

## NUTREASE POWDER- Nature's blend of Nutrients in Human Appetite and Body Weight

Govind Shukla, Uddhav L Kanade, Monica Yadav, M.Sabitha & C.J.Sampath Kumar



Lactonova Nutripharm (P) Ltd., Makers of NUTREASE Powder, 81/3, IDA Mallapur, Hyderabad, Telangana, India-500 076.

Article Received: 19 March 2020

Article Accepted: 26 May 2020

Article Published: 23 June 2020

### ABSTRACT

*Obesity is a leading preventable cause of death worldwide, with increasing prevalence in adults and children, and it is one of the most serious public health problems of the 21st century. Obesity increases the likelihood of various diseases, particularly heart disease, type 2 diabetes, obstructive sleep apnea, certain types of cancer, and osteoarthritis. Obesity is most commonly caused by a combination of excessive food energy intake, lack of physical activity, and genetic susceptibility. Dieting and physical exercise are the mainstays of treatment for obesity. Diet quality can be improved by reducing the consumption of energy-dense foods such as those high in fat and sugars, and by increasing the intake of dietary fiber. Since obesity has grown to epidemic proportions, its effective management is a very important clinical issue. Despite the great amount of scientific effort that has been put into understanding the mechanisms that lead to overconsumption and overweight, at the moment very few approaches to weight management are effective in the long term. On the other hand, modern society is also affected by the growing incidence of eating disorders on the other side of the spectrum such as anorexia and bulimia nervosa which are equally difficult to treat. This review summarizes the current available scientific literature regarding the effect of NUTREASE POWDER, The Nature's blend of protein, Fibers, plant extracts (phytochemicals) in human appetite and body weight.*

### Introduction

**Obesity** is a medical condition in which excess body fat has accumulated to the extent that it may have an adverse effect on health, leading to reduced life expectancy and/or increased health problems. People are considered obese when their body mass index (BMI), a measurement obtained by dividing a person's weight in kilograms by the square of the person's height in metres, exceeds  $30 \text{ kg/m}^2$ .<sup>[3]</sup>

Obesity increases the likelihood of various diseases, particularly heart disease, type 2 diabetes, obstructive sleep apnea, certain types of cancer, and osteoarthritis.<sup>[2]</sup> Obesity is most commonly caused by a combination of excessive food energy intake, lack of physical activity, and genetic susceptibility, although a few cases are caused primarily by genes, endocrine disorders, medications or psychiatric illness. Evidence to support the view that some obese people eat little yet gain weight due to a slow metabolism is limited; on average obese people have a greater energy expenditure than their thin counterparts due to the energy required to maintain an increased body mass.<sup>[4][5]</sup>

Dieting and physical exercise are the mainstays of treatment for obesity. Diet quality can be improved by reducing the consumption of energy-dense foods such as those high in fat and sugars, and by increasing the intake of dietary fiber. Anti-obesity drugs may be taken to reduce appetite or inhibit fat absorption together with a suitable diet. If diet, exercise and medication are not effective, a gastric balloon may assist with weight loss, or surgery may

be performed to reduce stomach volume and/or bowel length, leading to earlier satiation and reduced ability to absorb nutrients from food.<sup>[6][7]</sup>

Obesity is a leading preventable cause of death worldwide, with increasing prevalence in adults and children, and authorities view it as one of the most serious public health problems of the 21st century.<sup>[8]</sup> Obesity is stigmatized in much of the modern world (particularly in the Western world), though it was widely perceived as a symbol of wealth and fertility at other times in history, and still is in some parts of the world.<sup>[2][9]</sup> In 2013, the American Medical Association classified obesity as a disease.<sup>[10][11]</sup>

### Classification

<b>BMI</b>	<b>Classification</b>
<b>&lt; 18.5</b>	Underweight
<b>18.5-24.9</b>	normal weight
<b>25.0-29.9</b>	Overweight
<b>30.0-34.9</b>	class I obesity
<b>35.0-39.9</b>	class II obesity
<b>&gt; 40.0</b>	class III obesity

BMI is defined as the subject's mass divided by the square of their height, expressed kilograms per square meter and calculated as:

$$\text{BMI} = \frac{\text{mass}(\text{kg})}{(\text{height}(\text{m}))^2}$$

$$= \frac{\text{mass}(\text{lb})}{(\text{height}(\text{in}))^2} \times 703$$

The most commonly used definitions, established by the (WHO) in 1997 and published in 2000, provide the values listed in the table at right.<sup>3</sup>

Some modifications to the WHO definitions have been made by particular bodies. The surgical literature breaks down "class III" obesity into further categories whose exact values are still disputed.<sup>[17]</sup>

- Any BMI 35 or 40 is *severe obesity*
- A BMI of 35 and experiencing obesity-related health conditions or 44.9 is *morbid obesity*
- A BMI of 45 or 50 is *super obesity*

As Asian populations develop negative health consequences at a lower BMI than Caucasians, some nations have redefined obesity; the Japanese have defined obesity as any BMI greater than 25<sup>[18]</sup> while China uses a BMI of greater than 28.<sup>[19]</sup>

### Effects on health

Excessive body weight is associated with various diseases, particularly cardiovascular diseases, diabetes mellitus type 2, obstructive sleep apnea, certain types of cancer, osteoarthritis<sup>[2]</sup> and asthma.<sup>[2][20]</sup> As a result, obesity has been found to reduce life expectancy.<sup>[2]</sup>

### Mortality

Obesity is one of the leading preventable causes of death worldwide.<sup>[8][22][23]</sup> Large-scale American and European studies have found that mortality risk is lowest at a BMI of 25 kg/m<sup>2</sup><sup>[21][24]</sup> in non-smokers and at 27 kg/m<sup>2</sup> in current smokers, with risk increasing along with changes in either direction.<sup>[25][26]</sup> A BMI above 32 kg/m<sup>2</sup> has been associated with a doubled mortality rate among women over a 16-year period.<sup>[27]</sup> In the United States obesity is estimated to cause 111,909 to 365,000 deaths per year,<sup>[2][23]</sup> while 1 million (7.7%) of deaths in Europe are attributed to excess weight.<sup>[28][29]</sup>

