

Are All the Calories the Same?



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Presenter Disclosures

No relationships to disclose or list





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What is it in terms of nutrition?

Optimal Calories

Quality of Calories

Protein

Protein is found in meat, fish, milk and cheese.

Protein provides the building blocks for most of the body's tissues, nerves, internal organs

Proteins are used to make neurotransmitters and are essential to improve immune system

Why is Protein important?

- | Protein helps curb hunger
- | Protein helps build muscle mass
- | Soy protein gives you high quality plant protein without the added calories of animal protein



Best Protein Sources

Food Item	One Unit	Calories	Protein (gm)
Ocean-Caught Fish	4 oz, cooked weight	130-170	25-31
Shrimp, crab, lobster	4 oz, cooked weight	120	22-24
Tuna	4 oz, water pack	145	27
Scallops	4 oz, cooked weight	135	25
Egg whites	7 whites	115	25
Turkey Breast	3 oz, cooked weight	135	25
Chicken Breast	3 oz, cooked weight	140	25
Soy Hot Dog	2 links	110	22 (varies)
Soy Ground Round	3/4 cup	120	24
Soy Burgers	2 patties	160	26
Tofu, firm	1/2 cup	180	20 (varies)

Carbohydrate

- I Grains, fruits and vegetables are key sources of carbohydrates.
- I Sugar, starch are less favorable

Add Vegetable Servings

3+ per day, about 55 calories

Food Item	Portion	Calories	Fiber
<i>Cooked Vegetables</i>			
Acorn Squash, baked	1 cup	85	6
Artichoke	1 medium	60	6
Asparagus	1 cup	45	4
Beets, cooked	1 cup	75	3
Broccoli, cooked	1 cup	45	5
Brussels Sprouts	1 cup	60	4
Cabbage, cooked	1 cup	35	4
Cauliflower, ckd	1 cup	30	3
Carrots, cooked	1 cup	70	5
Celery, diced	1 cup	20	2
Chinese Cabbage, ckd	1 cup	20	3
Collard greens, ckd	1 cup	50	5

Add Fruits 3+ per day, about 70 calories

Food Item	Portion	Calories	Fiber
Apricots	3 whole	50	3
Avocado	¼ average fruit	80	2
Blackberries	1 cup	75	8
Blueberries	1 cup	110	5
Cantaloupe	1 cup cubes	55	1
Grapes	1 cup	115	2
Honeydew	1 cup cubes	60	1
Kiwi	1 large	55	3
Mango	½ large	80	3
Nectarine	1 large	70	2
Orange	1 large	85	4
Orange Juice	½ cup	50	0
Papaya	½ large	75	3
Peach	1 large	70	3

Fat

- | Saturated Fats
- | Mono-unsaturated Fats
- | Poly-unsaturated Fats

Mono-unsaturated (? -9)

Sources

- | • olive oil (71%)
- | • Avocados (67%)
- | • Almond oil (65%)
- | • Peanut oil (40-55%)
- | • Rapeseed (Canola) oil (53%)

Biologic Role

- | • Helps lower circulating levels of LDL cholesterol, triglycerides
- | • Not-essential but improves vascular health

Two Types of Poly Unsaturated Fatty Acids

Omega-6 (linoleic)

- | Safflower oil (75%)
- | Sunflower oil (70%)
- | Grapeseed oil (68%)
- | Corn Oil (55%)
- | Soybean oil (51%)

Omega-3 (linolenic)

- | Walnut oil (10%)
- | Rapeseed oil (10%)
- | Wheat germ oil (10%)
- | Other sources
 - Fish (DHA, EPA)
 - Flaxseed
 - Leafy greens

Opposing Roles of 6's and 3's

Omega-6 eicosonoids

- | pro-inflammatory
- | pro-aggregatory
- | pro-vasoconstriction
- | ?IL-6, TNF-a

