

Nutritional Analysis

Certificate of Analysis

Sweet Wheat Wheatgrass Juice Powder

All Nutrients are listed as Milligrams per Gram
(Serving size: 1/2 gram = approximately 1 teaspoon)

Sample received, tested, reported, and verified by an EPA, USDA, and CT certified Laboratory.

Main Ingredients	Content %
Ash (Minerals)	26.1
Carbohydrates	23.5
Fat	3.7
Moisture	0
Protein	46.7



SweetWheat[®]



One teaspoon is the equivalent nutritionally of 1 1/2 lbs. of raw organic vegetables.

<http://www.sweetwheat.com/nutritional.htm>

Analysis of Fresh Wheatgrass Juice
Compared with PINES Wheat Grass Powder
Based on typical serving sizes.

Nutrients in 1 ounce (28.35 grams) of fresh wheat grass juice

compared with 1/8 ounce (3.5 grams=1 teaspoon=7 tablets) of PINES Wheat Grass

Nutrient

PINES

Tray Grown

Moisture

Protein

Sugars

Chlorophyll

Biotin

Vitamin A (as betacarotene)

Vitamin B-12

Vitamin E

Vitamin C

Folic Acid

Phosphorus

Magnesium

Iron

Calcium

Potassium

roughly 6-7%

860 mg

less than 1%

18.5 mg

4 mcg

1670 IU

0.05 mcg

320 mcg

8 mg

21 mcg

14 mg

4 mg

870 mcg

15 mg

137 mg

95%

550-800 mg

2-3% or 570-850 mg

4-12 mg

3 mcg

120 IU

0.30 mcg

880 mcg

1 mg

8 mcg

21 mg

8 mg

660 mcg

7.2 mg

42 mg

(SOURCE: Wheat Grass, Nature's Finest Medicine by Steve Meyerowitz, page 53. His source was Irvine Analytical Laboratory report courtesy of Optimal Health Institute). The PINES measurements come from an average of independent analyses done on bottles pulled from store shelves and sent directly to the labs.

<http://www.wheatgrass.com/introtowg/factsheets/wheatgrassfactsheet.html>

SAFE's Green Food Powders - Nutritional Analysis

The following nutritional data relates to scientific analysis of SAFE's organic Wheat Grass Powder. This nutritional analysis includes major vitamin and mineral components, fats, carbohydrates and protein content. Superoxide Dismutase content is a very good 'marker' and indicator for overall enzyme activity. Because S.A.F.E Wheat Grass Powder is an organic, whole leaf powder, ground without the use of heat or friction, enzyme activity is retained. Research data continually indicates that Superoxide Dismutase levels are comparable or higher than those in other popular wheat grass juice extracts. Soluble fiber from the leaf protects the nutrients and enzymes and prevents oxidization of the green food product. Tests and studies show that SAFE's Wheat Grass Powder does not oxidize or deteriorate for up to three years if stored in a cool, dry environment.

▲Wheat Grass Powder

	Per Serving <i>(1 teaspoon)</i>	Per 100g
Energy	27kj	960kj
Moisture	110mg	5.5g
Protein	510mg	21.6g
Fats	118mg	5.9g
Carbohydrates		
- Total	1g	50g
- Sugars	120mg	6g
Dietary Fibre	720mg	36g
Sodium	360mcg	18mg
Potassium	40mg	2g
Carotene	66mcg	3.3mg
Chlorophyll	1.2mg	60mg

<http://www.greenbarley.com/wheatgrass-nutritional-data.html>

Nutrition Facts

Serving Size 1 fl oz (32g)

Amount Per Serving

Calories 7 Calories from Fat 0

% Daily Value*

Total Fat 0g 0%

Saturated Fat 0g 0%

Trans Fat

Cholesterol 0mg 0%

Sodium 5mg 0%

Total Carbohydrate 1g 0%

Dietary Fiber 0g 0%

Sugars 0g

Protein 0g

Vitamin A 0% • Vitamin C 7%

Calcium 0% • Iron 10%

*Percent Daily Values are based on a 2,000 calorie diet.
Your daily values may be higher or lower depending on your calorie needs.

NutritionData.com

%Carbs

%Fats

%Protein

In Simple Terms

The Good

This food is very low in Saturated Fat and Cholesterol. It is also a very good source of Vitamin C and Iron.

The Bad

A large portion of the calories in this food come from sugars.