On average, obesity reduces life expectancy by six to seven years,<sup>[2][30]</sup> a BMI of 35 kg/m<sup>2</sup> reduces life expectancy by two to four years,<sup>[24]</sup> while severe obesity (BMI > 40 kg/m<sup>2</sup>) reduces life expectancy by ten years.<sup>[24]</sup>

### Morbidity

Obesity increases the risk of many physical and mental conditions. These comorbidities are most commonly shown in metabolic syndrome,<sup>[2]</sup> a combination of medical disorders which includes: diabetes mellitus type 2, high blood pressure, high blood cholesterol, and high triglyceride levels.<sup>[31]</sup>

Complications are either directly caused by obesity or indirectly related through mechanisms sharing a common cause such as a poor diet or a sedentary lifestyle. The strength of the link between obesity and specific conditions varies. One of the strongest is the link with type 2 diabetes. Excess body fat underlies 64% of cases of diabetes in men and 77% of cases in women.<sup>[32]</sup>

Health consequences fall into two broad categories: those attributable to the effects of increased fat mass (such as osteoarthritis, obstructive sleep apnea, social stigmatization) and those due to the increased number of fat cells (diabetes, cancer, cardiovascular disease, non-alcoholic fatty liver disease).<sup>[2][33]</sup> Increases in body fat alter the body's

response to insulin, potentially leading to insulin resistance. Increased fat also creates a proinflammatory state,<sup>[34][35]</sup> and a prothrombotic state.<sup>[33][36]</sup>

Medical field	Condition
<b>Cardiology</b>	<ul style="list-style-type: none"> <li>• ischemic heart disease:<sup>[37]</sup> angina and myocardial infarction</li> <li>• congestive heart failure<sup>[2]</sup></li> <li>• high blood pressure<sup>[2]</sup></li> <li>• abnormal cholesterol levels<sup>[2]</sup></li> <li>• deep vein thrombosis and pulmonary embolism<sup>[38]</sup></li> </ul>
<b>Endocrinology and Reproductive medicine</b>	<ul style="list-style-type: none"> <li>• diabetes mellitus<sup>[2]</sup></li> <li>• polycystic ovarian syndrome<sup>[2]</sup></li> <li>• menstrual disorders<sup>[2]</sup></li> <li>• infertility<sup>[2][41]</sup></li> <li>• complications during pregnancy<sup>[2][41]</sup></li> <li>• birth defects<sup>[2]</sup></li> <li>• intrauterine fetal death<sup>[41]</sup></li> </ul>
<b>Neurology</b>	<ul style="list-style-type: none"> <li>• stroke<sup>[2]</sup></li> <li>• meralgia paresthetica<sup>[43]</sup></li> <li>• migraines<sup>[44]</sup></li> <li>• carpal tunnel syndrome<sup>[45]</sup></li> <li>• dementia<sup>[46]</sup></li> <li>• idiopathic intracranial hypertension<sup>[47]</sup></li> </ul>

	<ul style="list-style-type: none"> <li>• multiple sclerosis<sup>[48]</sup></li> </ul>
<b>Psychiatry</b>	<ul style="list-style-type: none"> <li>• depression in women<sup>[2]</sup></li> <li>• social stigmatization<sup>[2]</sup></li> </ul>
<b>Rheumatology and Orthopedics</b>	<ul style="list-style-type: none"> <li>• gout<sup>[50]</sup></li> <li>• poor mobility<sup>[51]</sup></li> <li>• osteoarthritis<sup>[2]</sup></li> <li>• low back pain<sup>[52]</sup></li> </ul>
<b>Dermatology</b>	<ul style="list-style-type: none"> <li>• stretch marks<sup>[39]</sup></li> <li>• acanthosis nigricans<sup>[39]</sup></li> <li>• lymphedema<sup>[39]</sup></li> <li>• cellulitis<sup>[39]</sup></li> <li>• hirsutism<sup>[39]</sup></li> <li>• intertrigo<sup>[40]</sup></li> </ul>
<b>Gastrointestinal</b>	<ul style="list-style-type: none"> <li>• gastroesophageal reflux disease<sup>[2][42]</sup></li> <li>• fatty liver disease<sup>[2]</sup></li> <li>• cholelithiasis (gallstones)<sup>[2]</sup></li> </ul>
<b>Oncology<sup>[49]</sup></b>	<ul style="list-style-type: none"> <li>• breast, ovarian</li> <li>• esophageal, colorectal</li> <li>• liver, pancreatic</li> <li>• gallbladder, stomach</li> <li>• endometrial, cervical</li> <li>• prostate, kidney</li> <li>• non-Hodgkin's lymphoma, multiple myeloma</li> </ul>

<p><b>Respirology</b></p>	<ul style="list-style-type: none"> <li>• obstructive sleep apnea<sup>[2][20]</sup></li> <li>• obesity hypoventilation syndrome<sup>[2][20]</sup></li> <li>• asthma<sup>[2][20]</sup></li> <li>• increased complications during general anaesthesia<sup>[2][5]</sup></li> </ul>
<p><b>Urology and Nephrology</b></p>	<ul style="list-style-type: none"> <li>• erectile dysfunction<sup>[53]</sup></li> <li>• urinary incontinence<sup>[54]</sup></li> <li>• chronic renal failure<sup>[55]</sup></li> <li>• hypogonadism<sup>[56]</sup></li> <li>• buried penis<sup>[57]</sup></li> </ul>

### Other illnesses

Certain physical and mental illnesses and the pharmaceutical substances used to treat them can increase risk of obesity. Medical illnesses that increase obesity risk include several rare genetic syndromes (listed above) as well as some congenital or acquired conditions: hypothyroidism, Cushing's syndrome, growth hormone deficiency, and the eating disorders: binge eating disorder and night eating syndrome.<sup>[2]</sup>

However, obesity is not regarded as a psychiatric disorder, and therefore is not listed in the DSM-IVR as a psychiatric illness. The risk of overweight and obesity is higher in patients with psychiatric disorders than in persons without psychiatric disorders.

