbohydrate foods raise blood glucose while insulin and physical activity lower blood glucose. To effectively control blood glucose, people with diabetes need to balance the amount of carbohydrate they eat, the type and amount of physical activity they do, and the diabetes medication they take. Dietary management of diabetes should be designed to meet total nutrient and health needs, not just blood glucose needs. The diet plan should begin with an assessment of the individual's usual eating habits, including food likes and dislikes, eating and work schedules, as well as treatment goals identified by the health care team. The better dietary management fits into one's usual routine, the more likely it is to be successful. The following diet planning systems can be helpful when planning meals and snacks for people with diabetes. The Plate Method is the recommended diet plan for people with diabetes. Other methods include diabetic exchange diets and carbohydrate counting.

Plate Method

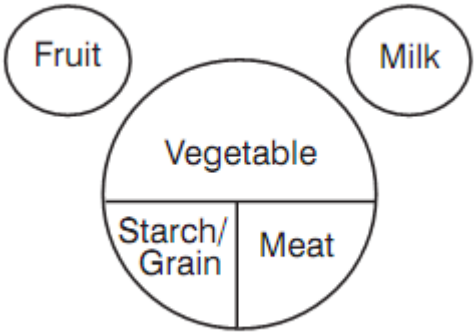


Figure 1: The Plate Method.

The Plate Method is a simple method for teaching meal planning. A 9-inch dinner plate serves as a pie chart to show proportions of the plate that should be covered 1/2 –inch deep by various food groups. This meal planning approach is simple and versatile. Non-starchy vegetables (5 to 10 grams of carbohydrate) should cover 50 percent of the plate for lunch and dinner. The remainder of the plate should be divided between starchy foods (2 to 3 carbohydrate choices is about 30 to 45 grams of carbohydrate), such as bread, grains, or potatoes, and a choice from the meat group. A serving of fruit (1/2 cup is about 15g of carbohydrate) and non-fat or low-fat milk (1 cup is about 12g of carbohydrate) are represented outside the plate.

NUTREASE POWDER—A Natural plant based nutritional shake helps in prevention of Diabetes.

Supplementation of Nutrease powder is essential for proactive prevention and also for the best outcome therapy in Diabetes. Nutrients present in Nutrease powder plays an important role in maintaining the normal functions of the human body. The major nutrients present in Nutrease powder include carbohydrates, proteins, lipids, vitamins, and minerals. Besides these, there are some bioactive food components known as "phytonutrients" that play an important role in human health. They have tremendous impact on the health care system and may provide medical health benefits including the prevention and/or treatment of disease and various physiological disorders including Diabetes.

Role of Phyto extracts in Nutrease powder in Diabetes prevention.

Ocimum sanctum

It is commonly known as Tulsi. Since ancient times, this plant is known for its medicinal properties. The aqueous extract of leaves of *Ocimum sanctum* showed significant reduction in blood sugar level in both normal and alloxan induced diabetic rats. Significant reduction in fasting blood glucose, uronic acid, total amino acid, total cholesterol, triglyceride and total lipid indicated the hypoglycemic and hypolipidemic effects of tulsi in diabetic rats. Oral administration of plant extract (200 mg/kg) for 30 days led to decrease in the plasma glucose level by approximately 9.06 and 26.4% on 15 and 30 days of the experiment respectively. Renal glycogen content increased 10 fold while skeletal muscle and hepatic glycogen levels decreased by 68 and 75% respectively in diabetic rats as compared to control. This plant also showed antiasthemitic, antistress, antibacterial, antifungal, antiviral, antitumor, gastric antiulcer activity, antioxidant, antimutagenic and immunostimulant activities.

Ginger Extract

A study published in the August 2012 edition of the natural product journal Planta Medica suggested that ginger may improve long-term blood sugar control for people with type 2 diabetes.

