

7/1/2010



MIGENETICS

KEY INGREDIENT BREAKDOWN: AMARANTH



*Amaranthus: The Forgotten Food*  
| Dr. Roger R. Roff Contributors:  
Dr. John F. & Jason M. Bracey

<b>Supplement Facts</b>		<b>Serving Size: 1 capsule</b>		<b>Servings Per Container: 30</b>	
Each Servings Contains:		Amount			%(DV)
<b>Proprietary Blend</b>		<b>161.25mg</b>			<b>†</b>
Spirulina, Tocopherols, Tocotrienols, Alfalfa Grass Juice Powder, Amaranth, Apple Polyphenols 80%, Bifidobacterium Longum, Kamut, Lactobacillus Acidophilus, Resveratrol 50%, Sunflower, L-Glutathione, Lactobacillus Casei, Lycopene 5%, COQ10, Kelp Powder (Natural Iodine), Copper Sodium Chlorophyllin.					
<b>Proprietary Organic &amp; Kosher Green Superfood Blend</b>		<b>105mg</b>			<b>†</b>
- <i>Green Blend</i> : Spirulina, Wheat Grass Juice, Barley Grass Juice, Chlorella, Nettle, Stevia Leaf. - <i>Fruit &amp; Berry Blend</i> : Apple Fruit, Acerola Ext., Wild Bilberry, Wild Blueberry, Wild Lingonberry. - <i>Vegetable Blend</i> : Carrot Juice, Beet Juice, Tomato Juice, Parsley, Spinach, Kale, Collard. - <i>Plant Bio-Active Enzymes Blend</i> : Reishi Mushroom Mycelia, Maitake Mushroom Mycelia, Shiitake Mushroom Mycelia, Cordyceps Mushroom Mycelia, Broccoli Sprout, Cauliflower Sprout, Kale Sprout, Amylase, Cellulase, Lipase, Protease.					
<b>Organic Vegetable Blend</b>		<b>85mg</b>			<b>†</b>
Parsley, Cabbage, Lemon Grass Leaf, Dandelion Leaf, Ginkgo Leaf, Rosemary, Tomato, Beet Pwdr., Carrot Pwdr., Plantain Leaf, Broccoli, Kale Pwdr., Spinach Pwdr., Cilantro Leaf Powder.					
<b>Enzymes Blend</b>		<b>90mg</b>			<b>†</b>
Beta-Glucanase, Alpha-Galactosidase, Peptidase, Phytase, Lactase, Hemicellulase, Bromelain, Pectinase, Papain.					
<b>Organic &amp; Kosher Berry and Fruit Blend</b>		<b>30mg</b>			<b>†</b>
Wild Bilberry, Wild Lingonberry, Black Currant, Aronia, Pomegranate, Wild Blueberry, Concord Grape, Sour Cherry, Wild Elderberry, Wild Cranberry, Red Raspberry, Black Raspberry.					
<b>Each Servings Contains:</b>		<b>Amount</b>	<b>%DV</b>	<b>Each Servings Contains:</b>	
Nat. Vitamin C ( <i>as Camu Camu</i> )		7mg	11.66	Magnesium	
Vitamin D3		1,500iu	375	<i>(as Magnesium Gluconate)</i>	
Vitamin K		30mcg	37.5	Zinc <i>(as Zinc Citrate)</i>	
Thiamin (B-1)		6mg	400	Selenium	
Riboflavin (B-2)		3mg	176.5	<i>(as L-Selenomethionine)</i>	
Niacinamide (B-3)		6mg	30	Manganese	
Pyridoxine (B-6)		8mg	400	<i>(as Manganese Gluconate)</i>	
Folic Acid		133mcg	33.25	Chromium	
Vitamin B12 <i>(as Methylcobalamin)</i>		60mcg	1,000	<i>(as Chromium Picolinate)</i>	
Biotin		1.7mcg	0.565	Vitamin A <i>(as Beta-Carotene)</i>	
Pantothenic Acid (B-5)		3mg	30	Potassium	
Pascalite		30mg	†	<i>(as Potassium Gluconate)</i>	
				Molybdenum	
				<i>(as Molybdenum Citrate)</i>	
				Vanadium <i>(as Vanadium Chelate)</i>	
				0.01mcg	
				†	
Other Ingredients: Vegetarian Capsule, Glyceryl Behenate.					
† Daily Value (DV) not established.      ** Percent Daily Values (DV) are based on a 2,000 calorie diet.					

# African Descent

Everyone deserves the same unalienable rights and freedoms. The right to freedom of speech, the right to freedom of religion and the *natural* right to a **healthy** productive life. This may be true in your circumstances, but may I ask, What is your native background? What do my native origins have to do with my health? Simple, ethnicity is extremely important, and may be the “**key health factor**” overlooked...until **NOW**.

What greater cause is there than to help **RESTORE OUR NATIONS' HEALTH**; a nation filled with individuals that silently suffer unaware of their internal torment. This becomes abundantly clear when we read the words of our Former Surgeon General C. Everett Koop, “**Out of 2.1 million deaths a year in the United States, 1.6 million (76%) are related to poor nutrition.**”

But why are we in this mess? We look to the World Health Organization. The WHO Technical Report Series 916 on ***Diet, Nutrition and The Prevention of Chronic Diseases***, Geneva 2003, claims on page 42:

***“Understanding the evolutionary aspects of diet and its composition might suggest a diet that would be consistent with the diet to which our genes were programmed to respond.”***

**Simply put, when people neglect their traditional foods, their health suffers.**

**But why are we in this mess?** Much is attributed to a lack of awareness that a crisis exists at all in the black community; however, there is a simple answer. The African Americans have long since been separated from their native foods, and due to that reason their health has suffered ever since.