Certain medications may cause weight gain or changes in body composition; these include insulin, sulfonylureas, thiazolidinediones, atypical antipsychotics, antidepressants, steroids, certain anticonvulsants (phenytoin and valproate), pizotifen, and some forms of hormonal contraception.<sup>[2]</sup>

### Causes

At an individual level, a combination of excessive food energy intake and a lack of physical activity is thought to explain most cases of obesity. A limited number of cases are due primarily to genetics, medical reasons, or psychiatric illness. In contrast, increasing rates of obesity at a societal level are felt to be due to an easily accessible and palatable diet, increased reliance on cars, and mechanized manufacturing.

A 2006 review identified ten other possible contributors to the recent increase of obesity: (1) insufficient sleep, (2) endocrine disruptors (environmental pollutants that interfere with lipid metabolism), (3) decreased variability in ambient temperature, (4) decreased rates of smoking, because smoking suppresses appetite, (5) increased use of medications that can cause weight gain (e.g., atypical antipsychotics), (6) proportional increases in ethnic and age groups that tend to be heavier, (7) pregnancy at a later age (which may cause susceptibility to obesity in children), (8) epigenetic risk factors passed on generationally, (9) natural selection for higher BMI, and (10) assortative mating leading to increased concentration of obesity risk factors (this would increase the number of obese people by increasing population variance in weight).

### Management of Obesity with Nutrease powder

The main treatment for obesity consists of dieting and physical exercise. The Diet Management Program with NUTREASE POWDER, The Nature's blend of protein, Fibers, plants or plant extracts (phytochemicals) has been found successful in controlling human appetite and body weight.

### 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
<b>VITAMINS</b>		
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
<b>MINERALS</b>		
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 Guar gum, 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,  $\beta$ -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 vitamins and phytonutrients to help potentiate insulin action and thus influence carbohydrate, lipid and protein metabolism. Targeted botanicals and antioxidants like curcuminoids, sulforaphane glucosinolate 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 maintain 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 Natural protein concentrate and pea protein isolate to meet the daily protein requirements and to maintain lean muscle mass.

### WHAT IS YOUR GOAL?

In order to be successful with your weight management plan, it is important to know why you want to achieve a change in weight. Are you trying to avoid health problems, feel better, have more energy, be able to play with your children or grandchildren, sleep better, decrease medications and live longer?

**Whatever may be your reason, once you've identified it, you will have an easier time sticking to a program.**

### 10 TIPS FOR MAKING A MEANINGFUL CHANGE

01. Focus on healthy lifestyle changes.
02. Set realistic and achievable goals.
03. Set one goal that has nothing to do with weight.
04. Engage in daily structured activities, including exercise.
05. Make healthy eating a daily activity.
06. Be sure you're adopting habits you can keep.
07. Adopt new habits slowly.
08. Enlist support from family and friends.
09. Stock your kitchen with the foods you need to get started.
10. Set a specific start date.



## GETTING STARTED

### How does the weight management program work?

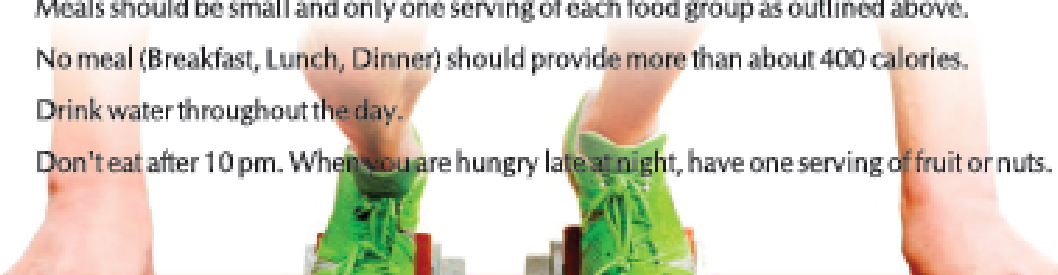
- ▶ Supports effective weight management.
- ▶ Controls hunger and cravings for up to 3 hours.
- ▶ Provides only 105 calories.
- ▶ Supports your digestion and regularity.
- ▶ Promotes energy, positive mood and boost metabolism.
- ▶ Promotes loss of fat and preservation of lean body mass.
- ▶ Improves metabolism and insulin sensitivity (how well insulin works in your body to help metabolize sugars and other carbs).
- ▶ Increasing the metabolism when processing & digesting whole foods.
- ▶ Reduces the need to think about food during the day.

We recommend this program for two weeks with best increments, unless otherwise advised, it may be repeated for another two weeks or as many times as advised. Although, we recommend a specific time frame, to develop a healthy habits.



## OVERVIEW OF THE DIETARY PLAN

- ▶ **Nutrese™** and other supplements
- ▶ Each meal or snack should have one serving of protein (palm-sized unless otherwise stated; see recommended Protein Sources).
- ▶ Each meal or snack should have one serving of vegetables equal to three handfuls or one serving of fruits equal to one handful (see recommended vegetables and recommended fruits lists).
- ▶ One serving of fats daily (see Recommended Healthy Fats & Oils)
- ▶ Use other foods according to the recommendation.
- ▶ Meals should be small and only one serving of each food group as outlined above.
- ▶ No meal (Breakfast, Lunch, Dinner) should provide more than about 400 calories.
- ▶ Drink water throughout the day.
- ▶ Don't eat after 10 pm. When you are hungry late at night, have one serving of fruit or nuts.



