

Plant and Animal Proteins and Their Not So Obvious Benefits

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Not all proteins have detrimental effects on one's health. Plant proteins provide a safe, healthy alternative that can help add years to one's life. The plant protein from soybeans has the potential to reduce the risk of cardiovascular disease by lowering cholesterol (8). Soy proteins also create significantly smaller amounts of sulfur amino acids in the body which is better for bone health(6). This is because soy protein causes the body to use less calcium from the body to neutralize the acid produced by protein ingestion(1). Another noteworthy plant protein is found in nuts(4). Nuts have been found to be particularly beneficial to one's health. Nuts lower triglycerides, trigger apoptosis (cell suicide) in cancer cells, and are a good source of vitamin E, a powerful anti-oxidant(4).

Some proponents of plant protein note that if all the agricultural land that is used for livestock was switched to growing grains, the world could feed several times as many people as are fed now (5). Although this switch would create a surplus of food there are still other reasons for switching the majority of land used for food production towards plant production. For instance, it takes seven pounds of cattle feed to produce one pound of beef (10). The one hundred and four million cattle used every year for beef consumption use the most amount of grain in this country (10). Also, growing an acre of corn for cattle feed takes five hundred and thirty-five thousand gallons of water (10). It is not surprising that agriculture is the most water-consuming activity performed by humans (10). Out of the world's total fertile land available, only 11% is used for the production of crops (10). Over double that amount, 24%, is used to graze livestock (10). Devoting this amount of land to livestock production results in many environmental problems.

At present, the United States Government could do more to address these concerns. It consistently provides subsidies to the dairy and meat industries that promote these foods as important for health (1). In 2005 the government allocated seventeen billion dollars for farm subsidies (3). Of that money seven point three billion dollars went to producing corn and grains (3). Which were most likely fed to livestock (3). Another one point six billion was allocated to help produce soy which again was probably fed to livestock (3). Fruits and vegetables received a smaller portion of this money on the other had, only four hundred million dollars (3). On a positive note the government is planning on creating a new branch within the USDA called the National Institute of Food and Agriculture (NIFA)(2). NIFA would be a department of the USDA that focuses on funding agricultural research(2). This new branch of the USDA could focus on the dietary impact of agriculture.



Abstract

Many question what a health diet consists of, especially concerning protein. Much research has been done on the effects on health of animal and plant proteins. It has been concluded that plant proteins alone are just as good as meat and animal proteins combine for one's diet. Besides that, many of the plant proteins have certain beneficial effects that the animal proteins do not, such as reduced risk of cardiovascular disease, cancer, and weight management. To make the switch to plant-based foods in the diet is useful particularly for health. Other reasons supporting this switch for the world as a whole are presented such as environmental benefits.

Introduction:

Research has been done over the last two decades which begs the question, "which protein is superior, plant or animal?" Many of the studies performed on these proteins have focused on their effects on one's health and the environment. For example, some studies have addressed a protein's ability to inhibit or cause cancer (1), a protein's ability to cause bone loss (6), and other benefits to one's well-being (8). My research has found differences of protein and how choosing a diet of plant or animal proteins affects us and the world around us.

Method

In the investigation of this topic, I analyzed many nutritional journals and online peer reviewed articles. I also examined the U.S. Department of Agriculture website to find what the government is doing to aid in the production of these foods.

Research/Information:

Every year various benefits and detriments of certain foods are discovered and published in nutritional journals. One book, *Nutrition*, is a yearly collection of the best articles from journals. This compilation provides strong evidence that supports the hypothesis that plant proteins are far superior to animal proteins for the body. This research has led many researchers to believe that the general populous should switch to a plant based diet as a source of protein.

Why aren't plant proteins better known to be superior for human health than animal proteins? One reason is that the method by which we judge proteins is entirely based on an animal protein model (9). All proteins are judged on their "completeness." People were informed that meat and dairy were complete because they contain all of the essential amino acids in sufficient quantities, but were not told the standard was based solely in comparison to eggs (9). However, the benefits of a complete protein is readily obtained by combining plant proteins(9). For example, corn and beans together form a complete protein (9). Recent research has indicated that some plant proteins are complete by themselves (7); however, the ratio of essential amino acids is not the same as eggs.

There are a number of drawbacks associated with meat and dairy protein. Along with having the highest protein content, meat and dairy products contain the highest fat content among the proteins(9). This adversely impacts the general health of our society because seventy-five percent of the amino acids in our daily food supply is obtained from such products. Animal proteins have the ability to lead to bone loss(6). The proteins found in the dairy products have been shown in lab experiments to increase cancer initiation by affecting the way aflatoxin is detoxified in the body(1).

Discussion:

The detrimental effects of animal proteins to both one's health and the environment should be incentives to move forward toward a plant-based diet. In light of the research that is available on this subject, there is little reason for people not to want to make the switch from animal to plant protein. I believe that the reason more people do not is the lack of education on this topic. Many people are not even aware of the benefits of plant over animal protein. Many of the meats eaten every day such as bologna and hot dogs are particularly hazardous. These animal proteins could easily be replaced by plant proteins if people were more aware of what they are putting into their bodies.

Regarding the environment, the amount of land used for grazing cattle is astounding. While not all of the land used for cattle grazing could be redirected for growing crops, it is still a significant amount of land that could be used for better environmental and economic goals.

Conclusion:

The change to a plant-based diet merits consideration. However, much education will be needed for this to happen. The government has not taken the lead. It is up to individuals to understand the health and environmental benefits they can reap by switching from animal to plant protein. If individuals believe this is important, then the government may become interested in creating policy that will support this movement.

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Images:

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