Amaranth was chosen for a variety of reason; however, the key reason was its miraculous healing properties.

# Health Challenges Facing African Americans

## What Diseases Affect Black People and Their Death Rate

### 1. What is really known about the health and longevity of the American Black female?

- Mortality rates for African American women are higher than any other racial/ethnic group for nearly every major cause of death including heart disease, lung cancer, cerebra-vascular disease, breast cancer and chronic obstructive pulmonary diseases. (**Making the Grade on Women's Health: A National and State-by-State Report Card: National Women's Law Center: August 2000**)

### 2. What is really known about the health and longevity of the American Black man?

- Black men are dying at a rate of three times higher than White men. Most Black men from 35 to 64 years of age are dying from treatable diseases. (**Ethnic News watch, Soft Line Information, Inc, Stamford, Ct. Cleveland Plain Dealer**)

### 3. What diseases that are maiming and killing African Americans?

#### A. Arthritis:

- 1) Arthritis is the third most common chronic condition and the leading cause of activity limitation.
- 2) African Americans suffer more frequently with osteoarthritis than White people. (**Estimates of the Prevalence of Arthritis and Other Rheumatic Conditions in the United States, Part I and Part II**)
- 3) Older African Americans males endure the agony of gout, and inflammatory arthritis, more than older White males.

#### B. Auto-Immune Diseases:

- 1) African American women are three times more likely than white women to get lupus are. This is a very serious life shortening painful condition. (**The Many Shades**

of Lupus. U.S. Department of Health , National Institutes of Health of Arthritis and Musculoskeletal and Skin Disorders)

#### C. Asthma:

- 1) African Americans are two to six times more likely to die from asthma than White people are. ( **Michael LeNoir, M.D., Chair of the Allergy and Asthma section of the Association and Associate Professor of Paediatrics at the University of California in San Francisco**)
- 2) The reason why asthma is more common among Black people and other inner city residents is unclear. The disease disproportionately affects African Americans. (**British Medical Journal, August 11, 2001, Asthma “Crisis” for Black Americans. Janice Hopkins Tanne**)

#### D. Cancer

- 1) Black women have the highest incidence of and mortality from colon and rectum cancer than any ethnic or racial group. (**Ries LAG, Eisner M.P., Kosary C.L., et. Al. SEER Cancer Statistics Review, 1973-1993, National Cancer Institute, Bethesda, MD., National Institutes of Health, National Cancer Institute, accessed August 22, 2002.**)
- 2) The death rate combined for all cancers is 35% higher in African American men than in White men. (**Cancer Facts & Figures for African Americans 2007-2008, American Cancer Association**)
- 3) The death rate combined for all cancers is 18% higher in African American women compared to White women. (**Cancer Facts & Figures for African Americans 2007-2008, American Cancer Association**)

#### E. Diabetes

- 1) The prevalence of diabetes in African American women is approximately 85% higher than in Caucasian women. (**Diabetes Surveillance System: Prevalence of Diabetes. U.S. Department of Health & Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion. Accessed August 22, 2002**)
- 2) In 2005, African Americans were 2.2 times as likely as non-Hispanic whites to die from diabetes. (**United States Department of Health and Human Services, The Office of Minority Health**)

#### F. HIV/AIDS

- 1) The AIDS case rate for Black women is 22 times higher than for non-Hispanic White women. (**Centers for Disease Control and prevention, Department of Health and Human Services**)
- 2) The AIDS rate for Black men is 8 times higher than for non-Hispanic White men. (**Centers for Disease Control and Prevention, Department of Health and Human Services**)

#### G. Kidney

- 1) African American men are 2.1 times as likely to start treatment for end stage renal disease related to diabetes, compared to non-Hispanic White men. (**United States Department of Health & Human Services, The office of Minority Health**)
- 2) African Americans experience a much higher rate of kidney failure than do Whites when they suffer from diseases such as hypertension and diabetes. (**Minority Health**)

#### H. Heart Disease:

- 1) Heart disease is the leading cause of death for Black women in the U.S.
- 2) In 2005, African American men were 30% more likely to die from heart disease, as compared to non-Hispanic White men. (**U.S. Department of Health and Human Services, The Office of Minority Health**)

#### I. High Blood Pressure:

- 1) African Americans are 1.5 times as likely as non –Hispanic Whites to have high blood pressure. (**U.S. Department of Health & Human Services, The office of Minority health**)

#### J. Stroke: Vascular

- 1) African American adults are 1.7 times as likely than their White adult counterparts to have a stroke. (**U.S. Department of Health and Human Services, The Office of Minority Health**)

#### K. Mental Health:

- 1) According to the Surgeon General, only one-third of Americans with a mental health problem seek treatment; the percentage of African Americans getting help is only half that of non Hispanic white. (**Medical News Today, Addressing Mental Health Disparities Among African Americans, August 20, 2009.**)

#### L. Reproductive Health:

- 1) The Maternal mortality rate for African American women is nearly five times the maternal mortality for White women. (**Kenneth Kochanek, Sherry Murphy, Robert Anderson, et. Al., National Vital Statistics Report 2004, 53, No. 5 (Atlanta: Centers for Disease Control and Prevention, Division of Vital Statistics, October 2004)**)
- 2) Infant mortality is more than twice as high for Africa American infants as it is for White, non Hispanic infants. (13.9 deaths per 1,000 births versus 5.8 deaths per 1,000 births) (**Federal Interagency Forum on Child and Family Statistics, America’s Children: key National Indicators of Well-Being. Washington D.C.: U.S. Government Printing Office, 2005**)