### How does **Nutrease™** work?

- ▶ Nutritional supplementation is an important factor in helping to improve your metabolism. Nutrease is the cornerstone supplement to this program. It's a mango flavored, pea, whey and soy protein powder with 7 grams of easily digestible fiber, an essential complement of vitamins and minerals exclusively extracted from vegetables, fruits and additional nutrients to support weight management and metabolism. Also includes essential fatty acid omega 3, 6 and 9 from flaxseed and probiotics in the fortified curd powder with L-gasseri, clinically know to reduce weight and reduce the waist circumference.
- ▶ Added with ginger powder and green tea extract to increase the metabolism. Broccoli extract with rich antioxidants.
- ▶ Fiber & probiotics help support regularity. So, you can eliminate waste naturally from your digestive system.
- ▶ Proprietary blend of prebiotics, fiber and probiotics help supports a healthy intestinal tract.
- ▶ Digestive enzymes also help your body to support the absorption of nutrients.
- ▶ Lactobacillus gasseri effectively reduces waist size, BMI (Body Mass Index) and the dangerous visceral fat that accumulates around the organs.

### Phytonutrients:-

- ▶ As the name implies, phyto = plant, Nutrients = Nutrition. They are concentrated in the skin of many fruits & vegetables and are responsible for their color, hue, scent & flavor. They are basically a plant's immune system, protecting them from environmental threats.

### Why Phytonutrients?

- ▶ Phytonutrients act as a powerful antioxidants.
- ▶ Plant produces phytonutrients as a defence mechanism to protect themselves from their environment.
- ▶ Phytonutrients provides similar benefits to people.
- ▶ They help us to protect from inflammation.
- ▶ They help shield us from aging & helps in free radical damage.
- ▶ They help prevent cancer.
- ▶ They help lower bad cholesterol.
- ▶ They help defend us from infections.

### Importance of Co-factor & Co-nutrients:-

- ▶ Co-factor helps in absorption of nutrients and thereby increases bioavailability of nutrients.
- ▶ Co-factors & Co-nutrients help minimize stomach irritation and stomach upsets.
- ▶ Co-factors are "helper molecules" that help other nutrients become active and functional.
- ▶ Co-factors bound to a protein and helps in proteins biological activity.

## Supplement facts of Nutrease™

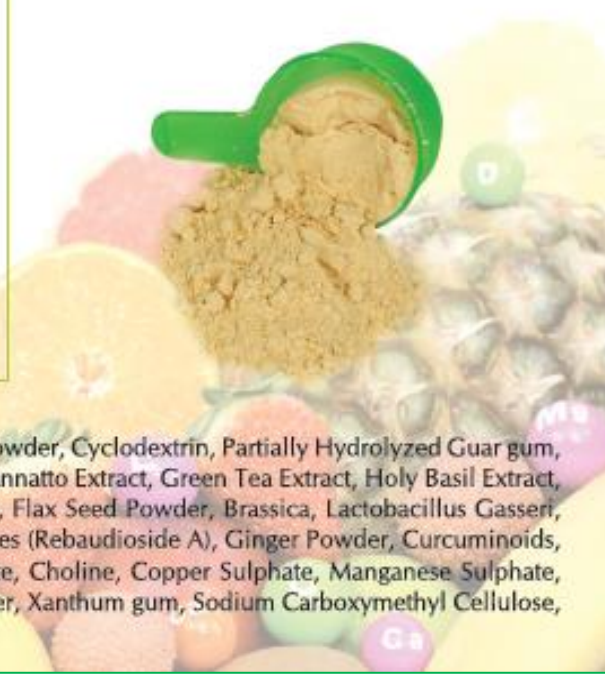
Supplement Facts	Per 100g Approx	Per 30g Approx
Serving Size : 30g (1 Scoop)      Serving per container : 20		
Energy Value	349.86 Kcal	104.96 Kcal
Protein	38.723g	11.61g
Total Carbohydrate	53.05g	15.91g
Sugar	6.093g	1.82g
Dietary Fiber	22.17g	6.648g
Total Fat	3.00g	0.902g
Mono Unsaturated Fats	0.133g	0.040g
Poly Unsaturated Fats	0.116g	0.034g
Saturated Fats	2.62g	0.78g
<b>VITAMINS</b>		
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
<b>MINERALS</b>		
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

**Nutrease™** is a delicious plant based nutrient shake, framed to help maintain weight, support healthy blood sugar levels, cholesterol and for a healthy life style today and tomorrow.

- ▶ 104 Kcal per serving
- ▶ High in protein, 11g per serving
- ▶ High in fibre, 6.6g per serving to helps you feel fuller
- ▶ Essential vitamins and minerals from botanicals
- ▶ Low in carbohydrates, 15g per serving
- ▶ Contains added plant enzymes, for proper digestion of protein efficiently
- ▶ Probiotics helps to absorb nutrients and reduce waist circumference.
- ▶ Phytonutrients to help support health and vitality
- ▶ Omega-3 essential fatty acids which are naturally designed from flaxseed
- ▶ Free from artificial preservatives

### Ingredients :

Inulin, Soya Protein Isolate, Pea Protein Isolate, Whey Powder, Cyclodextrin, Partially Hydrolyzed Guar gum, 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,  $\beta$ -Carotene, Di Calcium Phosphate, Choline, Copper Sulphate, Manganese Sulphate, Fructose, Riboflavin, Skimmed Milk Powder, Apple Fiber, Xanthum gum, Sodium Carboxymethyl Cellulose, Mango Powder and Mango Flavor.



## Nutrease™ SAMPLES

### SAMPLE-1

- BREAKFAST** : 1 scoop of prescribed **Nutrease™** product in either water, skimmed milk or made as a smoothie.
- LUNCH** : Lunch with foods from Allowable List.
- SNACK** : 1 scoop of prescribed **Nutrease™** product in either water, skimmed milk or made as a smoothie.
- EVENING** : Dinner with foods from Allowable List.

### SAMPLE-2

- BREAKFAST** : Breakfast with foods from allowable list.
- LUNCH** : 1 scoop of prescribed **Nutrease™** product in either water, skimmed milk or made as a smoothie.
- SNACK** : 1 scoop of prescribed **Nutrease™** product in either water, skimmed milk or made as a smoothie.
- EVENING** : Dinner with foods from Allowable List.

### SAMPLE-3

- BREAKFAST** : Breakfast with foods from allowable list.
- LUNCH** : 1 scoop of prescribed **Nutrease™** product in either water, skimmed milk or made as a smoothie.
- SNACK** : Snack with foods from Allowable List.
- EVENING** : 1 scoop of prescribed **Nutrease™** product in either water, skimmed milk or made as a smoothie.