Researchers from the University of Sydney, Australia, found that extracts from Buderim Ginger (Australian grown ginger) rich in gingerols - the major active component of ginger rhizome - can increase uptake of glucose into muscle cells without using insulin, and may therefore assist in the management of high blood sugar levels.

Turmeric Extract

Turmeric (Curcuma longa), a rhizomatous herbaceous perennial plant of the ginger family, has been used for the treatment of diabetes in Ayurvedic and traditional Chinese medicine. The active component of turmeric, curcumin, has caught attention as a potential treatment for diabetes and its complications primarily because it is a relatively safe and inexpensive drug that reduces glycemia and hyperlipidemia in diabetes.

Moringa Extract

The leaves of the *Moringa oleifera* tree are one of Asia's most nutrient-dense foods. In fact, just one serving of these leaves in powdered form contains almost 50 types of antioxidants and almost 90 different nutrients. Unsurprisingly, numerous studies have linked long-term consumption of *Moringa* leaves to the treatment of countless health conditions such as osteoporosis, macular degeneration, high blood pressure, obesity and even cancer.

A recent study published in the March 2014 issue of *Acta Histochemica*, the Egyptian researchers fed aqueous extracts of *Moringa oleifera* leaves to albino rats that were suffering from streptozotocin-induced diabetes. During the trial period, they monitored the fasting plasma glucose levels of the rats, as well as their levels of glutathione (an antioxidant found in *Moringa* that contains antidiabetic properties) and malondialdehyde (a toxic byproduct of lipid oxidation that is often found in high levels in people suffering from diabetes). At the end of the trial, the rats that were fed *Moringa* extracts fared far better than the control group. Specifically, the extracts reduced their fasting plasma glucose levels from 380 percent to 145 percent (i.e. their blood sugar levels were reduced by more than 2.5 times). The extract also reduced the rats' levels of harmful malondialdehyde from 385 percent to 186 percent and increased their levels of the important

antioxidant, glutathione, from 22 percent to 73 percent -- a significant improvement in all three areas.

"Experimental findings clearly indicate the potential benefits of using the aqueous extract of *M. oleifera* leaves as a potent antidiabetic treatment.

Stevia Extract

A study published in 2004 in the journal "Metabolism" reported that participants with type 2 diabetes had lower blood sugar levels after eating a meal supplemented with 1 gram of stevia than those who ate the same meal without stevia. In 2013, a study published in the "Journal of Diabetes and Its Complications" found that diabetic rats given diets supplemented with stevia not only had lower blood sugars, but less damage to their liver and kidneys as well. More studies are needed to determine the benefits of stevia to diabetics,

Flaxseed Extract

There is some evidence that eating flaxseed reduces blood sugar levels after a meal and increases insulin levels because of its high content of soluble fiber. (It is 28 percent fiber, of which two-thirds is soluble.) Indeed, flaxseed carbohydrate (what remains after the oil is removed) was used in a study that showed a beneficial effect. Although this result was not duplicated in other studies, flaxseed has been shown to improve insulin sensitivity. An interesting, yet unproven, potential benefit may be the prevention of type 1 and type 2 diabetes; in animal models, flaxseed has been shown to delay the onset of the disease.

Amla Extract

Top of Form

In the ancient science of Ayurveda, doctors often prescribe Indian Gooseberry, also known as Amla, or Amalaki (scientific name *Phyllanthus emblica). The* rejuvenating fruit has many uses; among them, the powerful fruit, full of B and C vitamins as well several other exceptional phytonutrients, **helps to decrease blood glucose levels in diabetics and lower cholesterol.**

In a study published in the *International Journal of Food Sciences and Nutrition*, as well as other peer reviewed studies, amla fruit helped with cholesterol as well as blood sugar levels. Both normal and diabetic volunteers receiving 2 or 3 g E. officinalis powder significantly ($P < 0.05$) improved high-density lipoprotein-cholesterol and lowered low-density lipoprotein-cholesterol levels.