Omega-3 eicosomoids

- | less-inflammatory
- | less aggregatory
- | favor vasodilation

Ratio of ? -6 to ? -3

Paleolithic Man 2:1

Inuit Eskimo 1:1 to 2:1

Current American 15:1 to 30:1

WHO recommendation 5:1 to 10:1

Vitamins & Minerals

- | Vitamins and minerals are essential
- | The 'B' complex vitamins are particularly important for producing energy. Vitamins A, C and E are powerful antioxidants and immune function
- | Vitamin D is important for cell maturation

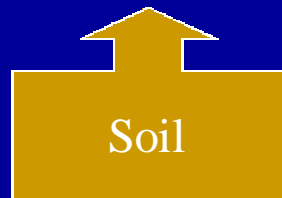
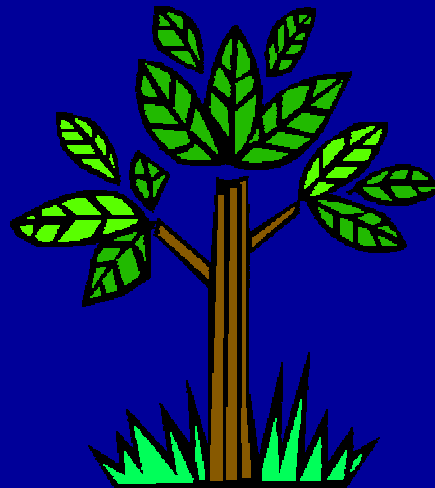
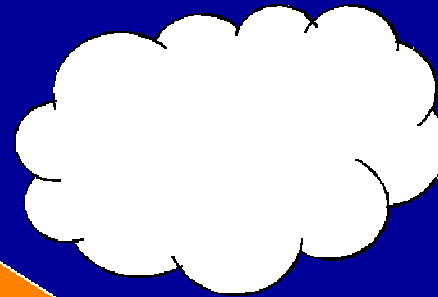
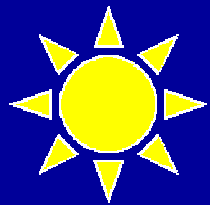
Phytochemicals/Phytonutrients

- | Non-nutrient plant compounds
- | provide health benefits against certain chronic human illnesses such as cancer, heart disease, neurodegenerative diseases etc.