### SAMPLE-4

- BREAKFAST** : 1 scoop of prescribed **Nutrease™** product in either water, skimmed milk or made as a smoothie.
- LUNCH** : Lunch with foods from Allowable List.
- SNACK** : Snack with foods from Allowable List.
- EVENING** : 1 scoop of prescribed **Nutrease™** product in either water, skimmed milk or made as a smoothie.



### THE IMPORTANCE OF SLEEP

Scientific studies have shown that sleep is another secret weapon for weight loss along with Diet and Exercise. Lack of sleep can effect metabolism and promotes weight gain.

#### 1) Sleep helps to eat less:

- ▶ Lack of sleep disturbs the hormonal level. **Leptin** is a hunger regulating hormone that is released when we have adequate sleep. It helps your body to release the feeling of fullness. **Ghrelin** is another hormone that signals us to eat. It is released when we are sleep deprived.
- ▶ Poor sleep increases the stress hormone cortisol, which has been shown to increase body fat and interferes with the production of growth hormone.
- ▶ Someone who weighs 150kg, will burn at least 95 calories/hour and if someone who weighs 115kg, will burn 42 calories/hour. Calories burned during sleep are used to sustain vital functions in the body.
- ▶ At least, 7 hours of sleep helps in healthy metabolism and balances the hormonal release.

#### 2) Sleep increases the Insulin sensitivity:

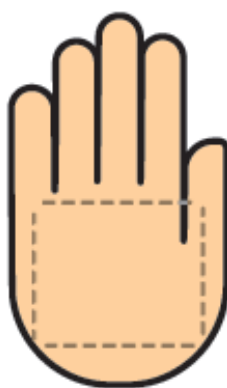
- ▶ Lack of sleep and sedentary lifestyle impairs insulin sensitivity causing high blood sugar levels. Adequate sleep helps to jumpstart our metabolism, prevents insulin resistance and improves muscle tone.

#### 3) Reduces belly fat:

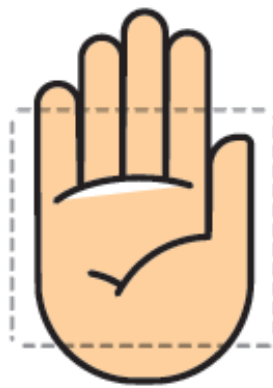
- ▶ Anxiety and stress are two major contributors to belly fat; enough sleep helps to beat both anxiety and stress.

### HELPFUL PORTION REMINDERS

A very easy way to get the right amount of food each day for your size is to use your hand to help you measure. You can do this for most foods on the list.



Palm-size



Handful



Three-Finger Length

## EXERCISE

Try to do 30-60 minutes of moderate physical activity or 10,000 steps each day monitored with a pedometer or other tracker. You can break the exercise up in blocks as small as 10 minutes, if that is helpful.

- ▶ Drink at least 2 litre of water or 8-10 glass of water per day before, during & after exercise.
- ▶ Rest between workouts & allow your body time to recover.

### Recommended exercises are:

- ▶ Plie squat to toes
- ▶ Split squat with jack
- ▶ Curtsy Lunge
- ▶ Inverted 'V' pipe exercise
- ▶ W' leg lift exercise
- ▶ Jump Squats
- ▶ Superman exercise
- ▶ Skipping exercise
- ▶ Push-up & knee exercise



## WHICH FOODS CAN I EAT?

### ALLOWABLE FOODS LIST

#### RECOMMENDED PROTEIN SOURCES

One serving each meal. One serving should be the size of the palm of your hand unless otherwise stated.

Beans — 1/2 cup serving (garbanzo, kidney, mung, and fat-free refried)

Low-fat cheese (e.g., cottage cheese),

Chicken

Eggs — 2 whole or 3 whites + 1 whole Fish

Yogurt (higher in protein)

Lentils — 1/2 cup serving

Prawns

Shrimp

Soy Beans — 1/2 cup serving Split

Peas — 1/2 cup serving

Tofu or Tempeh — 2 palm servings per meal

**AVOID** very fatty meats, cured meats/luncheon meats, breaded or deep-fried protein sources (sautéed in a healthy fat is fine).

## RECOMMENDED VEGETABLES

One serving each meal. One serving should be equal to three handful-sized servings unless otherwise stated.

Alfalfa sprouts	Corn*	Onions	Turnip
Artichoke	Cucumber	Parsnips*	Water
Asparagus	Eggplant	Peas*	Zucchini
Avocado*	Fennel	Pumpkin*	
Bamboo shoots	Green beans	Potato*	
Broccoli	Kale	Radish	
Brussels sprouts	Kohlrabi	Snow peas	
Cabbage	Leeks	Spinach	
Carrots*	Lettuce-all types	Sprouts	
Cassava*	Mushrooms	Squash	
Cauliflower	Okra	Sweet potato*	
Celery	Olives	Tomato	

\*Vegetables to limit-if you choose these vegetables, use only a single handful for a serving.

## RECOMMENDED FRUITS

One handful of fruit can replace one handful of vegetables each day.

Apples	Mangos
Apricots	Nectarines
Blackberries	Oranges
Blueberries	Peaches
Cantaloupe	Pears
Cherries	Pineapple
Cranberries	Plums
Fig (Fresh)	Pomegranate
Grapefruit	Raspberries
Kiwis	Lemons
Limes	Strawberries
	Watermelon

## RECOMMENDED NUTS & SEEDS

These can be used once per day as desired as a source of healthy fats. A serving should be about the amount you can hold on three fingers.

