



# IJFANS

International Journal of Food  
And Nutritional Sciences

Volume 2, Issue 4, Oct-Dec-2013,

[www.ijfans.com](http://www.ijfans.com)

e-ISSN: 2320-7876



**Official Journal of IIFANS**

## HEALTH BENEFITS OF WHEAT GRASS – A WONDER FOOD

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### ABSTRACT

Wheat grass is an expensive and efficient source to provide all required nutrients and medicinal benefits for healthy and rejuvenating body. Wheat grass has been proved to contain essential amino acids, proteins, vitamins, minerals, active enzymes, bio flavanoids and chlorophyll which are beneficial for health. Because of these constituents wheat grass possess antibacterial, anti oxidant, anti cancer, anti ulcer property. Blood purification, liver detoxification and colon cleansing are the three important effects of wheat grass on human body. It chemically neutralizes environmental pollutants, enhances immunity, restore energy and vitality. This review article is an attempt to present the findings of scientific studies with regard to use of wheat grass in diseased conditions and therapeutical potential for healthy living.

Key words: wheat grass, cancer, anti oxidant, chlorophyll, enzymes.

### INTRODUCTION

Wheatgrass is a food prepared from the cotyledons of the common wheat plant (*Triticum aestivum*) belonging to family Gramineae. Triticum is a genus of annual and biennial grasses, yielding various types of wheat and is cultivated almost all over the world. Shoot of *Triticum aestivum* is called wheat grass. It is also a powerful health food supplement that is packed with highly concentrated vitamins, minerals, chlorophyll and enzymes. Wheat grass is freshly juiced or dried in powder and used for human consumption. Nutritionally, wheatgrass is a complete food that contains 98 of the 102 earth elements. One of the ingredients with major benefit in wheatgrass is chlorophyll, which has the ability to draw toxins from the body like a magnet. Considered the "blood of plants", chlorophyll can soothe and heal tissues internally.

The chlorophyll in wheatgrass is high in oxygen and light energy, which can provide the brain and body tissues with an optimal environment in which to function. The chlorophyll in wheatgrass also has antibacterial properties, which can stop the development of harmful bacteria in the body. Wheat grass contains bioflavanoids, proteins and other important nutrients and helps in maintaining body functions (1).

### GROWING OF WHEAT GRASS

Wheatgrass can be easily grown at home using following procedure. Mix one part peat moss with three parts planting soil and place in at least 2 inch deep plastic trays. Soak one cup of wheat for 24 hours then rinse. One cup of the seeds will be sufficient for a 25 x 35cm tray. Water the soil mixture first, then spread wheat evenly over the moist soil. Cover the wheatgrass with a paper towel and place it near a window to ensure proper ventilation for

three days. However, keep away from direct sunlight. For the first three days, in the morning, water such that seeds are completely soaked in water. In the evening, lightly spray water with a spray bottle. On the fifth day, the young shoots grow above 1 inch. Now, water only once a day but ensure that the soil is damp to keep the roots moist. Around the ninth or 10th day, the wheatgrass is grows to 6 – 7 inch and is ready for harvesting. At this stage, the wheatgrass is at its nutritional peak. Cut the grass, juice it either manually or using a juicer and have fresh (2). Care should be taken that not all wheat grains will sprout. The ungerminated grains will favour mold growth that can contaminate nearby plants and create allergic effects (3).

### CHEMICAL COMPOSITION OF WHEAT GRASS

The major chemical constituents that make wheat grass a valuable food are (4):

#### PROTEINS

Essential and dietary non essential amino acids like leucine, iso leucien, threonine, valine, threonine, phenylalanine, tryptophane, methionine, lysine, arginine aspartic acid, glycein, prolein, glutamic acid, alanine, tyrosine are present in wheat grass.

#### VITAMINS

Wheat grass contains vitamin A, carotene, B-complex, E, C and K.

#### MINERALS

Iron, calcium, phosphorus, megnasium, zinc, copper, sodium, sulfur, boron, molybdenum, iodine are the important minerals present in wheat grass.

## **CHLOROPHYLL**

Wheat grass juice is also known as green blood as it contains chlorophyll. It neutralizes infection, heals wound, overcome inflammation, and gets rid of parasitic infection. Blood purification, liver detoxification and colon cleansing are the three important effects of wheat grass on human body (6,7).

## **ENZYMES**

Protease, amylase, lipase, cytochrome oxidase, trans hydrogenase, superoxide dismutase enzymes are present in wheat grass.

## **LIPASE**

Lipase is highly effective in the digestion of fats. Enhances the digestion of proteins, starch and fat in the gastrointestinal tract. Without lipase fat stagnates and accumulates in the organs, arteries and capillaries.

- **CYTOCHROME OXIDASE**

Major effector in the body's production of energy. Cytochrome oxidase anchors a chain of enzymes in the mitochondrion; the power plant of the cell enables this by reacting with oxygen to make energy.

- **CATALASE**

This enzyme is among the most efficient known. Serves to protect each individual cell from the toxic effect of hydrogen peroxide. Hydrogen peroxide is caused in the body by bacteria.