#### M. Children

- 1) 25 percent of African American children are in less than very good or excellent health compared to 12 percent for White children. (**Federal Interagency Forum on Child and Family Statistics, op. cit.**)

#### **N. General health of African American:**

- 1) Research consistently show that Black adults report more health problems, poorer health status and are more likely to spend more time in bed as a result of their health problems than Whites. (**Williams 1990; Williams and Collins 1995; Williams, Yu Jackson & Anderson 1997**)

#### **O. Health status while in fetus and at birth:**

- 1) Data shows African American Children are born with lower birth weight on average than their European-American counter parts and often somewhat pre-term. (**Miller-McCune, Mother's Travails May Appear in Offspring's DNA, By: Michael Haederie**)
- 2) "What has been shown is: If you're born with low birth weight, you are at risk later in life for high blood pressure, diabetes and cardiovascular disease." (**Miller-McCune, Turning Research Into Solutions, Mother's Travails May Appear in OffSpring's DNA, Michael Haederie**) ( **Quoting: Christopher Kuzawa, Northwestern University Anthropologist**)
- 3) A child born pre-term and under-weight would provide for slightly underdeveloped kidneys, which potentially could mean the kidneys are smaller, and with fewer nephrons (the filtering devices with in the kidney).
- 4) This would lead to sub normal filtering of the blood and retention of toxins and poisons. This is a prescription for a life of compromised health by keeping the immune system in a mild state of distress and the system itself minimally in a state of sepsis.
- 5) Continuing the above logic, consider the lungs and other vital organs. What are the true organ contributions and production deficiencies in a human being that did not get the proper time within the incubator called the uterus with all its paraphernalia to properly care for a developing fetus? Was the cause lack of nutrition? What caused the lack of nutrition?

#### **4. Death Due to Digestion:**

- ❖ All digestive cancers
- ❖ Cancer of the esophagus, twice as high as White
- ❖ Cancer of the intestines
- ❖ Cancer of the Colon and Rectum
- ❖ Primary liver cancer
- ❖ Cancer of the gall bladder
- ❖ Cancer of the Pelvis

- ❖ Gastro-esophageal reflux disease
- ❖ Chronic constipation
- ❖ Liver disease
- ❖ Pancreatic disease (25% higher and 52% higher for females than males)
- ❖ Hospitalization rates higher for Blacks with hemorrhoids
- ❖ Hospitalization rates were greater for diverticular disease(**The Burden of Digestive Diseases in the United States, by James E. Everhart, M.D., Editor, National Institute of Diabetes and Digestive and Kidney Diseases, National Institute of Health, United States Department of Health and Human Services**)

# Amaranth: The Mighty Helper

## I. Arthritis:

- A. Arthritis is the third most common chronic condition and the leading cause of activity limitation in African Americans.
- B. African Americans suffer more frequently with osteoarthritis than white people. (**Estimates of the Prevalence of Arthritis and Other Rheumatic Conditions in the United States, Part 1 and Part II**)
- C. Older African-American males endure the agony of gout, an inflammatory arthritis, and more than older white males.
  - ✓ **Amaranth Sprout (vitamin B3, nicotinic acid), Niacinamide:** Vitamin B3 is made up of niacin (nicotinic acid) and its amide, niacinamide, and can be found in many foods, including yeast, meat, fish, milk, eggs, green vegetables, and cereal grains. Dietary tryptophan is also converted to niacin in the body. Vitamin B3 is often found in combination with other B vitamins including thiamine, riboflavin, pantothenic acid, pyridoxine, cyanocobalamin, and folic acid. Human studies suggest that niacinamide may be useful in the treatment of osteoarthritis.

## II. Auto-Immune Disease:

- A. African-American women are three times more likely than white women to get lupus. This is a very serious life shortening painful condition. (**The Many Shades of Lupus. U.S. Department of Health, national Institutes of Health, National Institute of Arthritis and Musculoskeletal and Skin Disorders**)
- B. The death rate from lupus among Black women rose by 70%. There was only a small increase in what was reported in the rate for white women. (**Trends in Deaths From Systemic Lupus Erythematosus – United States –1979-1998. MMWR. May 3, 2002; 51 (17):371-374**)

Information regarding Lupus: There are three types of lupus:

1. Discoid Lupus: Affects only the skin. Red marks on the skin including face and neck.
2. Systemic Lupus: Can affect most any organ or organ system in the body.

3. Medication induced: Stop taking the prescription drug and the condition will go away.
  4. General information about Lupus: Can cause High body temperature, pain in elbows and knees. Women with lupus are at great risk for heart troubles. Between 30 – 50% of lupus patients will develop lupus related kidney disease known as lupus nephritis
- C. African-American women tend to have more severe disease than do white women. For example, African American women are more likely to suffer seizures and strokes. **(The Many Shades of Lupus. U.S. Department of Health, national Institutes of Health, National Institute of Arthritis and Musculoskeletal and Skin Disorders)**
- ✓ **Amaranth Sprout (Zinc):** Zinc is necessary for the functioning of more than 300 different enzymes and plays a vital role in an enormous number of biological processes. Zinc is a cofactor for the antioxidant enzyme superoxide dismutase (SOD) and is in a number of enzymatic reactions involved in carbohydrate and protein metabolism. Its immune-enhancing activities include regulation of T lymphocytes, CD4, natural killer cells, and interleukin II. In addition, zinc has been claimed to possess antiviral activity.
  - ✓ There is strong scientific evidence to suggest that zinc may help manage or reduce symptoms of sickle cell anemia. Most of these studies reported increased height, weight, immune system function, and testosterone levels and decreased numbers of crises and sickled cells following zinc treatment.
  - ✓ Zinc appears to be an essential trace element for the immune system, but research on the effect of zinc supplementation on immune function is scant and mostly focuses on patients with specific diseases. Zinc gluconate appears to have beneficial effects on immune cells.
  - ✓ **Amaranth Sprout (Vitamin D):** The major biologic function of vitamin D is to maintain normal blood levels of calcium and phosphorus. Vitamin D aids in the absorption of calcium, helping to form and maintain strong bones. Recently, research also suggests vitamin D may provide protection from osteoporosis, hypertension (high blood pressure), cancer, and several autoimmune diseases.