Colors Represents Nutrients

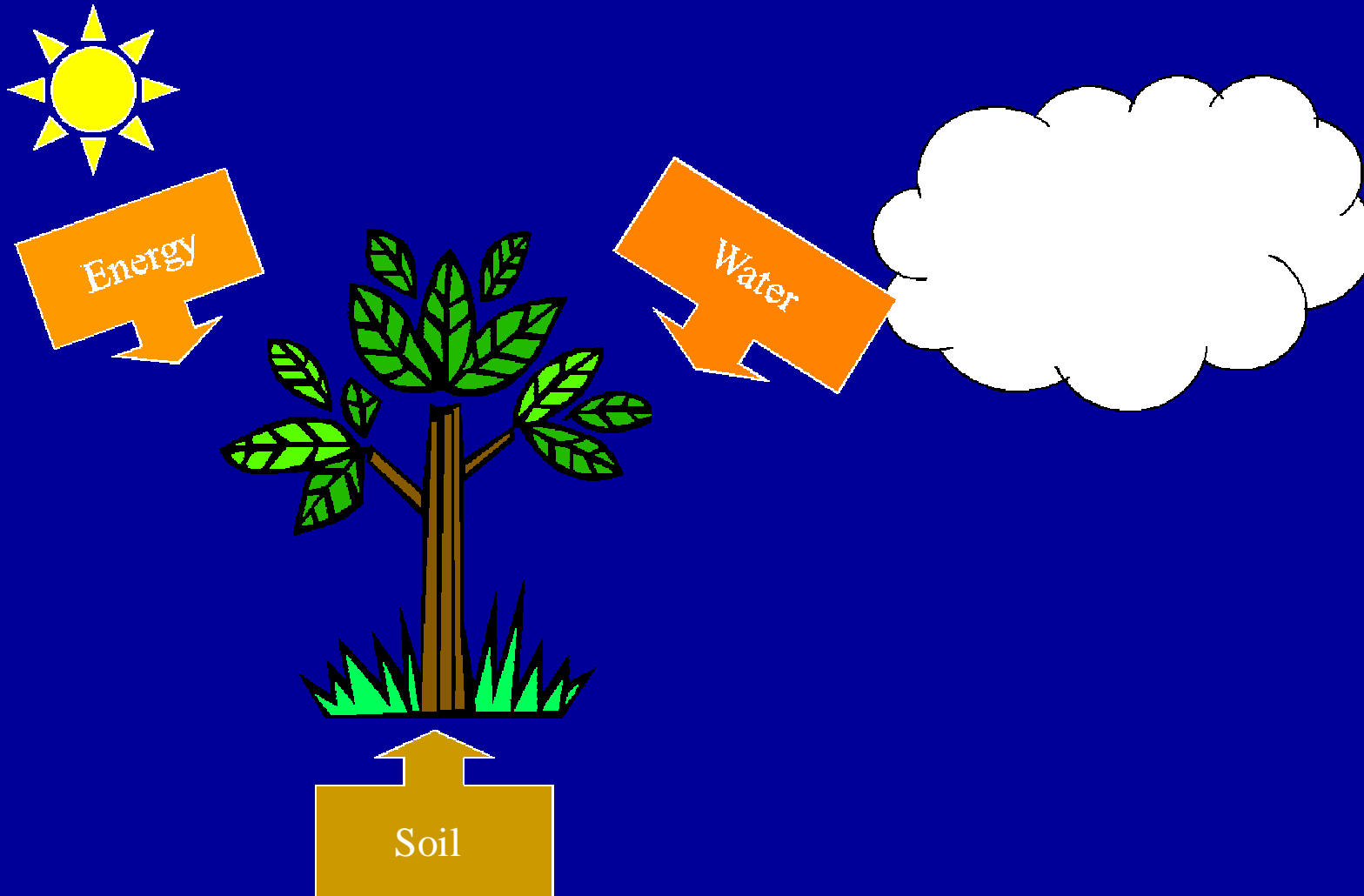


In the Beginning.....