Food Energy			
Amounts Per Selected Serving			%DV
Calories	7.5	(31.4kJ)	0%
Calories from Carbohydrate	5.5	(23.0kJ)	
Calories from Fat	0.0	(0.0kJ)	
Calories from Protein	2.0	(8.4kJ)	

<http://www.nutritiondata.com/facts-001-02s070z.html>

Nutrient	Units	Value per 100 grams
Proximates		
Water	g	47.75
Energy	kcal	198
Energy	kJ	828
Protein	g	7.49
Total lipid (fat)	g	1.27
Ash	g	0.96
Carbohydrate, by difference	g	42.53
Fiber, total dietary	g	1.1
Minerals		
Calcium, Ca	mg	28
Iron, Fe	mg	2.14
Magnesium, Mg	mg	82
Phosphorus, P	mg	200
Potassium, K	mg	169
Sodium, Na	mg	16
Zinc, Zn	mg	1.65
Copper, Cu	mg	0.261
Manganese, Mn	mg	1.858
Selenium, Se	mcg	42.5
Vitamins		
Vitamin C, total ascorbic acid	mg	2.6
Thiamin	mg	0.225
Riboflavin	mg	0.155
Niacin	mg	3.087
Pantothenic acid	mg	0.947
Vitamin B-6	mg	0.265
Folate, total	mcg	38
Folic acid	mcg	0
Folate, food	mcg	38
Folate, DFE	mcg_DFE	38
Vitamin B-12	mcg	0.00
Vitamin A, IU	IU	0
Vitamin A, RAE	mcg_RAE	0
Retinol	mcg	0
Amino acids		
Tryptophan	g	0.115
Threonine	g	0.254
Isoleucine	g	0.287
Leucine	g	0.507
Lysine	g	0.245
Methionine	g	0.116
Cystine	g	0.134
Phenylalanine	g	0.350
Tyrosine	g	0.275
Valine	g	0.361
Arginine	g	0.425

Histidine	g	0.196
Alanine	g	0.295
Aspartic acid	g	0.453
Glutamic acid	g	1.871
Glycine	g	0.306
Proline	g	0.674
Serine	g	0.341

<http://www.juicingbook.com/vegetables/wheatgrass/>

From www.vitagreen.com.au

Analysis of their hydroponically grown wheatgrass....but not using Ocean Solution as with Tonic Attack www.tonicattack.com

MACRONUTRIENTS

<i>Component</i>	<i>%</i>
Proteins	5.7
Carbohydrate	58.6
Fats	2.6
Fibre	7.0
Moisture	10.7
Ash	15.4

MICRONUTRIENTS

<i>Elements</i>	<i>Content</i>
Calcium	15 mg/100g
Magnesium	15 mg/ 100g
Iron	1.5 mg/100g
Phosphorus	89 mg/100g
Potassium	170 mg/100g
Sodium	5.1 mg/100g
Zinc	0.65 mg/100g
Copper	0.19 mg/100g
Manganese	0.47 mg/100g
Selenium	0.01 mg/100g
Vitamins	
Ascorbic Acid (Vit.C)	4.7 mg/100g
Thiamin (Vitamin B1)	0.16 mg/100g

Riboflavin (Vitamin B2)	0.32 mg/100g
Niacin (Vitamin B3)	0.9 mg/100g
Pantothenic Acid (Vitamin B5)	100 mcg/100g
Pyridoxine (Vitamin B6)	0.11 mg/100g
Cobalamin (Vitamin B12)	6.8 ng/ 100g
Retinol (Vitamin A)	< 10 mcg/100g
Vitamin K*	
Total Folates	53 mcg/100g
BetaCarotene	190 mcg/100g
Alpha-tocopherol (Vitamin E)	0.32 mg/100g

* Not measured

Results measured in fresh wheatgrass

Other bioactive substances identified in VitaGreen® wheatgrass

Total Antioxidants	47900 mg/ 100g
Total Polyphenols	576000 mcg/g

SPECIAL NOTE

Some manufacturers of wheatgrass list lengthy Nutritional Analysis Profiles for their product, claiming their product to contain up to 93 different elements and trace minerals.

Be aware that "more is not always better". Many of the minerals they list in these profiles are toxic to human beings. Minerals such as mercury, cadmium, lead, uranium and others **SHOULD NOT BE PRESENT** in human foods. VitaGreen® research into the nature of the "Juice Factor" is an ongoing process with several other bioactive substances currently under investigation.

www.bondiwheatgrass.com.au

Nutrition - Overview

To get the most benefit from vitamins and minerals, a person's total intake should come in a form that is as close to a natural and organic state as possible. Unfortunately many of the fruit and vegetables we buy today are nutrient deficient and although vitamin supplements have their place, they have been processed in a laboratory and then sat on shelves for months before they are ingested, obviously nowhere near as powerful as *live* food.

Organic wheatgrass juice is an abundant source of the B vitamins and includes vitamins C, E and carotene. These vitamins work to successfully destroy free radicals that can lead to the degeneration of the immune system, and the body as a whole. It also contains at least 20 amino acids, as well as various minerals and enzymes. There are over 90 minerals, which are needed to maintain good metabolism. Some of these alkaline minerals found in wheatgrass are calcium, magnesium, potassium and iron.

