Living Green:  
My opinion as a Biomedical Engineer

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To me, living green means leaving a soft footprint on the planet while enjoying a healthy life style.

Transportation: walk, bike, bus, use a hybrid car when necessary.

Housing: turn down the thermostat and wear a sweater.

Disease prevention: reduce the need for medical interventions and cost.

Diet: eat low on the food chain, (it takes 10 pounds of grain to make 1 pound of beef).
Plan ahead: after age 30, the average American gains 0.5 kg per year
Most industrialized countries have high heart disease death rates.

After 12 years, 19 of 50 heart attack survivors were still alive by eating a diet low in fat and cholesterol. But 0 of 50 heart attack survivors, eating the normal American diet, were alive.

**CHART 5.2: SURVIVAL RATE OF DR. MORRISON’S PATIENTS**

![Chart showing survival rates of patients on a diet compared to a control group over 12 years.](chart.png)

8 years before adopting a plant-based diet, the same 18 patients had 49 coronary events and an average cholesterol of 246 mg/dl. In the following 11 years, these 18 patients had 1 coronary event and an average cholesterol of 132 mg/dl. The parentheses ( in the photos of one patient show blockage in A, which opened up in B.

Increased daily *animal* fat intake correlates with death rate.
Increased daily vegetable fat intake does not correlate with increased death rate.

Rats fed carcinogens developed tumors. Tumor growth increased when fed 20% casein (milk protein). But tumor growth did NOT increase with feed containing 20% gluten (vegetable protein) or 5% casein.
Top: For rats fed carcinogens and then casein at 22%, all were dead at 100 weeks.

Bottom: For rats fed carcinogens, tumors grew with increases in % dietary casein.

A plant-based diet correlates with later menarche, earlier menopause, lower hormone levels over lifetime and lower rates of breast cancer.

**Chart 8.2: Dietary Influence on Female Hormone Exposure Over a Woman’s Lifetime (Schematic)**

Higher daily quantities of meat consumption correlate with increased colon cancer.

Higher daily fat quantity consumption correlates with increased colon cancer.

A 2.54 times increase in risk ratio (RR) for colon cancer correlates with non-vegetarians who eat legumes less than once per week.

Decrease of diabetes rate correlates with decreased fat consumption.

A high-carbohydrate, high-fiber, low-fat, plant-based diet lowers the insulin required by both type 1 and type 2 diabetics.

**CHART 7.2: INSULIN DOSAGE RESPONSE TO DIET**

- **CONTROL**
- **HCF DIET** (High-Carbohydrate, High-Fiber Diet)
- **Type 1 Patients**
- **Type 2 Patients**

A high-carbohydrate, high-fiber, low-fat, plant-based diet lowers the cholesterol of diabetics.

Quantity of cow’s milk consumption correlates with increase in type 1 diabetes.

**Chart 9.3: Association of Cow’s Milk Consumption and Incidence of Type 1 Diabetes in Different Countries**

Increased protein (mostly animal) intake correlates with undesirable increases in calcium excreted in the urine.

**CHART 10.1: ASSOCIATION OF URINARY CALCIUM EXCRETION WITH DIETARY PROTEIN INTAKE**

When animal protein intake exceeds vegetable protein intake, the correlation with hip fractures increases dramatically.
High protein diets are correlated with calcium deficiency.


<table>
<thead>
<tr>
<th>STUDY No.</th>
<th>CALCIUM INTAKE (milligrams)</th>
<th>CHANGE IN CALCIUM BALANCE WITH A LOW-PROTEIN DIET</th>
<th>CHANGE IN CALCIUM BALANCE WITH A HIGH-PROTEIN DIET</th>
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</thead>
<tbody>
<tr>
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<td>500</td>
<td>+31</td>
<td>-120</td>
</tr>
<tr>
<td>2</td>
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<td>+24</td>
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<tr>
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<td>1400</td>
<td>+10</td>
<td>-84</td>
</tr>
<tr>
<td>5</td>
<td>1400</td>
<td>+20</td>
<td>-65</td>
</tr>
<tr>
<td>AVERAGE</td>
<td>920</td>
<td>+19</td>
<td>-94</td>
</tr>
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</table>

Increased quantity of cow’s milk consumption correlates with increased hip fractures.

Increased quantity of animal protein intake correlates with increased kidney stones.

Animal-based foods are acid forming whereas plant-based foods are base forming. This may suggest that acid-forming foods are less healthy.

Increased quantity of cow’s milk consumption correlates with increased multiple sclerosis.

CHART 9.5: ASSOCIATION OF COW’S MILK CONSUMPTION AND MULTIPLE SCLEROSIS

Men’s expected age at death increases with a correlation to a diet with nuts, no meat, low body mass index, exercise and not smoking with a difference up to 10.6 years.

Vegetarian food guide pyramid suggests whole grains, legumes, fruits, vegetables, nuts, seeds, exercise, and water.

Vegetarian food guide pyramid suggests whole grains, legumes, fruits, vegetables, nuts, seeds, exercise, and water.
Basic dietary principles are not in dispute: eat less; move more; eat fruits, vegetables and whole grains; and avoid too much junk food. (M. Nestle, *What to eat*.)


http://www.fda.gov/cdrh/ost/trends/TOC.html
Everywhere you hear people talking about being green.
My opinion is formed by being a Biomedical Engineer, I feel the point is:
Be kind to yourself and the planet.
Eat right 90% of the time and you can afford different choices 10% of the time.
Make the large majority of your food healthy so you get health-promoting nutrients.
When offered animal products, enjoy a small portion along with enjoying increased portions of plant products.
After age 30, the average American gains 0.5 kg per year