Almonds (or 1 Tbsp nut butter)
Cashews (or 1 Tbsp nut butter)
Flax/Linseeds
Hazelnuts (or 1 Tbsp nut butter) `
Peanuts (or 2 Tbsp nut butter)
Pecans
Pepitas (pumpkin seeds)
Pine nuts
Pistachios
Sesame
Sunflower Seeds
Walnuts Seeds
Chestnut

## GRAINS

Grains are generally limited on this diet because the added carbohydrates make weight management more challenging – especially early on. Vegetarians and vegans may need more and most individuals can add more grains as they achieve their desired weight. If you choose grains, then limit them to a small serving (a handful or less cooked) and select from the following list:



Brown rice

Barley

Corn tortilla - 1 small Kashi

Cereal (unsweetened)

Corn flakes

Millet

Oats - 3/4 c. cooked

Quinoa (unsweetened)

Whole grain

## RECOMMENDED HEALTHY FATS & OILS

Use 1-2 tablespoons per day; cold pressed oils are preferable.

Coconut oil

Coconut milk (3 Tbsp if light)

Canola oil

Flax seed oil

Ghee (clarified butter)

Olive oil

Sesame oil

Walnut oil



**HEALTH TIP :** A recent study showed that cooking rice with a teaspoon of coconut oil increases a substance called resistant starch. Resistant starch is not broken down into simple sugars so this makes your grains lower in calories. The coconut oil should be added to the cooking water (not after cooking) to achieve this effect.



## RECOMMENDED BEVERAGES

Water (flat or sparkling — with lemon or lime as desired)  
 Tea (black, green, herbal — unsweetened)  
 Coffee (unsweetened; small amount of milk or milk substitute is fine)  
 Milk (cow — non-fat or 1%, unsweetened almond, unsweetened coconut)

## DRINKS TO LIMIT

Alcohol is best to avoid, but if you must, it is ok to have 1-2 drinks/week from the following list:

Light beer	Tequila	Pinot-5oz
Guinness beer	Whiskey	Cabernet-5oz
Vodka	Scotch	Chardonnay-5oz
Light rum	Cognac	Pinot grigio-5oz
Gin	Merlot — 5oz	Champagne-5oz

**NOTE:** The following mixers are OK: Soda Water, diet tonic, flavored sparkling water, low sodium tomato juice/V8/Bloody Mary mix.

## FOODS TO GENERALLY AVOID

All refined sugars	Grains (including bread and rice)
Deep fried foods	Sweetened drinks
Highly processed meats	

## Pharmacological Action of Each ingredients of Nutrease Powder



COMPARISON CHART		
NUTRITIONAL INFORMATION	NUTREASE	OTHER MARKET BRANDS
WHEY PROTEIN + SOY PROTEIN + PEA PROTEIN	✓	✗
PLANT BASED VITAMINS & MINERALS	✓	✗
LOW SUGAR	✓	✗
DETOXIFICATION SUPPORT	✓	✗
PEPTIDE INGESTION	✓	✗
PARTIALLY HYDROLYZED CASEIN	✓	✗
ARTIFICIAL SWEETENERS	✗	✓
WHEY PROTEIN	✓	✗
PROTEIN ENCAPSULATED DIPHOSPHATE	✓	✗
SOY ISOLATE	✓	✗
OMEGA 3 AND FATTY ACIDS	✓	✗
PREBIOTIC LACTULOSE	✓	✗

**NUTREASE**  
Advantage

## Balanced Protein Mix

**WHEY PROTEIN + PEA PROTEIN**

**+ SOY PROTEIN**

**Different in terms of Amino Acid Ratio,  
Bioavailability and their effects  
in repair and synthesis of muscles**

### WHEY PROTEIN

- ▶ Works Faster after Ingestion
- ▶ Leans the body quicker & works in shorter time
- ▶ Contains more of a fast Amino Acids Spike
- ▶ Has more sulphur, Essential Amino Acids and BCAA's
- ▶ Increases protein synthesis to a greater degree
- ▶ Meets PDCAA's Ratio 0.91 below 1

### PEA PROTEIN

- ▶ Works Faster and Quick absorption after Ingestion
- ▶ Easily Digested.
- ▶ Pea protein is not slouch with regards to its digestibility.
- ▶ Helps to lose weight, builds muscle and fights heart diseases.
- ▶ Increases protein synthesis
- ▶ Dairy Free and Vegan
- ▶ Meets PDCAA's Ratio 0.89 below 1

### SOY PROTEIN

- ▶ Works easy and quick absorption.
- ▶ Decreases stress on bones, increases stamina & improves blood sugar control.
- ▶ Contains fewer calories, less total fat and saturated fats.
- ▶ Has low glycemic index.
- ▶ Maintains lean muscle mass
- ▶ Meets PDCAA's Ratio of 1



**Nutrese contains plant based broad spectrum  
Vitamins & Minerals which includes a diverse mixture of  
substances including dozens of closely related  
Vitamins 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 hepatoprotective.
- ▶ 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 improve 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 TAIIO (Partial hydrolyzed guar gum)
- ▶ INULIN FROM FIBRULINE, BELGIUM (Inulin- Chichory extract)
- ▶ GAMMA CYCLODEXTRIN FROM WACKER, US
- ▶ APPLE FIBER FROM VITACELL

### SUNFIBER FROM TAIIO (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 EXTRACT

- ▶ 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.



Meal Essentials-Shake Mix

**Nutrease™**

A Nutritional CornerStone by PUGOS®

**One and only supplement with standardized plant based Vitamins & Minerals**

**Synthetic  
Vitamins & Minerals**



Single / Isolated  
Vitamers

**“Natural”  
Vitamins & Minerals**



Single / Isolated  
Vitamers

**Plant - Based  
Vitamins & Minerals**



Broad-spectrum  
mix of vitamers

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**

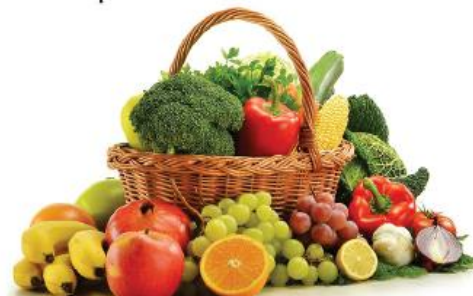
- ▶ Extracted from fruits vegetables, herbs, fungi and other natural sources.
- ▶ Chemical structure and chemical diversity of vitamins and phytonutrients are naturally retained.
- ▶ contains broad spectrum of closely related Vitamins, Minerals, Phytonutrients, Co-factors, and Co-nutrients.
- ▶ Has shown 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 Natural Antioxidant Phyto-Nutrients in human appetite and body weight*

**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 drink 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 in weight management program and in 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 healthcare 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

Obesity is most commonly caused by a combination of excessive food energy intake, lack of physical activity, and genetic susceptibility. Dieting and physical exercise are the mainstays of treatment for obesity. Body weight maintenance can be achieved through manipulation of energy expenditure (EE, mainly heat production also known as thermogenesis), appetite suppression/satiety enhancement, and fat and glucose absorption blocking. Phytochemicals found in Nutrease powder could alter appetite beyond the effects expected by normal nutrient loads.