### III. Asthma:

- A. Age adjusted asthma death rates are three times higher for African Americans than for whites. **(MarshaLillie-Blanton et alop. Cit.)**
- B. Dr. Michael LeNoir, chair of the allergy and asthma section of the association and associate professor of paediatrics at the University of California in San Francisco, said that African-Americans are two to six times more likely to die from asthma than White people.
- C. A Black man in New York City is 11 times more likely to die from asthma than other men in the city. **(British medical Journal, August 11, 2001, Asthma “crisis” for Black Americans”, Janice Hopkins Tanne)**

- D. The reason why asthma is more common among black people and other inner city residents is unclear. The disease disproportionately affects African Americans. (British medical Journal, August 11, 2001, Asthma "crisis" for Black Americans", Janice Hopkins Tanne)
- ✓ **Amaranth Sprout (Pantothenic acid, vitamin B5):** Vitamin B5 has been used to treat the following conditions: Acne (topical dexpanthenol), adrenal gland stimulation, aging, alcoholism, allergies, alopecia, Alzheimer's disease, anxiety prevention, asthma.

## IV. Cancer

- A. African-American men were 1.3 times as likely to have new cancer cases of lung and prostate cancer, compared to non-Hispanic White men. (U.S. Dept. of Health and Human Resources, The office of Minority Health)
- B. The death rate combined for all cancers is 35% higher in African-American men than White men. (Cancer Facts & Figures for African-Americans 2007-2008, American Cancer Association)
- C. The death rate combined for all cancers is 18% higher in African-American women compared to White women. (Cancer Facts & Figures for African-Americans 2007-2008, American Cancer Association)
- D. The overall rate of breast cancer in African-American women is not as high as compared to White women; African-American ladies suffer the highest death rate from the disease once it's detected. (Meadows M, More Research Needed on Breast Cancer in Black Women. U.S. Department of Health and Human Services, Office of Minority)
- E. Black women have the highest incidence of and mortality from colon and rectum cancer than any other ethnic or racial group. (Ries LAG, Eisner MP, Kosary CL, et.al. SEER Cancer Statistics Review, 1973-1999, National Cancer Institute, Bethesda, MD, National Institutes of Health, National Cancer Institute, accessed August 22, 2002)
- F. This is a Shocker: While Hispanic women have almost 50% higher incidence rates of cervical cancer than Black women, Black women are 75% more likely to die from the disease. (Ries LAG, Eisner MP, Kosary CL, et.al. SEER Cancer Statistics Review, 1973-1999, National Cancer Institute, Bethesda, MD, National Institutes of Health, National Cancer Institute, accessed August 22, 2002)
- ✓ **Amaranth Sprouts:** Amaranth is one of the grains highest in fiber content, three times that of wheat. This makes Amaranth an effective natural agent against cancer and heart disease.
  - ✓ **Amaranth Sprout (Vitamin D):** vitamin D may provide protection from cancer. Breast cancer prevention; High-dose vitamin D supplementation may be associated with a slightly reduced risk of developing breast cancer. Colorectal cancer; Data from a meta-analysis suggest that supplemental vitamin D may prevent the development of colorectal cancer. Prostate cancer; There is preliminary evidence based on laboratory and human studies that high-dose vitamin D may be beneficial in the treatment of prostate cancer.

## V. Diabetes

- A. The prevalence of diabetes in African-American women is approximately 85% higher than Caucasian women. (Diabetes Surveillance System: Prevalence of Diabetes. U.S. department of Health & Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion. Accessed August 22, 2002)
  - B. African-American adults are twice more likely than non-Hispanic White adults to have been diagnosed with diabetes by a physician. (U.S. Department of Health & Human Services, The Office of Minority Health)
  - C. In 2005, African-Americans were 2.2 times as likely as non-Hispanic Whites to die from diabetes. (United States Department of Health and Human Services, The Office of Minority Health)
- ✓ **Amaranth Sprout (Vitamin D): Type 1 diabetes:** It has been reported that infants given calcitriol during the first year of life are less likely to develop type 1 diabetes than infants fed lesser amounts of vitamin D. Other related studies have suggested using cod liver oil as a source of vitamin D to reduce the incidence of type 1 diabetes. **Type 2 diabetes:** In recent studies, adults given vitamin D supplementation were shown to improve insulin sensitivity.
  - ✓ **Amaranth Sprout (Niacin, vitamin B3, nicotinic acid, Niacinamide):** Niacinamide may prevent diabetes or delay the need for insulin. Niacin has been used to treat dyslipidemia associated with type 2 diabetes.
  - ✓ **Amaranth Sprout (Magnesium):** Magnesium depletion is commonly associated with both insulin dependent (IDDM) and non-insulin dependent (NIDDM) diabetes mellitus. Between 25% and 38% of diabetics have been found to have decreased serum levels of magnesium (hypo-magnesemia). One cause of the depletion may be increased urinary loss of magnesium, which results from increased urinary excretion of glucose that accompanies poorly controlled diabetes. Magnesium depletion has been shown to increase insulin resistance in a few studies and may adversely affect blood glucose control in diabetes. One study reported that dietary magnesium supplements (400 mg/day) improved glucose tolerance in elderly individuals.
  - ✓ **Amaranth Sprout (Zinc):** Diabetic patients typically have significantly lower serum zinc levels compared with healthy controls. In early high-quality studies, zinc supplementation for type-2 diabetics may have beneficial effects in elevating serum zinc level and in improving glycemic control that is shown by decreasing HbA1c concentration.