As far as lowering elevated blood sugar levels in humans, amla wins again. Researchers observed that diabetic individuals who were given 1, 2, or 3 gm of amla powder everyday had decreased levels of fasting and 2 hour post-prandial blood glucose levels after 20 days. But individuals who received 3gm of amla powder showed **significantly reduced sugar levels**.

Guava leaf Extract

Guava (scientific name *Psidium guajava*) has been used in East Asia for diabetes possibly for centuries. Several studies from Japan found that guava leaf tea also reduces cholesterol and insulin levels.

An article in the journal *Nutrition & Metabolism* found that compounds in guava leaf tea inhibit absorption of certain types of sugar, so that levels don't spike after meals. In one study, people drank guava tea after eating white rice. They had far less of a glucose rise than people who drank hot water.

Guava leaf seems to lower fasting sugars as well. In a study of people with Type 2 diabetes or prediabetes, those who drank guava leaf tea with every meal for 12 weeks had lower fasting blood sugar levels than before they started drinking the tea.

COMPOSITION OF NUTREASE POWDER

Serving Size : 30g (1 Scoop)		Serving per container : 20
Supplement Facts	**Per 100g Approx**	**Per 30g Approx**
Energy	349.86 Kcal	104.96 Kcal
Protein	38.723g	11.61g
Total Carbohydrate	53.05g	15.91g
Dietary Fiber	22.17g	6.648g
Sugar	6.093g	1.82g
Total Fat	3.00g	0.902g
Saturated Fats	2.62g	0.78g
Mono Unsaturated Fats	0.133g	0.040g
Poly Unsaturated Fats	0.116g	0.034g
VITAMINS		
Vitamin A	2000IU	600IU
Vitamin C	40mg	12mg
Vitamin E	10mg	3mg
Thiamine	0.075mg	0.03mg
Riboflavin	0.05mg	0.015mg
Niacin	0.21mg	0.063mg
Pantothenic Acid	0.24mg	0.072mg
Pyridoxine	0.1mg	0.03mg
Folic Acid	0.002mg	0.0006mg
MINERALS		
Calcium	100mg	30mg
Iron	5mg	1.5mg
Phosphorus	200mg	60mg
Selenium	100mcg	30mcg
Copper	5mg	1.5mg
Chromium	100mcg	30mcg
Potassium	50mg	15mg
Sodium	50mg	15mg
Choline	15mg	4.5mg
Manganese	2mg	0.6mg
Zinc	5mg	1.5mg
Magnesium	100mg	30mg

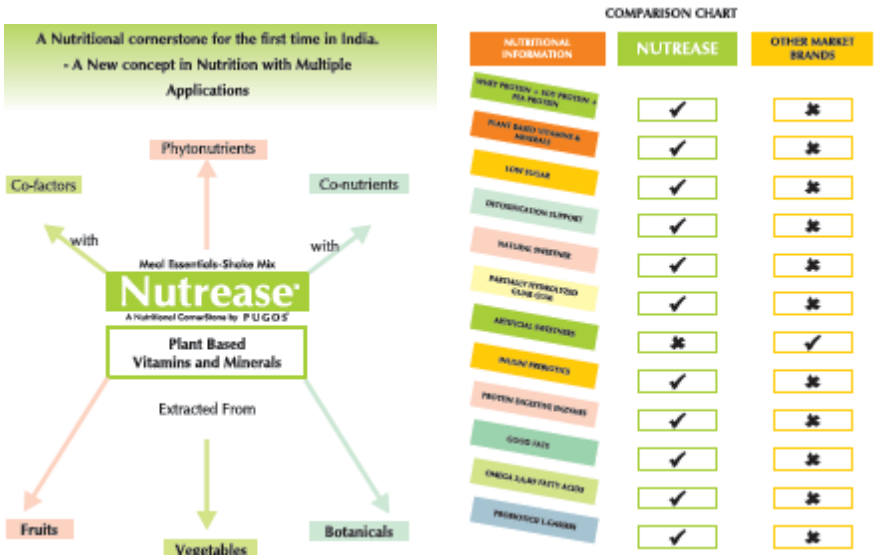
INGREDIENTS :