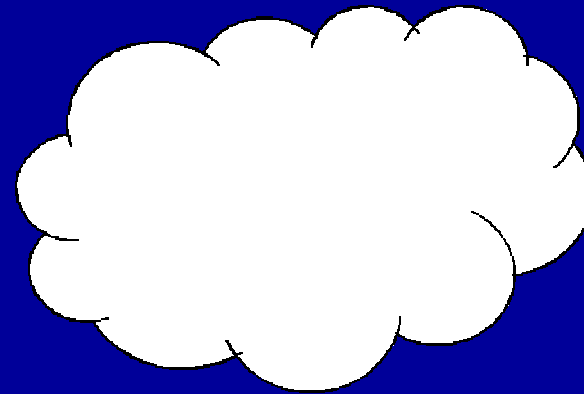
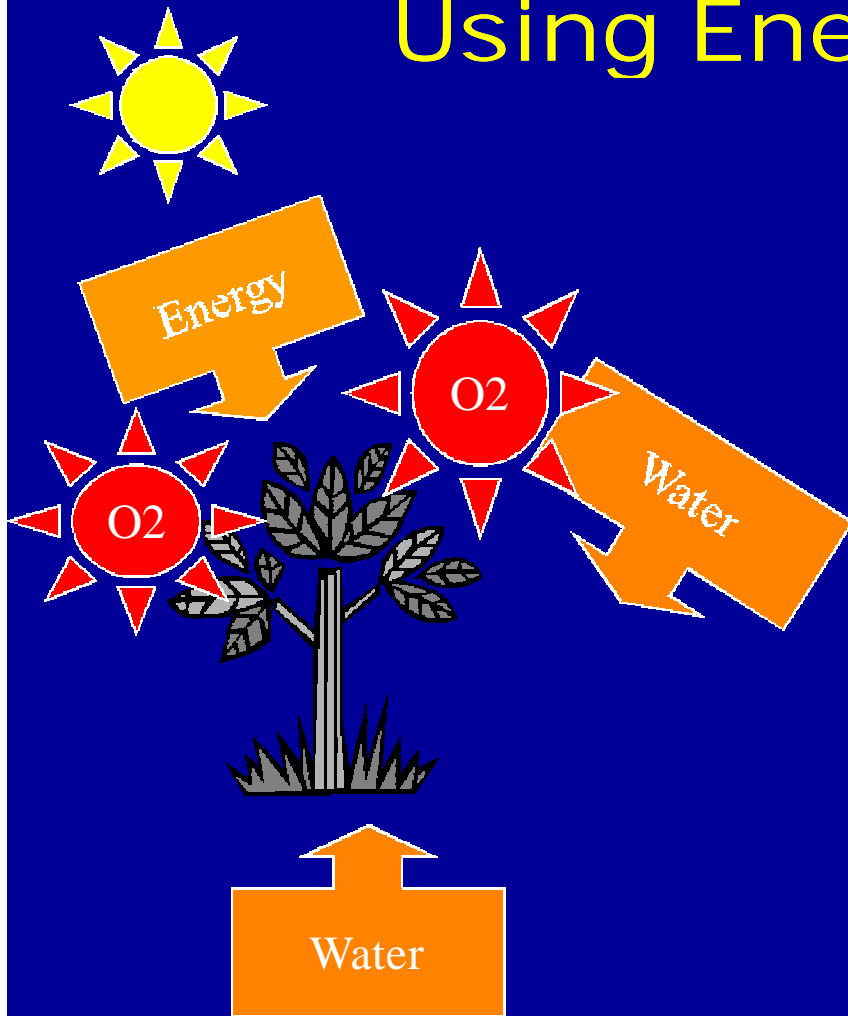


There were Plants
and Herbs

And They Grew.....

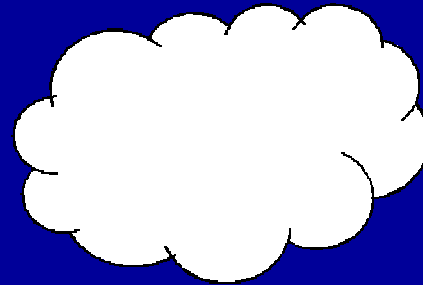
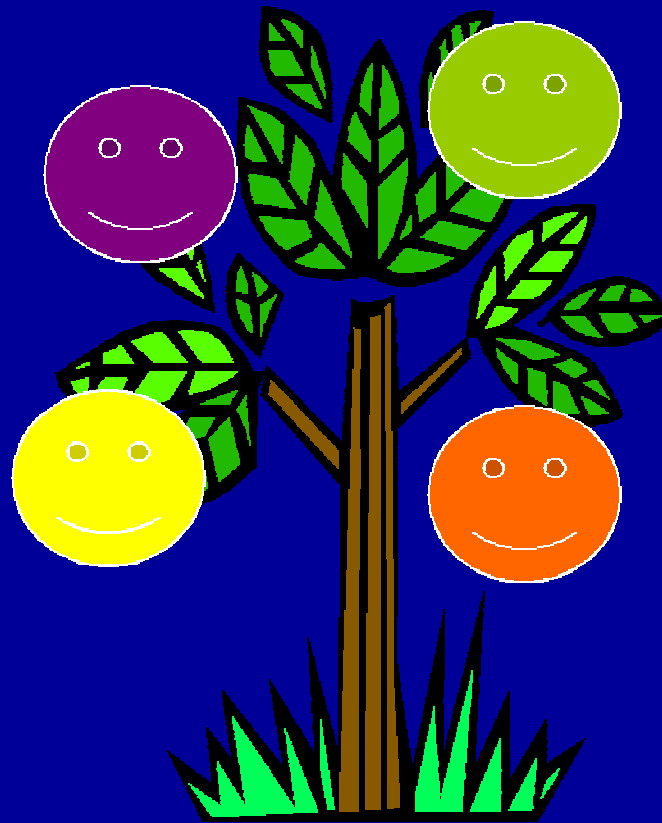


Then The Plants Made Oxygen Using Energy of the Sun



**AS OXYGEN BUILT UP, THEY
NEEDED TO PROTECT
THEMSELVES FROM THE BAD
EFFECTS OF TOO MUCH OXYGEN**

So Each Plant Protected Itself
from Extra Oxygen by Making ...