## VI. Heart Disease

- A. Heart disease is the leading cause of death for Black women in the U.S.

B. In 2005, African-American men were 30% more likely to die from heart disease, as compared to non-Hispanic White men. (U.S. Department of Health and Human Services, The Office of Minority Health)

- ✓ **Amaranth Sprout (Niacin (vitamin B3, nicotinic acid), Niacinamide):** Niacin decreases levels of cholesterol, lipoprotein (a), and fibrinogen, which can reduce the risk of heart disease. Used to treat coronary heart disease (CHD).

## VII. High Blood Pressure

A. African-Americans are 1.5 times as likely as non-Hispanic Whites to have high blood pressure. (U.S. Department of Health & Human Services, The Office of Minority Health)

- ✓ **Amaranth Sprout (Vitamin D):** Recently, research also suggests vitamin D may provide protection from osteoporosis, hypertension (high blood pressure). Low levels of vitamin D may play a role in the development of high blood pressure. It has been noted that blood pressure is often elevated under the following conditions: during the winter season, at a further distance from the equator, and in individuals with dark skin pigmentation (all of which are associated with lower production of vitamin D via sunlight).
- ✓ **Amaranth Sprout (Niacin (vitamin B3, nicotinic acid), Niacinamide):** Used in the prevention of high blood pressure.

## VIII. Kidney Disease

- A. African American men are 2.1 times as likely to start treatment for end-stage renal disease related to diabetes, compared to non-Hispanic White men. (United States Department of Health & Human Services, The Office of Minority Health)
- B. African Americans experience a much higher rate of kidney failure than do Whites when they suffer from diseases such as hypertension, and diabetes. (Minority Health)

- ✓ **Amaranth Sprout:** can substantially reduce the acidity of the uric acid and helps in the elimination of the acid from the system, thereby reducing the work pressure of kidneys.
- ✓ **Amaranth Sprout:** are packed full of vitamins that can help one avoid urinary tract infections, kidney stones.

## IX. Stroke

A. African-American Adults are 1.7 times as likely than their white adults' counterparts to have a stroke. (US Department of Health and Human Services, The Office of Minority Health)

- ✓ **Amaranth Sprout (Niacin (vitamin B3, nicotinic acid), Niacinamide):** The below uses are based on tradition or scientific theories. Stroke.

- ✓ **Amaranth Sprout (Magnesium):** Vascular endothelial cells line arterial walls where they are in contact with the blood that flows through the circulatory system. Normally functioning vascular endothelium promotes vasodilation when needed, for example, during exercise, and inhibits the formation of blood clots. In cardiovascular disease, arteries develop atherosclerotic plaque. Atherosclerosis impairs normal endothelial function, increasing the risk of vasoconstriction and clot formation, which may lead to heart attack or stroke. Recent research indicates that pharmacologic doses of oral magnesium may improve endothelial function in individuals with cardiovascular disease.

## X. Mental Health

- ✓ **Amaranth Sprout (Thiamine):** lack of thiamine may cause mental depression, memory problems, weakness, shortness of breath, and fast heartbeat. Thiamine is effective for treatment of skin problems, chronic diarrhea, tiredness and mental problems.
- ✓ **Amaranth Sprout (Pyridoxine):** Lack of pyridoxine may lead to mental problems.
- ✓ **Amaranth Sprout (Folic Acid):** The neural tube defects that folic acid can prevent, including spina bifida and anencephaly, are among the most serious and frequently occurring birth defects. Spina bifida occurs when the fetus' spinal column does not close to protect the spinal cord; this closure should happen within the first few weeks of the pregnancy. Spina bifida causes neurological problems and sometimes, varying levels of mental retardation.
- ✓ **Amaranth Sprout (Zinc):** Zinc deficiency causes include growth retardation, hair loss, diarrhea, delayed sexual maturation, impotence, eye and skin conditions, and loss of appetite. Additional symptoms may include weight loss, delayed wound healing, taste changes, and mental lethargy.
- ✓ **Amaranth Sprout (Magnesium):** In association with pre-eclampsia late in pregnancy or during labor. Magnesium is believed to relieve cerebral blood vessel spasm, increasing blood flow to the brain

## XI. Reproductive Health

- A. Black women have a much higher pregnancy related death rate compared to White or Hispanic women. (Barnholtz-Sloan, Js, Tainsky, MA, Abrams, J, et al., *Ethnic differences in Survival among women with Ovarian carcinoma. Cancer. 2002;94 (6):1886-1893*)
- B. Infant mortality is more than twice as high for African-American infants as it is for White, non-Hispanic infants. (13.9 deaths per 1,000 births versus 5.8 deaths per 1,000 live births)Federal Interagency Forum on Child and Family Statistics, *America's Children: key National Indicators of Well-Being, Washington, D.C.: U.S. Government Printing Office, 2005*)

