

Rebuild from Depression

Amanda Rose, Ph.D., forthcoming 2007

Chapter 12: Fruit and Vegetables

Excerpt

Vegetables yesterday and today

Vegetables in the USDA database are at a severe disadvantage today in making the depression-buster cut than they would have been 50 years ago. The USDA has collected data on the nutrient values of food for over a century and in 1950 published a comprehensive list of nutrient values for food. Those 1950 nutrient values are fascinating: nutrient values were much greater in 1950 than they are today. One researcher analyzed systematically 43 garden crop foods and found a decline in nutrient values for protein, calcium, phosphorus, iron, riboflavin, and ascorbic acid (Davis et al. 2004). Data on our depression minerals – magnesium and zinc – are not available over that time period.

However, in 1963 the USDA did publish magnesium values for some foods and among the top magnesium foods today listed in the USDA database, comparable data for spinach and beet greens are available. After adjusting for differences in their water content, spinach today has only about 75% of the magnesium that spinach samples had in 1963. Beet greens today have about 70% of the magnesium of yesteryear.

What we do not know from this food nutrient data is the key question – why has there been a decline in nutrient values? Davis and colleagues argue that the cause is likely due to changes in plant varieties rather than in soil depletion. Many nutrient values have declined, including potassium and protein even though potassium and nitrogen are added to crops with

conventional fertilizer. New hybrid plants are developed to maximize crop yield and to transport and store well. Nutrient value is lost as plants are bred for these other purposes.

As a society, when we buy produce from large grocers, we are, in fact, paying for lesser-quality food. And it is that behavior that we can change to help us in our depression fight. There are no depression-busters on the fruit and vegetable list, but perhaps there could be. Produce grown in my little orchard might make the cut. In general, how food is grown matters for its nutrient content. How it is transported matters. How we prepare it matters. If we make wise selections we will improve the nutrient content of our diet. We might even find a depression-buster or two in our own backyard garden or at a farmer's market. In fact, if you have access to a lab and think you've found a depression-buster, please contact me.

Buy organic, local, and heirloom produce

You will maximize the vitamin and mineral content in your vegetables and fruits if you can organic, local, and heirloom varieties.

Organic produce is richer in minerals

If part of the reason for the historic decline in nutrients in American and British produce is soil depletion due to the use of synthetic fertilizers, one solution is to buy organic produce. Buying organic will add minerals to your body and because of the lower levels of chemical residues on the produce, you will reduce your body's need for nutrients as well (a topic in Part III of this book).

Mineral levels: Organic farmers are more likely to be using composting methods that return all nutrients to the soil, not just those nutrients found in synthetic fertilizers. As a result, organic produce may be likely to have higher mineral content.

To inspire us to buy organic, a 1993 study published in *The Journal of Applied Nutrition* describes results conducted at

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Doctor's Data Laboratory in Chicago on five fruits and vegetables. Researchers shopped at Chicago-area markets over a two year period and collected samples of fruits, vegetables, and wheat, some of which were organic and some of which were not organic. They tested the mineral content of each. Among the five food items they tested, organic produce contained up to nearly two times the amount of zinc (190% more zinc content for sweet corn) and over four times the amount of magnesium (430% more magnesium for wheat).

Table 13.1: Increased mineral levels, organic compared to non-organic		
Food item	Zinc increase	Magnesium increase
Apples	0%	40%
Potatoes	60%	50%
Wheat	80%	430%
Pears	100%	30%
Sweet Corn	190%	300%
Source: Smith 1993, 35-39.		

Toxin levels: The world is filled with toxins which have increasingly made their way throughout the entire food chain. If the farmer growing your food does not add more toxins, your digestive tract will have fewer toxins to process. Processing toxins requires nutrients and you will save a few nutrients if you can avoid these toxins.

Organic foods are expensive. Most of us cannot afford a 100% organic diet. The Environmental Working Group, an online advocacy group, has developed *The Dirty Dozen* – a list of the foods most likely to have pesticide residue – foods that you should buy organic or avoid.

The Dirty Dozen:

High pesticide foods to buy organic or avoid

1. Peaches
2. Strawberries
3. Apples
4. Spinach
5. Nectarines
6. Celery
7. Pears
8. Cherries
9. Potatoes
10. Sweet Bell Peppers
11. Raspberries
12. Imported Grapes

For more information, visit the Environmental Working Group at www.ewg.org.

Molasses is magnesium heaven

The white sugar we add to our coffee and tea is made from sugar cane. As it is refined, 99% of the magnesium is lost (Marier 1986). The “waste” product of that refining process, molasses, is rich in magnesium.

Heirloom varieties

Heirloom varieties tend to be higher in nutrients than newer hybrid varieties of produce you find in the grocery store. Produce varieties are being developed for use in commercial agriculture with a mind toward yield and pest control. They excel in producing an abundant crop and in being resistant to pests. They also appear to be decreasingly nutritious.

Heirloom varieties are not going to be grown by corporate farms because they pose transportation and storage problems. They tend to be grown by small organic farmers who will pick them right before market time and take them to the farmer’s market

or local health food store. Those organic farmers use methods that add a variety of nutrients back to the soil, not just NPK – nitrogen (N), phosphorus (P), and potassium (K). The heirloom plants are likely to be grown in richer soil and they are likely to take up more nutrients through their roots than would a newer hybrid variety.

The use of hybrids may be the single largest contributor to the decline of nutrients in our produce since the 1950s. Not only should we follow the diets of our ancestors, we should use the seeds they used in their gardens. If you garden, you can find catalogues of heirloom seeds and the catalogue will describe their characteristics. You will find some produce notable for its nutrient content.

Local produce has a higher nutrient content

Produce that is not local, by definition, must be transported. That transportation time is storage time. Fresh vegetables that are stored lose vitamin content. Among our depression nutrients, folate is the most likely nutrient to be affected by transport and storage. Folate is heat-sensitive and the levels of folate in our fruits and vegetables are most likely to decline if the food is not stored in cold storage or in a refrigerator. Even in cold storage, the nutrient value is likely to erode to some degree, so you are better off buying fresh-picked, local items that have not been transported over long distances. A farmer's market is your best bet for maintaining those vitamins. Store your purchases in the refrigerator.

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