Inulin, Soya Protein Isolate, Pea Protein Isolate, Whey Powder, Cyclodextrin, Partially Hydrolyzed Guargum, Guava Leaf Extract, Moringa Extract, Sesbania Extract, Annatto Extract, Green Tea Extract, Holy Basil Extract, Amla Extract, Lemon Peel Extract, Citrus Bioflavonoids, Flax Seed Powder, Brassica, Lactobacillus Gasseri, Papaya Fruit Latex, Pine Apple Extract, Steviol Glycosides (Rebaudioside A), Ginger Powder, Curcuminoids, Banana Leaf Extract, β-Carotene, Di Calcium Phosphate, Choline, Copper Sulphate, Manganese Sulphate, Fructose, Riboflavin, Skimmed Milk Powder, Xanthum gum, Apple Fiber, Sodium Carboxymethyl Cellulose, Mango Powder and Mango Flavor.

MECHANISM OF ACTION OF NUTREASE POWDER

Nutrease contains standardized plant-based vitamins and minerals which include a diverse mixture of substances including dozens of closely related vitamers and phytonutrients to help potentiate insulin action and thus influence carbohydrate, lipid and protein metabolism. Targeted botanicals and antioxidants like curcuminoids, sulforaphaneglucosinolate from Broccoli Extract and Ginger Extract to help regulate metabolism, stimulate digestion and to provide long-lasting cell protection from free radical damage. Probiotics and prebiotics like Lactobacillus gasseri and Inulin to help balance intestinal flora, reduce waist circumference and reduce adipocyte size through inhibition of leptin levels. Good fats like omega 3,6& 9 from Flaxseed and Medium Chain Triglycerides (MCT), help to maintains healthy levels of blood sugar and triglycerides, enhance metabolism to burn more calories. Optimum fibers like alpha cyclodextrins, partially hydrolyzed guar gum, and oat fiber to help promote intestinal regularity, to increase the satiety and improve glycemic effect of meal. Plant enzymes like bromelain and papain for better digestion and absorption of proteins. Premium blend of protein concentrate and pea protein isolate to meet the daily protein requirements and to maintain lean muscle mass. Added with natural sweetener to maintain healthy blood sugar levels.

PHARMACOLOGICAL ACTION OF EACH INGREDIENTS OF NUTREASE POWDER



Nutrease contains plant based broad spectrum Vitamins & Minerals which includes a diverse mixture of substances including dozens of closely related Vitamers and Phytonutrients

BANANA LEAF EXTRACT:

- Banana leaves are standardized for **Sodium** and **Potassium.**
- Promotes healthy digestion & contains large amounts of polyphenols (natural antioxidants) such as epigallocatechin gallate, or EGCG, a potent antioxidant and skin rejuvenator.
- Helps to promote fat oxidation and lowering body weight.

MORINGA EXTRACT:

- Natural energy booster, standardized for **Chromium.**
- Contains massive amounts of antioxidants like vitamin C, beta-carotene, quercetin, and chlorogenic acids. It is also rich in Protein, Vitamin A, Vitamin B6, and Minerals.
- Essential nutrient that potentiates insulin action, and thus influences carbohydrate, lipid, and protein metabolism.

MUSTARD SEED EXTRACT

- Mustard seed extract standardized for **Selenium**, along with the co-factors and co-nutrients.
- Helps to support thyroid hormone production, function as part of many enzymes, has antioxidant effects, can help in lowering blood pressure, moderate blood sugar levels, maintain healthy skin, and maintains immune system.

CURRY LEAF EXTRACT

- Curry leaf extract is standardized for **Iron** and is also a good source of antioxidant.
- Has shown to have medical properties such as anti-diabetic, antioxidant, antimicrobial, anti-inflammatory and hepato-protective.
- Helps to reduce bad LDL cholesterol levels and maintains hemoglobin levels.
- It also contains various nutrients like vitamin A, C, B, E, Calcium, Phosphorus, Magnesium and copper.