**COLORFUL
NATURAL PLANT
NUTRIENTS
(ANTIOXIDANTS)**

PEOPLE CAME AND
ATE THE PLANTS...

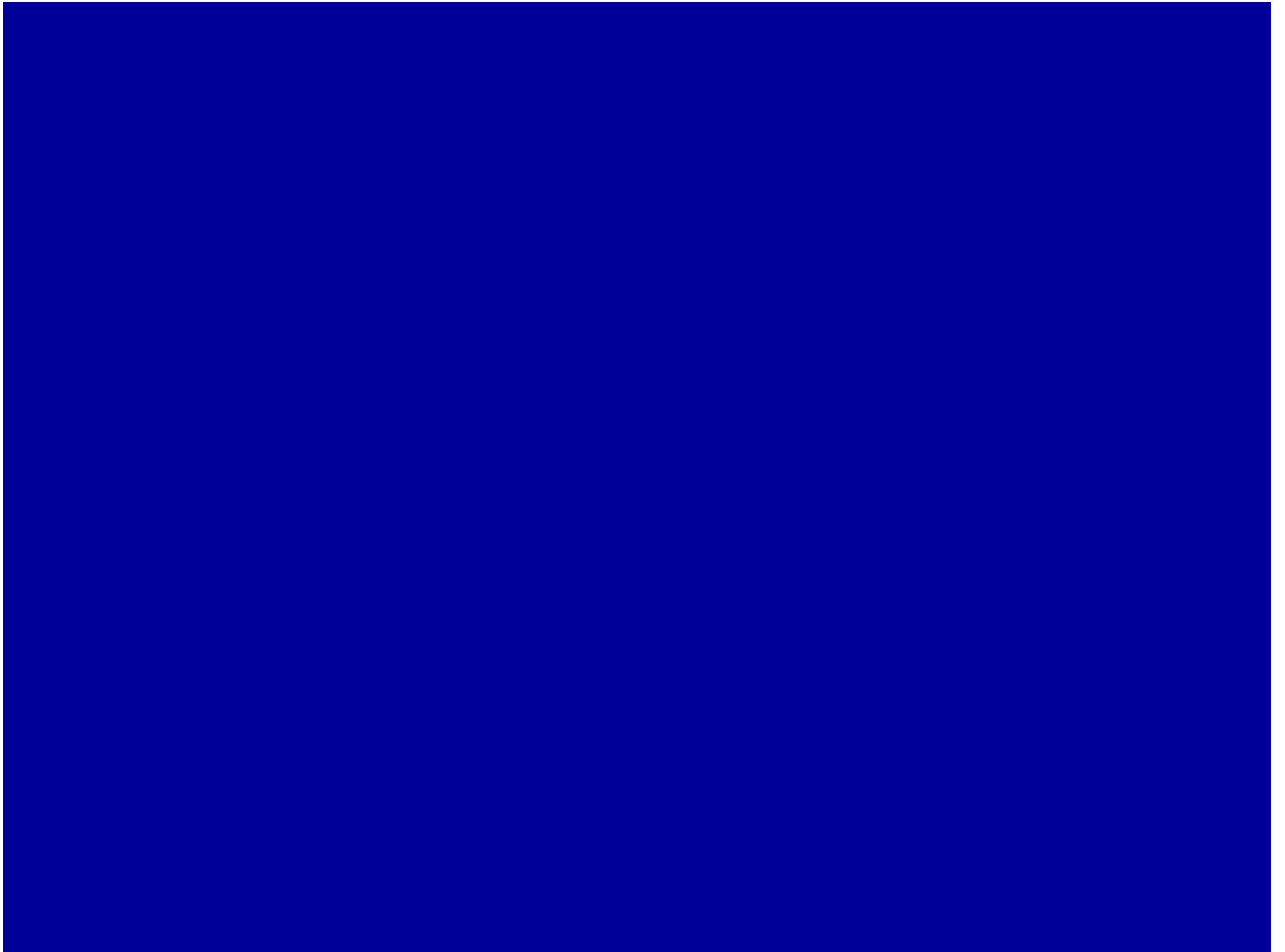


AND LIFE WAS GOOD!!!

Ascorbic Acid



Unprecedented opportunities exist for the expanded use of foods and components to achieve genetic potential, increase productivity and reduce the risk of disease

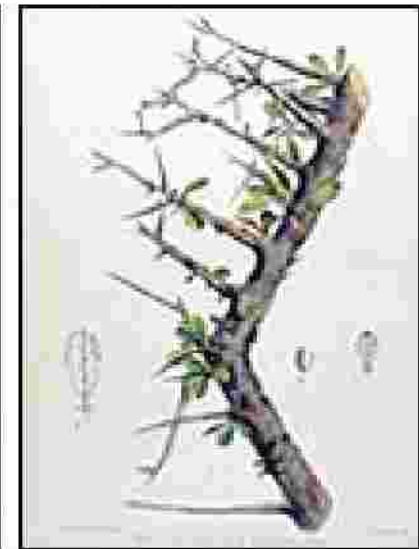


Cruciferous Vegetables



- | Sulforaphane (SFN), a prominent isothiocyanate

SPICES



EXOTIC FLAVORS & MEDICINES

Avocado



Lycopene

- | In addition to its antioxidant activity, biological activities include induction of cell-cell communications and growth control.



Photo ©2004 LycopRed

Berry Phenolics

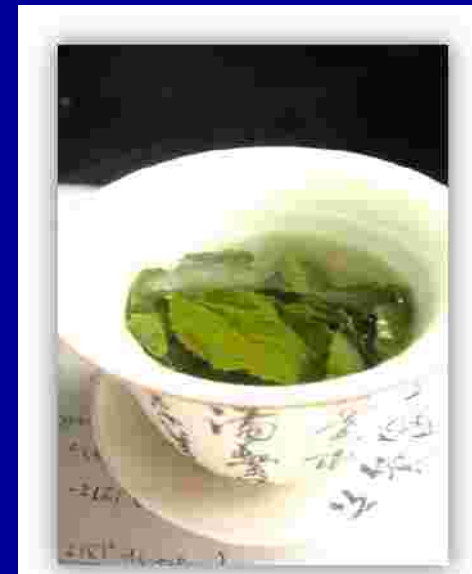
- | Flavonoids
- | Hydrolyzable tannins
- | Phenolic Acids

Seeram et al., Food Chem 2005,



Tea

- | First tea 5000 years ago by Shen Nung
- | Consumption of tea second to water
- | *Camellia sinensis* or *assamica*
- | White tea, Green tea - not fermented
- | Black tea - fermented
- | Oolong tea - partially fermented
- | Green tea extract supplement



Sources of Resveratrol

- | Resveratrol is found in
 - Grapes (only in skin)
 - Wine
 - Grape Juice
 - Peanuts
 - Blueberries
 - Bilberries
 - Cranberries



TURMERIC

Historical Uses:

- | Used as a condiment, healing remedy, and textile dye
- | Used in Indian and Chinese medical systems as an anti-inflammatory agent



What Your Body Needs

- | PROTEINS
- | CARBOHYDRATES
- | FATS
- | MINERALS
- | VITAMINS
- | NATURAL PLANT NUTRIENTS

CONCLUSIONS

- | Not all the Calories are the same
- | Optimal calories are the key to Health
- | Fruits and vegetables contain high levels and a wide diversity of phytonutrients