## References

1. WHO 2000 p.6
2. Haslam DW, James WP (2005). "Obesity". *Lancet* 366(9492): 1197-209.
3. WHO 2000 p.9
4. Kushner, Robert (2007). *Treatment of the Obese Patient (Contemporary Endocrinology)*. Totowa, NJ: Humana Press. p. 158. Retrieved April 5, 2009.
5. Adams JP, Murphy PG (July 2000). "Obesity in anaesthesia and intensive care". *Br J Anaesth* 85 (1): 911-08.
6. NICE 2006 p.10-11
7. Imaz I, Martı́nez-Cervell C, Garcı́a-Alvarez EE, Sendra-Gutiérrez JM, González-Enrı́quez J (July 2008). "Safety and effectiveness of the intragastric balloon for obesity. A meta-analysis". *Obes Surg* 18 (7): 841-6
8. Barness LA, Opitz JM, Gilbert-Barness E (December 2007). "Obesity: genetic, molecular, and environmental aspects". *Am. J. Med. Genet. A* 143A (24): 3016-34.
9. Woodhouse R (2008). "Obesity in art: A brief overview". *Front Horm Res. Frontiers of Hormone Research*36: 271-86.
10. Pollack, Andrew (June 18, 2013). "A.M.A. Recognizes Obesity as a Disease". *The New York Times*. June 18, 2013.
11. Weinstock, Matthew (June 21, 2013). "The Facts About Obesity". H&HN. American Hospital Association. Retrieved June 24, 2013.
12. Sweeting HN (2007). "Measurement and Definitions of Obesity In Childhood and Adolescence: A field guide for the uninitiated". *Nutr J* 6 (1): 32.
13. Gray DS, Fujioka K (1991). "Use of relative weight and Body Mass Index for the determination of adiposity". *J Clin Epidemiol*44 (6): 545.
14. "Healthy Weight: Assessing Your Weight: BMI: About BMI for Children and Teens". Center for disease control and prevention. Retrieved April 6, 2009.
15. Flegal KM, Ogden CL, Wei R, Kuczmarski RL, Johnson CL (June 2001). "Prevalence of overweight in US children: comparison of US growth charts from the Centers for Disease Control and Prevention with other reference values for body mass index". *Am. J. Clin. Nutr.* 73 (6): 1086

16. Sturm R (July 2007). "Increases in morbid obesity in the USA: 2000-2005". *Public Health* 121 (7): 492
17. Kanazawa M, Yoshiike N, Osaka T, Numba Y, Zimmet P, Inoue S (December 2002). "Criteria and classification of obesity in Japan and Asia-Oceania". *Asia Pac J Clin Nutr.* 11 Suppl 8: S
18. Bei-Fan Z; Cooperative Meta-Analysis Group of Working Group on Obesity in China (December 2002). "Predictive values of body mass index and waist circumference for risk factors of certain related diseases in Chinese adults: study on optimal cut-off points of body mass index and waist circumference in Chinese adults". *Asia Pac J Clin Nutr.* 11 Suppl 8: S685
19. Poulain M, Doucet M, Major GC et al. (April 2006). "The effect of obesity on chronic respiratory diseases: pathophysiology and therapeutic strategies". *CMAJ* 174 (9): 1293
20. Berrington de Gonzalez A (December 2010). "Body-Mass Index and Mortality among 1.46 Million White Adults". *N. Engl. J. Med.* 363 (23): 2211
21. Mokdad AH, Marks JS, Stroup DF, Gerberding JL (March 2004). "Actual causes of death in the United States, 2000"(PDF). *JAMA* 291 (10): 1238
22. Allison DB, Fontaine KR, Manson JE, Stevens J, VanItallie TB (October 1999). "Annual deaths attributable to obesity in the United States". *JAMA* 282 (16): 1530
23. Whitlock G, Lewington S, Sherliker P et al. (March 2009). "Body-mass index and cause-specific mortality in 900,000 adults: collaborative analyses of 57 prospective studies". *Lancet* 373 (9669): 1083.
24. Calle EE, Thun MJ, Petrelli JM, Rodriguez C, Heath CW (October 1999). "Body-mass index and mortality in a prospective cohort of U.S. adults". *N. Engl. J. Med.* 341 (15): 1097
25. Pischon T, Boeing H, Hoffmann K et al. (November 2008). "General and abdominal adiposity and risk of death in Europe". *N. Engl. J. Med.* 359 (20): 210
26. Manson JE, Willett WC, Stampfer MJ et al. (1995). "Body weight and mortality among women". *N. Engl. J. Med.* 333 (11): 677
27. Tsigosa Constantine; Hainer, Vojtech; Basdevant, Arnaud; Finer, Nick; Fried, Martin; Mathus-Vliegen, Elisabeth; Micic, Dragan; Maislos, Maximo; Roman, Gabriela (April 2008). "Management of Obesity in Adults: European Clinical Practice Guidelines". *The European Journal of Obesity* 1 (2): 106