GUAVA LEAF EXTRACT:

- Guava leaves extract is standardized for **Zinc** & it contains flavonoids, polyphenols, ursolic acid, essential oils and tannins.
- Helps to maintain growth, the immune system, cell growth and division.
- Helps in breakdown of carbohydrates.

AMLA EXTRACT

- Amla extract standardized for **Vitamin C,** contains polyphenols and bioflavonoids.
- It is also rich in anti-oxidants, fibre and minerals like calcium and phosphorus.
- Helps in speed metabolism, especially that of proteins.

ANNATTO EXTRACT:

- Annatto extract standardized for **Vitamin E.**
- Helps to limit the liver's ability to produce LDL (Low Density Lipoprotein) cholesterol.
- Helps to improves digestion.

BLEND OF GUAVA, SESBANIA, HOLY BASIL, LEMON PEEL EXTRACT AND CITRUS BIOFLAVONOIDS:

- This extract standardized for all **Natural B-Complex Vitamins** (except B-12), along with its co-nutrients and co-factors that help to support the activity and stability of the B-Complex vitamins.
- Guavas are rich in nutrients including vitamins, carotenoids, polyphenols and antioxidant pigments & lemon peels are rich in vitamins, including folic acid and folates, and phytonutrients.
- Tulsi is a sacred plant for Hindus, and a very well documented medicinal plant in Ayurveda. Modern science has confirmed that it has many healthy nutrients like ursolic acid & rosmarinic acid that provide a wide range of health benefits.

SOLUBLE AND INSOLUBLE FIBERS

HEALTH BENEFITS OF FIBER

- Normalizes bowel movements & maintain bowel health.
- Helps control blood sugar levels & lowers cholesterol levels.
- Aids in achieving healthy weight.

This product uses four types of specialty fibers from:

- SUNFIBER FROM TAIO (Partial hydrolyzed guar gum)
- INULIN FROM FIBRULINE, BELGIUM (Inulin- Chichory extract)
- GAMMA CYCLODEXTRIN FROM WACKER, US
- APPLE FIBER FROM VITACELL

SUNFIBER FROM TAIO (Partial hydrolyzed guar gum)

- Helps aid satiety (feeling of fullness) and improves glycemic effect of a meal.
- Easily digestible, prevents gas and bloating which is often experienced with a high fiber supplement
- Helps to improve mineral absorption.
- Helps to promote intestinal regularity & maintain digestive health.

INULIN FROM FIBRULINE, BELGIUM (Inulin- Chichory extract)

- Helps to provide the energy source for the beneficial bacteria living in the gut.
- Helps to relieve from constipation.
- Helps to increase calcium absorption and possibly magnesium absorption.
- A natural prebiotic

CYCLODEXTRIN FROM WACKER, US

- Water soluble, non-digestible fiber.
- Cyclodextrin helps to coat fat molecules in the food making them incapable to absorb.

APPLE FIBER FROM VITACELL, INDIA

- Helps to remove toxic substances from the digestive tract.
- Helps to remove unhealthy fats before they are stored in the body.
- Helps to reduce your risk for heart problems & enhance bowel function.

TARGETED BOTANICALS

BROCCOLI EXTRACT

- Sulforaphane glucosinolate extracted from Broccoli is a potent anti-oxidant.
- It is rich in calcium, iron & vitamin A, C & E.
- Provides long-lasting cell protection from free radical damage.
- Helps to exert a fat burning effect by triggering the breakdown of fat cells.
- Helps to prevent colon cancer, reduce blood pressure and heart disease.
- Helps to improve digestion.

CURCUMINOIDS FROM MOTHER TURMERIC EXTRACT

- Potent anti-oxidant, anti-inflammatory & cancer preventive molecule.
- Helps to assist the liver's detoxification activity.
- Controls appetite & increases the production of an adiponectin hormone.
- Increases the body's natural defense against allergens by increasing antibody response.
- Helps to lower bad cholesterol and improves digestion.