Comparison Chart

Per 100 grams	Unit	GRASS	Sprouts	Spinach	Broccoli	Chicken
Protein	g	25%	7%	3%	3%	17%
Fat	g	8%	1%	0%	0%	20%
Calcium	g	321.000	28.000	99.000	48.000	10.000

Magnesium	mg	112.000	82.000	79.000	25.000	20.000
Potassium	mg	3225.000	169.000	558.000	325.000	204.000
Phosphorus	mg	575.000	200.00	49.000	66.000	172.000
Iron	mg	25.000	2.140	2.710	0.880	1.040
Sodium	mg	18.800	16.000	79.000	27.000	71.000
Copper	mg	0.375	0.261	0.130	0.045	0.074
Zinc	mg	4.870	1.650	0.530	0.400	1.200
Manganese	mg	2.450	1.868	0.897	0.229	0.019
Selenium	mcg	2.500	N/A	1.000	3.000	N/A
Thiamine	mg	0.350	0.225	0.078	0.065	0.114
Niacin	mg	8.350	3.087	0.724	0.638	6.626
Riboflavin	mg	16.900	0.155	0.189	0.119	0.167
Folate	mcg	1110.000	38.000	194.400	71.000	6.000
Vitamin B6	mg	1.400	0.265	0.195	0.159	0.330
Vitamin B12	mcg	0.800	0.000	0.000	0.000	0.320
Vitamin A	IU	513.000	0.000	6715.000	N/A	178.000
Vitamin C	mcg	214.500	2.600	28.100	93.200	2.400
Vitamin E	mcg	9.100	0.050	1.890	1.660	N/A

Enzymes are an important active ingredient in wheatgrass juice. They are the life force of our foods and are required to carry out many important biological and chemical functions within the body. Enzymes also play a major role in breaking down fats stored in the body and assist greatly in weight loss. Some of these enzymes are as follows:

- Protease - assists in protein digestion
- Cytochrome Oxidase - an anti oxidant
- Amylase - facilitates starch digestion
- Lipase - a fat splitting enzyme
- Transhydrogenase - keeps heart muscle toned
- Superoxide Dismutase (SOD) - found in all body cells and is known for its ability to lessen the effect of radiation and slow cellular aging

Wheatgrass juice is a complete protein, and these are some of the amino acids it contains:

- Absenismic - anti cancer agent
- Lysine - anti ageing / cold sores
- Leucine - energy and nerve stimulation
- Tryptophane - skin and hair growth
- Phenylalanine - thyroid function
- Theronine - digestion and assimilation
- Valine - brain/muscle co-ordination
- Methionine - kidney and liver cleanser
- Alanine - blood builder
- Arginine - seminal fluid

- Glutamic acid - mental alertness
- Aspartic acid - energy
- Glycine - energy
- Proline Glutamic acid - absorption
- Serine - brain stimulation
- Isoleucine - growth in infants
- Histidine - hearing and nerve function

Source: Anne Wigmore, 1989

Both chlorophyll (as in organic wheatgrass juice) and haemoglobin (red blood cells) are molecularly similar. The only actual difference is that the central element in chlorophyll is magnesium and in haemoglobin it is iron, so chlorophyll has been shown to build red blood cells quickly after ingestion. It normalises high blood pressure by dilating the blood pathways throughout the body, and stimulates healthy blood tissue-cell growth.

Chlorophyll has the ability to break down poisonous carbon dioxide and release free oxygen.

Organic wheatgrass juice stimulates metabolism and enzyme systems and the abundance of alkaline minerals help to reduce over acidity in the blood.

Nutrition - Body Cleansing

Organic wheatgrass juice has a long tradition as a cleanser of blood, organs, and gastrointestinal tract. It contains saponin, a detergent factor which can help drain the lymphatic system, carrying away many toxins from the body cells. When an imbalance or injury exists, for example sore tendons or joints or degenerative diseases, there is a natural build up of mucous in the lymph particular to that area. This mucus is encapsulated, helping to ensure the proper flow of lymphatic fluid.

Wheatgrass juice helps to break down the mucous allows it to drain and thus helps to relieve pressure and aid healing.

Allergies and Sensitivities

Wheatgrass is different to wheat, as one is a green vegetable, the other a grain. The green vegetable grass contains no gluten and is therefore no more allergic than spinach or lettuce. In fact it contains anti-allergic factors. Since allergies are immune responses to toxic irritants, detoxification is crucial to any allergy treatment problem. (Steve Meyerowitz, 1998)

In the book *Survival Into The 21st Century* by Rev Viktoras Kulvinskis, MS, it states "In therapeutic amounts, wheatgrass juice will detoxify the body by increasing the elimination of hardened mucous, crystallised acids and solidified, decaying faecal matter. Its high enzyme content helps dissolve tumours. It is the fastest, surest way to eliminate internal waste and provide an optimum nutritional environment."