- C. The maternal mortality rate for African-American women is nearly five times the maternal mortality for White women. (Kenneth Kochanek, Sherry Murphy, Robert Anderson, et al, National Vital Statistics Report 2004, 53, No.5 (Atlanta: Centers for Disease Control and Prevention, Division of Vital Statistics, October 2004)
- ✓ **Amaranth Sprouts:** The body requires a balance of certain amino acids to ensure optimum health (and growth for children). Amaranth protein content is a remarkable 16% made up of all the essential amino acids.
  - ✓ **Amaranth Sprouts (Beta-Carotene, Vitamin A):** The carotenes possess antioxidant properties. Vitamin A serves several biological functions including involvement in the synthesis of certain glycoproteins. Vitamin A deficiency leads to abnormal bone development, disorders of the reproductive system. Observational research suggests that greater dietary intake of beta-carotene may lower the incidence of adverse effects in children undergoing chemotherapy for lymphoblastic leukemia.
  - ✓ **Amaranth Sprouts (Vitamin D):** In children, vitamin D deficiency causes rickets, which results in skeletal deformities. Rickets develop in children with vitamin D deficiency due to a vitamin D-deficient diet, a lack of sunlight, or both. Infants fed only breast milk (without supplemental vitamin D) may also develop rickets.
  - ✓ **Amaranth Sprouts (Calcium):** Children and adolescents may need more calcium than they normally get from eating calcium-rich foods. Other bone diseases in children and adults are also treated with calcium supplements.
  - ✓ **Amaranth Sprouts (Zinc):** Multiple studies in developing countries found that zinc supplementation in malnourished children with acute diarrhea may reduce the severity and duration of diarrhea, especially in children with low zinc levels. Zinc supplementation may be a more effective treatment for older children with higher body mass index (BMI) scores. In several studies, zinc supplements seemed to counteract hypothyroidism and slightly reduce the number of infections in children with Down syndrome.

## XII. Children

- A. 25 percent of African-American children are in less than very good or excellent health compared to 12 percent for White children. (Federal Interagency Forum on Child and Family Statistics, op. cit.)
- ✓ **Amaranth Sprouts:** The body requires a balance of certain amino acids to ensure optimum health (and growth for children). Amaranth protein content is a remarkable 16% made up of all the essential amino acids
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- ✓ **Amaranth Sprouts (Zinc):** Multiple studies in developing countries found that zinc supplementation in malnourished children with acute diarrhea may reduce the severity and duration of diarrhea, especially in children with low zinc levels. Zinc supplementation may be a more effective treatment for older children with higher body mass index (BMI) scores. In several studies, zinc supplements seemed to counteract hypothyroidism and slightly reduce the number of infections in children with Down syndrome.

## ➤ What is AMARANTH?

### Nutrients in 100 Grams of Amaranth

Amount (%) More of Nutrition in Amaranth than in Wheat

Food energy	KCal:	374.000	114
Protein	Gms:	14.450	115
Total lipid (fat)	Gms:	6.510	423
Total saturated fat	Gms:	1.662	618
Monounsaturated fat	Gms:	1.433	717
Polyunsaturated fat	Gms:	2.891	461
Total dietary fiber	Gms:	15.200	121
Ascorbic acid	Mg:	4.200	Infinite
Riboflavin	Mg:	0.208	181
Folacin	Mcg:	49.000	129
Potassium	Mg:	366.000	101
Calcium	Mg:	153.000	528
Phosphorus	Mg:	455.000	158
Magnesium	Mg:	266.000	211

Iron	Mg:	7.590	238
Zinc	Mg:	3.180	120
Copper	Mg:	0.777	179
Palmitic acid (16:0)	Gms:	1.284	549
Oleic acid (18:1)	Gms:	1.433	746
Linoleic acid (18:2/n6)	Gms:	2.834	472
Phytosterols	Mg:	24.000	Infinite
Histidine	Gms:	0.389	136
Isoleucine	Gms:	0.582	127
Leucine	Gms:	0.879	103
Lysine	Gms:	0.747	223
Methionine	Gms:	0.226	112
Threonine	Gms:	0.558	153
Tryptophan	Gms:	0.181	113
Valine	Gms:	0.679	122
Arginine	Gms:	1.060	178
Alanine	Gms:	0.799	176

Amaranth is a traditional food plant in Africa; this vegetable has potential to improve nutrition. It is often referred to as "**the crop of the future.**" In Africa, Amaranth leaf is known in Chewa as *Bonongwe*, and in Swahili as *mchicha* And is sometimes recommended by some doctors for people having low **red blood cell count**.

Amaranth is a highly nutritious small seed used as an alternative to grains for people with gluten intolerance and grain allergies as well as those who want to eat more healthy foods. It is one of the best kept secrets to hit the food industry in recent years---a powerful, organic, alternative grain superfood that delivers measurable health benefits.

Amaranth produces large amounts of protein and essential amino acids, such as lysine. Reported to have a 30% higher protein value than cereals, such as rice, wheat flour, oats, and rye. Good source of vitamins including vitamin A, vitamin K, vitamin B6, vitamin C, riboflavin, and folate, and dietary minerals including calcium, iron, magnesium, phosphorus, potassium, zinc, copper, and manganese. Its seeds have a protein content greater than that of wheat. However, unlike that found in true grains (i.e. from grass seeds) its protein is not of the problematical type known as gluten. Several studies have shown that like oats, amaranth seed or oil may be of benefit for those with hypertension and cardiovascular disease; regular consumption reduces blood pressure and cholesterol levels, while improving antioxidant status and some immune parameters. While the active ingredient in oats appears to be water-soluble fiber, amaranth appears to lower cholesterol via its content of plant stanols and squalene.

It also has a more complete protein profile than most other grains, containing certain essential amino acids that are not commonly found in other grains. Amaranth has twice the iron as wheat does; though vegetarian sources of iron are generally difficult to absorb. (But eating iron-rich plant foods like amaranth with vitamin-C rich foods, like fruit, can help with absorption.) *National Academy of Sciences* recommended it as part of a healthy, diverse diet.