GINGER EXTRACT

- An anti-inflammatory
- Improve blood sugar levels & leptin levels
- Helps to regulate metabolism, stimulate digestion and reduces cortisol production.
- Helps to regulate cholesterol and increase energy level.

PRO-BIOTIC SUPPORT

(LACTOBACILLUS GASSERI)

- Lactobacillus gasseri helps to inhibit increase in body weight and white adipose tissue weight & help in reducing waist circumference. (Seun-Pil jung. Et al., K.J. F.M. 2013; 34: 80-89)
- Lactobacillus gasseri helps to reduce adipocyte size through inhibition of energy input and the level of leptin. (Essam M. Hamad. Et al., B.J. Nutrition (2009), 101, 716-724)
- Lactobacillus gasseri helps to reduce the serum and hepatic cholesterol and increase excretion of faecal fatty acids and total neutral faecal sterols. (Essam M. Hamad. Et al., B.J. Nutrition (2009), 101, 716-724

GOOD FATS

FLAXSEED POWDER WITH OMEGA 3, 6, 9 FATTY ACIDS

- Helps to maintain healthy levels of blood sugar and triglycerides.
- Helps to promote healthy insulin response & reduces cholesterol.
- Supports colon detoxification, fat loss, increase metabolism and fat burning potential.

MEDIUM CHAIN TRIGLYCERIDES (MCT)

- Helps to enhance metabolism to burn more calories.
- Good source of energy and preserves muscle glycogen.

  Helps to suppress appetite.

PLANT ENZYMES FOR BETTER ABSORPTION PAPAIN FROM PAPAYA FRUIT LATEX AND BROMELIN FROM PINEAPPLE EXRACT

- Protein digestion enzymes.
- Helps to break large protein molecules into smaller and easing their absorption.
- To help to reduce Irritable Bowel Syndrome (IBS)

The enzymes helps to breakdown any toxin molecules that have a neutral pH. Hence, the stomach is able to break down proteins that are normally absorbed and transferred to fat, which is known as enzyme digestion. This stops the digestive system from malfunctioning.

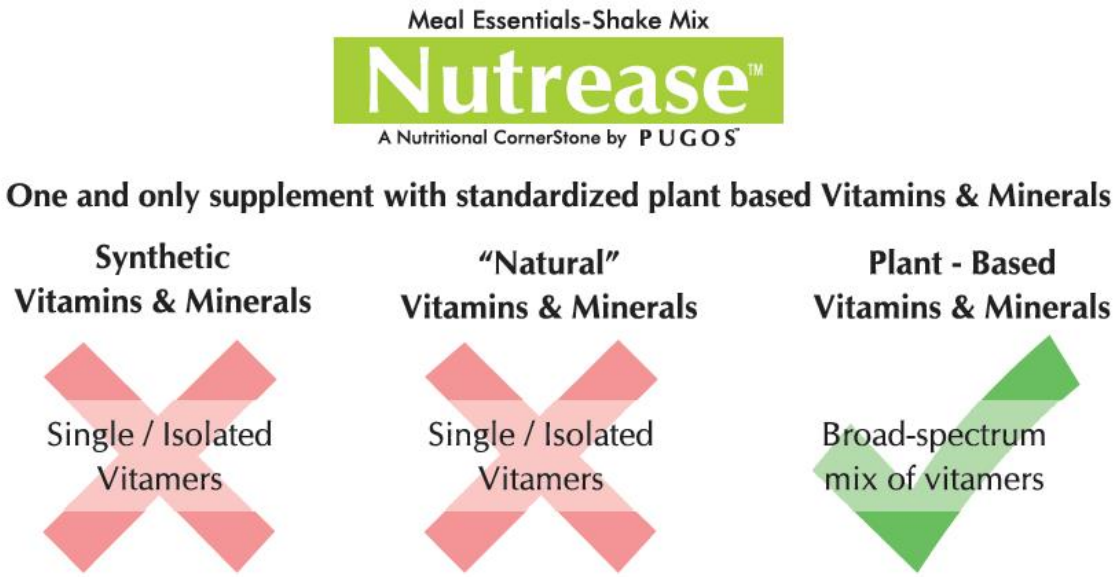


Figure 1. Most "natural" vitamin supplements are chemically stripped down to a single vitamer, which are more closely related to synthetic vitamins than true plant-based vitamins.