28. Fried M, Hainer V, Basdevant A et al. (April 2007). "Inter-disciplinary European guidelines on surgery of severe obesity". *Int J Obes (Lond)* 31 (4): 569
29. Peeters A, Barendregt JJ, Willekens F, Mackenbach JP, Al Mamun A, Bonneux L (January 2003). "Obesity in adulthood and its consequences for life expectancy: A life-table analysis"(PDF). *Ann. Intern. Med.* 138 (1): 24
30. Grundy SM (2004). "Obesity, metabolic syndrome, and cardiovascular disease". *J. Clin. Endocrinol. Metab.* 89 (6): 2595
31. Seidell 2005 p.9
32. Bray GA (2004). "Medical consequences of obesity". *J. Clin. Endocrinol. Metab.* 89 (6): 2583
33. Shoelson SE, Herrero L, Naaz A (May 2007). "Obesity, inflammation, and insulin resistance". *Gastroenterology* 132(6): 2169
34. Shoelson SE, Lee J, Goldfine AB (July 2006). "Inflammation and insulin resistance". *J. Clin. Invest.* 116 (7): 1793
35. Dentali F, Squizzato A, Ageno W (July 2009). "The metabolic syndrome as a risk factor for venous and arterial thrombosis". *Semin. Thromb. Hemost.* 35 (5): 451
36. Yusuf S, Hawken S, Ounpuu S, Dans T, Avezum A, Lanus F, McQueen M, Budaj A, Pais P, Varigos J, Lisheng L, INTERHEART Study Investigators. (2004). "Effect of potentially modifiable risk factors associated with myocardial infarction in 52 countries (the INTERHEART study): Case-control study". *Lancet* 364 (9438): 937
37. Darvall KA, Sam RC, Silverman SH, Bradbury AW, Adam DJ (February 2007). "Obesity and thrombosis". *Eur J Vasc Endovasc Surg* 33 (2): 223
38. Yosipovitch G, DeVore A, Dawn A (June 2007). "Obesity and the skin: skin physiology and skin manifestations of obesity". *J. Am. Acad. Dermatol.* 56 (6): 901
39. Hahler B (June 2006). "An overview of dermatological conditions commonly associated with the obese patient". *Ostomy Wound Manage* 52 (6): 34
40. Arendas K, Qiu Q, Gruslin A (June 2008). "Obesity in pregnancy: pre-conceptual to postpartum consequences". *J Obstet Gynaecol Can* 30 (6): 477
41. Anand G, Katz PO (2008). "Gastroesophageal reflux disease and obesity". *Rev Gastroenterol Disord* 8 (4): 233

42. Harney D, Patijn J (2007). "Meralgia paresthetica: diagnosis and management strategies". *Pain Med* 8 (8): 669
43. Bigal ME, Lipton RB (January 2008). "Obesity and chronic daily headache". *Curr Pain Headache Rep* 12 (1): 56
44. Sharifi-Mollayousefi A, Yazdchi-Marandi M, Ayramlou H et al. (February 2008). "Assessment of body mass index and hand anthropometric measurements as independent risk factors for carpal tunnel syndrome". *Folia Morphol. (Warsz)* 67 (1): 36
45. Beydoun MA, Beydoun HA, Wang Y (May 2008). "Obesity and central obesity as risk factors for incident dementia and its subtypes: A systematic review and meta-analysis". *Obes Rev* 9(3): 204
46. Wall M (March 2008). "Idiopathic intracranial hypertension (pseudotumor cerebri)". *Curr Neurol Neurosci Rep* 8 (2): 87
47. Munger, KL, Chitnis, T, Ascherio, A. (2009). "Body size and risk of MS in two cohorts of US women". *Neurology* 73 (19): 1543-50.
48. Calle EE, Rodriguez C, Walker-Thurmond K, Thun MJ (April 2003). "Overweight, obesity, and mortality from cancer in a prospectively studied cohort of U.S. adults". *N. Engl. J. Med.* 348(17): 1625
49. Choi HK, Atkinson K, Karlson EW, Curhan G (April 2005). "Obesity, weight change, hypertension, diuretic use, and risk of gout in men: the health professionals follow-up study". *Arch. Intern. Med.* 165 (7): 742
50. Tukker A, Visscher T, Picavet H (April 2008). "Overweight and health problems of the lower extremities: osteoarthritis, pain and disability". *Public Health Nutr* 12 (3): 10
51. Molenaar EA, Numans ME, van Ameijden EJ, Grobbee DE (November 2008). "[Considerable comorbidity in overweight adults: results from the Utrecht Health Project]". *Ned Tijdschr Geneeskd (in Dutch; Flemish)* 152 (45): 2457
52. Esposito K, Giugliano F, Di Palo C, Giugliano G, Marfella R, D'Andrea F, D'Armiento M, Giugliano D (2004). "Effect of lifestyle changes on erectile dysfunction in obese men: A randomized controlled trial". *JAMA* 291 (24): 2978
53. Hunskar S (2008). "A systematic review of overweight and obesity as risk factors and targets for clinical intervention for urinary incontinence in women". *Neurourol. Urodyn.* 27 (8): 749

54. Ejerblad E, Fored CM, Lindblad P, Fryzek J, McLaughlin JK, Nyström O (2006). "Obesity and risk for chronic renal failure". *J. Am. Soc. Nephrol.* 17 (6): 1695
55. Makhsida N, Shah J, Yan G, Fisch H, Shabsigh R (September 2005). "Hypogonadism and metabolic syndrome: Implications for testosterone therapy". *J. Urol.* 174 (3): 827
56. Pestana IA, Greenfield JM, Walsh M, Donatucci CF, Erdmann D (October 2009). "Management of "buried" penis in adulthood: an overview". *Plast. Reconstr. Surg.* 124 (4): 1186
57. Schmidt DS, Salahudeen AK (2007). "Obesity-survival paradox-still a controversy?". *Semin Dial* 20 (6): 486-92.
58. U.S. Preventive Services Task Force (June 2003). "Behavioral counseling in primary care to promote a healthy diet: recommendations and rationale". *Am Fam Physician* 67(12): 2573
59. Habbu A, Lakkis NM, Dokainish H (October 2006). "The obesity paradox: Fact or fiction?" *Am. J. Cardiol.* 98 (7): 944