Amaranth, unlike other grains, is a good source of protein, containing anywhere from 15-17% protein by weight. It is rich in the amino acids lysine, methionine, and cycteine, with a higher content of lysine than any other grain. It is also high in fiber, with three times the fiber of wheat. In terms of nutrition, amaranth is loaded with vitamins and minerals. It has more than 20% of the recommended daily amount of calcium, iron, magnesium, and folate. Amaranth is also a good source of potassium, phosphorus, and vitamins A, C, and E. It is a cholesterol-lowering food, with both tocotrienols and phytosterols, two natural compounds known to help the body eliminate bad cholesterol. With such a potent nutritional content, amaranth is an ideal addition to any health-conscious diet.

- Helps prevent and treat osteoporosis due to high levels of calcium, magnesium, and iron.
- Great source of foliate, B vitamins, and zinc, all of which improve brain function, including memory.
- Several studies have shown that amaranth seed or oil may benefit those with hypertension and cardiovascular disease; regular consumption reduces blood pressure and cholesterol levels, while improving antioxidant status and some immune parameters.
- It is high in iron, protein, and has three times the calcium of milk.

## ➤ The Amaranthus Plant

### **This plant is referred in many circles as the plant of the Gods**

- The birth place of Man and the birth place of the Amaranth Sprout occurred in the same area in Africa
- Where God formed man of the dust of the ground
- And breathed into his nostrils the breath of life and man became a living soul.
- Just before God created man, He created Man a food to eat that would always sustain him. God the provider promised mankind before He created Man that man would have provisions. He did this in:

#### ❖ **Genesis 1:11 when it was recorded:**

And God said, Let the earth bring forth grass, the herb yielding seed, and the fruit tree yielding fruit after its kind, whose seed is in itself, upon the earth: and it was so.

#### ❖ **Genesis1:12 and then the earth:**

And the earth brought forth grass, and herb yielding seed after his kind, and the tree yielding fruit, whose seed was in itself, after his kind: and God saw that it was good.

#### ❖ **Genesis1:29 when it was written:**

And God said, Behold I have given you every Herb bearing seed, which is upon the face of all the earth, and every tree, in which is the fruit of a tree yielding seed; to you it shall be for meat.

❖ **Genesis 1:30 God caused to be written:**

And to every beast of the earth, and to every fowl of the air, and to everything that creepth upon the earth, wherein there is life, I have given every green herb for meat; and it was so.

## ✓ Amaranth: History

### The Great Camel trade routes to the Heartland of Africa:

- The usual number of Camel trekking across these barren dangerous Sarah Desert to the heart of Africa was 1,000 Camels, but up to 12,000 camels forming trading caravans
- Bringing luxury goods such as: textiles, silks, beads, ceramics, ornamental weapons and other general utensils.
- But it's what they took back to Europe, Middle East, Asia, China and beyond that is impressive examples: Gold, woods such as Ebony, agricultural products, which included the Amaranthus seeds, kola nuts (they contain caffeine which is a stimulant)
- History shows us that the Sahara Desert was not the obstacle many people thought it might have been for the traders in the past thousands of years.
- The sand of the Sahara Desert became just a sea of sand with camel caravans moving back and forth trading with one the most accomplished civilization on earth.

### This plant is called by many names:

- East Africans call it: Mchicha, which means: "A vegetable for all"
- In the Congo it is called: Lenga Lenga or Biteku tekou
- In Nigeria it is known as: Efo Tete or Arowo Jeja: Both mean: "We have money left over for fish"
- In India the Hindus called it: "**Rajgira**" which means :**The Grain of the Kings**" or "**Ramdana**" which means "**The Grain Sent By God**"
- In The South west Pacific Islands greeted Amaranthus as: "A Gift From God"
- Greece, said it was:, "The Flower Which Does Not Wither" and used as their symbol of immortality.
- The Story of the Amaranthus can be found in Aesop's Fables (6<sup>th</sup> Century B.C.) the "Guirlande de Julie" where its beauty is praised in a short madrigal: "I am the flower of

love, named Amaranthus; Which comes to worship Julie's beautiful eyes. Roses, draw back, I have the name of immortality; I, alone, may crown the Gods"

### **This Plant was considered a sacred plant:**

- The Greeks in primeval Greece considered the Amaranth plant to be Holy.
- People believed the herb to have special curative power and it was treated as a mark of immortality.
- The Aztec Indians considered this plant to be very sacred. The Aztecs would fashion little figurines from Amaranthus dough and offered these up to the Pantheon of the Aztec Gods and would consume them as part of a religious ritual.
- The writings of the Catholic Priests bear witness to their horror of the Aztec Amaranthus rituals.
- In 1525, the Catholic Church entered a campaign to systematically destroy the ancient religious practices and those who continued to practice the Aztec religion were either whipped, reduced to forced labor in the monasteries or executed.
- When gardeners defied the orders and grew Amaranthus in their gardens they were punished by having their hands cut off.
- Hernando Cortez destroyed all the Amaranth fields of the Aztec nation by leveling them out and burning them to the ground.
- The Amaranthus can be found in numerous legends and in numerous rituals in the cultures of India, China and Japan: where it is reputed to bestow good health and longevity.

### **Proof of Amaranthus special status amongst all other plants:**

- Amaranthus plant, whether grain or leaf, constitutes a veritable solar factory.
- It is one of the privileged plants of the planet, which use a system of photosynthesis called C4.
- This means of photosynthesis is particularly efficient in conditions of drought, extreme heat and great solar intensity
- This system allows these plants to convert twice the amount of solar energy into "growth" than plants, which use the system called C3,
- And with the same amount of water.
- The productivity of Amaranthus plant varies considerable according to the variety, climate, richness of the soil, etc.