Synthetic Vitamins & Minerals

- Are made up of industrial chemicals like petroleum derivatives (hydro carbons).
- Chemical structure varies compared to Natural and plant based vitamins & minerals.
- Doesn't contain broad spectrum of closely related vitamins, minerals and phytonutrients co-factors and conutrients.
- Has failed to protect against diseases.
- Less Bioavailable.
- They are less absorbed and have more risks of Side effects.

Plant-Based Vitamins & Minerals

- Extracted from fruits vegetables, herbs, fungi and other natural sources.
- Chemical structure and chemical diversity of vitamins and phytonutrients are naturally retained.
- contains broad spectrum of closely related Vitamins, Minerals, Phytonutrients, Co-factors, and Co-nutrients.
- Has shown effective protection role against diseases.
- Bioavailability is purely high.
- Highly absorbed and have very less side effects.

Synthetic / isolated vitamins

VS.

Broad-spectrum plant-based vitamins

SUPPLEMENT FACTS

Presentation: POWDER

Usage

As a food supplement. It is a combination of Natural vitamins and minerals antioxidants to improve health and vitality. Provides specific

support for healthy blood sugar levels, insulin sensitivity and satiety.

Contra-indications

Product is contra-indicated in persons with Known hypersensitivity to any component of the product hypersensitivity to any component of the product.

Recommended usage

Once or twice a day along with portion controlled nutritious meals and exercise. One Serving (30g- 1 Scoop) provides 104 Calories, 11.61g of proteins, 6.64g of Fiber and 1.82g of Sugar per day. "Do not exceed the recommended daily dose".

Directions for Use

Take one level scoop (30g) with skimmed milk or water to make a cup of 200ml. gently shake well in shaker or stir well until the powder is evenly dispersed and drinks immediately.

Administration

Taken by oral route at any time with food.

Precautions

Food Supplements must not be used as a substitute for a varied and balanced diet and a healthy lifestyle. This Product is not intended to diagnose, treat, cure or prevent any diseases. Do not exceed the recommended daily dose.

Warnings

If you are taking any prescribed medication or has any medical conditions always consults doctor or Health Care practitioner before taking this supplement.

Side Effects

Mild side effects like nausea, headache and vomiting in some individuals have been reported.

Storage

Store in a cool, dry and dark place.

SUMMARY & CONCLUSION

Diabetes is a complex disease. With the proper treatment considering diet, physical activity, and pharmacological therapy, the disease can be effective managed. Maintaining near normal blood glucose, blood lipid, and blood pressure levels can prevent short term and long term complications associated with diabetes. There are many treatment plans to manage diabetes, which may be tailored to best meet the individual's needs. It is increasingly clear that life-style and natural products are safer and more effective than strict pharmacological control to achieve the same blood sugar levels. Antidiabetic medications can increase the need for certain nutrients; for example, metformin increases the requirement for vitamin B12. However, the benefits of an expanded pharmacopeia of nutrient and botanical therapies are significant. Given the growing emphasis on prevention, the use of nutrients and botanicals merit priority in the management of insulin resistance and metabolic syndrome, and in diabetes treatment Nutrease powder allows greater specificity in meeting the particular needs of the individual patient. Nutrease powder just 1 serving (1 scoop) twice daily provides specific support for healthy blood sugar levels, insulin sensitivity and satiety. Nutrease powder improves metabolism and insulin sensitivity.

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