Kulvinskis adds "Wheatgrass juice is the nectar of rejuvenation, the plasma of youth, the blood of all life. The elements that are missing in your body's cells - especially enzymes, vitamins, hormones, and nucleic acids can be obtained from this daily green sunlight transfusion."

Anne Wigmore believes "Wheatgrass is not a cure, however, through scientific investigation and experimentation we have discovered that it furnishes the body with vital nourishment, which, when missing, yields sickness." (The Wheatgrass Book, 1989)

The movement for the human consumption of wheatgrass began in the western world in the 1930's and was initiated by Charles F Schnabel, known as the *father of wheatgrass*. He said "Fifteen pounds of wheatgrass is equivalent to 350 pounds of the choicest vegetables."

The bio available chlorophyll found in organic wheatgrass juice can protect us from carcinogens (cancer causing substances) like no other food can. Studies in animals indicate that it helps to reduce absorption of a variety of serious carcinogens (Zeigler, 1995). It

strengthens the cells, detoxifies the liver and bloodstream and chemically neutralises the polluting elements in our environment.

Given that the liver is the main organ of detoxification in the body it is important to note that chlorophyll stimulates and regenerates it. Three compounds found in the juice of organic wheatgrass that helps the liver with this are:

- Choline, which prevents the deposition of fats
- Magnesium that draws out the excess fat
- Potassium which invigorates and stimulates.

Chlorophyll is also a good eliminator of bodily odours. Taken regularly it will eliminate bad breath, smelly feet and perspiration odours.

This next analysis is from a German website with the translation being the best that Google can automatically do – which is much better than I could and is sufficient to understand.

Wheat grass: A outstanding donor of chlorophyll.

The following data of the nutrients, which are contained in average wheatgrass (with 15-20 cm length), originate from a report from Dr. C F. Schnabel to *the American Chemical Society* (American society for chemistry).

Nutrient milligramm per American Pound

(453.59 g):

Chlorophyll 5000

Cholin 4000

Vitamin C (ascorbic acid) 2000

Vitamin A (carotin) 360

Vitamin E 120

Vitamin F 120

Vitamin K 120

Niacin 120

B-b-Vitamine:

Vitamin B₂ (Riboflavin) 24

Vitamin B₁ (Thiamin) 12

Pantothensaeure 8

Vitamin B₆ 4

Wheat grass juice - a meal for itself!

Here are the main nutrients, which seem to be in each unit of wheat grass juice:

Aminos /proteine	Vitamine & minerals	Enzymes
Asparagine acid	Pro pro-Vitamin A	Oxidase
Glow amine acid	Vitamin B1	Lipase
Serin	Vitamin B2	Protease
Glycine	Vitamin B3	Amylase
Histidin	Vitamin B5	Catalase
L-arginin	Vitamin B6	Peroxidase
Threonine	Vitamin B12	Transhydrogenase

Alanine	Vitamin C	Superoxide Dismutase
Prolin	Vitamin K	
Tyrosin	Potassium	
Valin	Calcium	
Methionin	Phosphorus	
Cystein	Magnesium	
Isoleucin	Selenium	
Tryptophan	Zinc	
L-I-Lysin	Iron	
Leucin	Iodine	
	Cobalt	
	Copper	
	Manganese	
	Sodium	
	Sulfur	Chlorophyll

Vitaminkick with wheat grass juice

The researcher H.Earp Thomas isolated over 100 differently vital materials in fresh wheatgrass. His analysis shows that 0.4 cl contains nearly all the nutrient which the body needs. The most important ones are, in mg for each 0,4cl and the % of the daily requirement:

	mg	%
Vitamin A	7,15	89%
Vitamin B 1	1,45	131%
Vitamin B 2	10,15	677%
Vitamin B 3	37,55	250%
Vitamin B 6	45	403%
Vitamin B 12	15	500%
Vitamin C	157	209%
Vitamin D	14,30	168%
Vitamin E	15,70	130%
Vitamin H	5,05	1683%
Vitamin K	40	61%
Folsaeure	5,45	1800%
Iron	28,50	230%

Iodine	1	50%
Potassium	1600	178%
Calcium	257	80%
Copper	25	1666%
Magnesium	51,50	17%
Manganese	5	100%
Phosphorus	257	18%
Sulfur	100	100%
Selenium	0,50	500%
Zinc	2,50	21%
Panθοthensaeure	12	200%