## The Plant was used for Medicinal purposes:

- Contains Lysine, Methionine and tryptophan that help to prevent cold sores, reduce disease infection and boost the body's immune system.
- Contains Oleic and Linoleic acids both with neutraceutical properties and significant amounts of high value escualene.
- Malnourished individuals are more prone to infections than their better-nourished counter-parts. (African University, Faculty of Agriculture and Natural Resources, Mutare, Zimbabwe)
- Contains tocotrienols (a form of vitamin E) Which have cholesterol-lowering activity in humans
- Contains natural Stanols, Squalene and Escualene.
- Cooked amaranth is 90% digestible and because of this ease of digestion, it has traditionally been given to those recovering from an illness or ending a fasting period.
- Used as a gargle to alleviate the tenderness of the pharynx and also facilitates the treatment of mouth ulcers.
- The stems of the plant were burnt and the ashe was collected and mixed with water. Maize (corn) was then mixed in with the ashe water in order to soak up the calcium released by the burning of the Amaranthus stem. Maize is deficient in many minerals, vitamins and amino acids consequently those peoples who adopted maize as their sole food source became susceptible to the disease pellagra, which causes skin and general degeneration both physical and mental. The treated maize reacted chemically with the calcium in the ashe water releasing certain amino acids, freed niacin, other vitamins and minerals which was chemically bound in the maize. This process is still being used today, which is all in the process making tamales.
- Professor Daniel K Early, a professor of Anthropology at the University of Oregon a Amaranthus researcher was told by a Shepa farmer in Nepal that the farmer used the seeds of the Amaranthus to help a number of ill's including a stomach disorder called "Gano". The following day the same professor claims that while visiting a Monk in a Buddhist Temple the professor was told by the monk that pills were made from the Amaranth seeds to treat a number of health problems including the "Gano" stomach problem.
- Research has discovered a very high concentration of Vitamin E in the embryos of the amaranth seed. Vitamin E fortifies the immune system.
- People claim it is beneficial to prevent the pre-mature graying of the hair follicles.
- Amaranthus was widely used to control itching as it has antihistamine compounds in the leaves, immature seeds and stalk.
- Amaranthus was used to treat bleeding from the nose.
- Used to externally treat the vagina for vaginal discharges.
- Often used by herbal medical practitioners as a compound that will destroy parasites in the body.
- Has been used as a diuretic to increase the flow of urine.
- Is a diaphoretic, which is a sweat inducing agent.

- In the pharmacopoeia of the peoples of North America, it was considered a sovereign cure for diarrhea, dysentery and for hemorrhages, both internal and external.
- In the Cuzco area of Peru the flowers are used to treat the toothache and fevers.
- Studies have indicated *Amaranthus* may be of benefit to the person with hypertension (Blood pressure reduction) and Cardio-vascular disease.
- Improves the anti-oxidant properties

### **Amaranth oil application for coronary heart disease and hypertension: USA and Russian Study: Conclusions:**

- The inclusion of Amaranth oil in the diet has a beneficial action upon the clinical presentation of Coronary Heart Disease and Hypertension.
- Amaranth oil decreases the amount of total cholesterol, triglycerides, LDL, and VLDL significantly.
- The inclusion of amaranth oil in the diet contributes to an increase in the concentration of polyunsaturated fatty acids, particularly, long-chained acid of omega 3 families in patients suffering from Hypertension and coronary heart disease.
- Our studies indicate that Amaranth oil can be considered as an effective natural anti-oxidant supplement capable of protecting cellular membrane against oxidative damage. (Danik M. Martirosyan, Lidia Miroshnichenko, Svetlana N. Kulakova, Ala V. Pogojeva and Vladimir I Zoloedov, *Amaranth oil application for coronary heart disease and hypertension*, Printed in *Journal: Lipids in Health and Disease*, 2007, 6:1, doi:10.1186/1476-511X-6-1)

### **Amaranth: An Ancient Crop for Modern Technology**

- Amaranth may play a very important role in the fight against hunger and contribute to the wellness of people.
- Amaranth contains, besides nutritious benefits, compounds with potential nutraceutical properties against hypertension and cancer. (Ana Pauline Barba de la Rosa<sup>1</sup>, Cecilla Silva-sanchez, and Elvia Gonzales de Mejia<sup>2</sup>, Camino a la Presa. San Jose No. 2055, San Luis Potosi, Mexico, Department of Food Science and Human Nutrition, University of Illinois at Urbana-Champaign)

### **African Testimonial:**

- Amaranth has been found to contribute to the healing and prevention of many of East Africa's most common diseases.
- Dr. Davidson Mwangi a researcher in Kenya, tells the story of how Amaranth helped a woman and her children dying with AIDS to live longer and more productive life. "I met the very sick woman and her two boys.... [she experienced vomiting], dizziness, a completely worn out body, and was unable to walk or do any kind of work. Her sons were too weak to go to school.... After listening to her story, I organized how she be receiving porridge ljour from Nairobi. After about a month I went to visit her and found that she not only felt well, but was also working in her garden, planting sweet potatoes,

cassavas and maize. People who hated her before started a relationship with her like her brother-in-law who had almost thrown her out of her house. Her children were also well and gone back to school.... She told us that if a day passes without her taking the Amaranth porridge she would become very weak and vomit a lot, but after taking Amaranth porridge she and her children regained their strength.” As Dr. Mwangi’s story illustrates, once the woman was able to regain her strength, her community stopped shunning her. **(Anna Johnson, Student Participant, Iowa City High School, Iowa)**

This is truly an essential part missing from the diet of the black population. By adding this product into your daily nutritional routine will enhance the life that you have been lacking.