- **MALIC DEHYDROGENASE**

Important enzyme in maintaining the body's ability to defeat bacteria and other parasitic hosts in the body.

- **ABSCISIC ACID**

Anti-cancer agent.

- **PROTEASE, AMYLASE**

Important in supplementing the body's natural digestion of starches, proteins, fats and cellulose. Can help offset the worst aspects of digestive leukocytosis, the immune response to food heated over 118 degrees.

- **BIOFLAVANOIDS**

Apigenin, quercetin, luteolin are found in wheat grass.

## **HEALTH BENEFITS OF WHEATGRASS**

- The secret behind wheatgrass offering innumerable health benefits lies in the rich and dense nutritional reservoir in the young sprouts. Wheatgrass juice is one of the best sources of chlorophyll and most of its health benefits are attributed to this, besides other vital nutrients. Here is a brief account of the health benefits offered by wheatgrass (8):
- Enhances the production of red blood cells: Wheatgrass juice has been proven to build red blood cells quickly after ingestion and has potential to

lower transfusion requirement in thalassemia. The grass is loaded with vitamin B-12, folic acid and iron, all vital for production of healthy red blood cells.

- **Lowers blood pressure:** Regular consumption of wheatgrass juice is a natural treatment for lowering high blood pressure. The fibre content can help sweep away cholesterol from the digestive tract and also by dilating the blood pathways through out the body.
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- **Enhances immunity:** A strong immune system is of paramount importance in preventing deadly diseases like cancer. The rich array of nutrients in wheatgrass juice and powder helps in strengthening the immune system and keeps the body in perfect health.
- **Restores energy and vitality:** Wheatgrass restores energy by fulfilling the nutritional deficiencies. It supplies high-quality proteins, enzymes, vitamins and minerals so that the body is not deficient in any vital nutrient.
- **Cleanses the body:** The high concentration of chlorophyll in wheatgrass has anti-bacterial properties and helps detoxify the body. It strengthens our cells, detoxifies the liver and bloodstream, and chemically neutralizes environmental pollutants.
- **Aids weight loss:** Wheatgrass juice is an inexpensive, easy and extremely potent aid to weight loss. The juice works by stimulating the metabolism and suppressing the cravings that lead to overeating.
- **Possess anti oxidant property and fights cancer:** The antioxidant-rich phyto nutrients beta-carotene, bioflavonoid, vitamins B, C and E give a tough fight to the free radicals. The anti-oxidant punch in the juice neutralizes adverse effects of free radicals and prevents damage to the DNA and cell structure. Its ability to detoxify the body, prevent DNA damage, boost immunity levels and enhance the production of red blood cells helps fight away carcinogens. Chlorophyll is the active ingredient in the grass that inhibits the metabolic activity of carcinogens (9-12).
- **Prevents graying of hair:** Wheatgrass is a simple solution to prevent premature greying of hair. It works miraculously on hair and keeps them healthy and strong. Rubbing the juice on the scalp also helps



- to get rid of dandruff and itchy scalp (13).
- Heals intestinal ulcers: Wheat grass contains chlorophyll and bioflavonoids which are very effective and safe for the treatment of ulcers. It has anti inflammatory property (14).
- Stimulates the thyroid gland, correcting obesity, indigestion and a host of other complaints like rheumatoid arthritis (15)
- Restores alkalinity to the blood. The juice's abundance of alkaline minerals helps reduce over-acidity in the blood.
- Sweetens the breath and firms up and tightens gums.
- Detoxifier: Recent studies show that wheatgrass juice has a powerful ability to fight tumors without the usual toxicity of drugs that also exhibit cell destroying agents. The many active compounds found in grass juice cleanse the blood and neutralize and digest toxins in our cells(16-17).
- Promotes healthy skin; A glass of juice can give an everlasting young look, prevent ageing and make skin look beautiful, healthy and glowing. It also prevents the formation of dark circles around the eyes. It slows down the ageing process and cleans blood, help rejuvenate ageing cells. It tightens the loose skin and heals cuts, wounds, burns. An ulcer, rashes, insect bites, boils sore and other skin problems (18-23).

#### POSSIBLE PROBLEMS OR COMPLICATIONS

Wheatgrass is generally considered safe, although a few individuals have reported nausea, headaches, hives, or swelling in the throat within minutes of drinking its juice. Hives and swollen throat are often signs of a serious allergic reaction and should be handled as an emergency. Anyone having these kinds of symptoms after ingesting wheatgrass may have even more severe reactions to it later. Because it is grown in soils or water and consumed raw, contamination with bacteria, molds, or other substances may be a concern. Women who are pregnant or breast-feeding should not use wheatgrass.

#### CONCLUSION

Plant based foods and their products are widely used in Indian diets to cure many of the body ailments. Wheat grass is one of the products having many of the therapeutic properties. It is a power house of the nutrients like proteins, essential amino acids, vitamins, minerals, chlorophyll and active enzymes. Consumption of wheat grass in the form of juice or powder is beneficial in keeping away many of the health problems like ulcerative colitis, cancers, diabetes, obesity, skin problems, high blood pressure etc.

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