

Decisions, decisions...Which food is better? 1-19-21

It's a new year and for a lot of people it means a resolution to eat healthier. Which is a great goal! Eat more vegetables and fruit, yay! A question that came up is, "Do farming practices impact nutrient density in our food?" What's your guess here? Yes, no, or have no idea and just give me the answer.

Myth #1 Soils are depleted

One of the common myths is that our soil is depleted, and farmers are producing nutrient empty foods. Or that using commercial fertilizers makes our foods less healthy. Let's unpack those thoughts.

Crops remove nutrients from the soil. That's a fact. To the point, scientists have calculated averages for how much each crop will remove nutrients from the soil. To replenish those nutrients farmers can replace them with fertilizers. Cover crops, crops that are grown after the main crop, can help scavenge nutrients and hold them there till the main crop is grown again. Cover crops like clover, vetch, peas, and other legumes can actually add nitrogen to the soil, further reducing the need for commercial fertilizers.

Farmers soil test their fields every few years. Soil tests tell farmers which parts of the field need more nutrients and which parts don't. Farmers apply fertilizers using the 4R's of fertilizer stewardship: the **R**ight type of fertilizer, **R**ight time, **R**ight rate, and **R**ight amount. Due to the number of dairy farms in our area, many of the fields here receive manure. Manure contains nutrients and something commercial fertilizers don't have- organic matter. Farmers do test the manure for what nutrients it contains, reducing the amount of commercial fertilizers needed. Without the proper amount of nutrients in the soil, crops simply will not grow well.

Crops do NOT know the difference between nutrients coming from organic sources like manure versus nutrients coming from commercial fertilizers. If a nutrient is present near the root hairs then the plant will uptake it.

Organic vs. conventional

Surely food produced using organic methods is far healthier than those that are produced conventionally, right? The short answer is not really.

Remember this article is on nutrient density, and while organic foods do have lower amounts of pesticides you would still need to eat tons of food per day to feel negative effects from what residues that may still be on your foods that were produced conventionally. Check out <https://www.safefruitsandveggies.com/> . There's a fun food calculator to use.

Back to nutrient density. From a 2012 Stanford University study, organic foods in a few instances are marginally better nutritionally than conventional, but not enough to make a huge difference in your overall diet. An exception is for organic dairy products that have significantly higher levels Omega-3 fatty acids, but this wasn't necessarily conclusive either since the studies were on fairly small samples size.

What about livestock feed practices?

Which one is better for you? Grain finished or grass finished beef? Most beef is raised on forages regardless of how they are finished. Forages are grasses, legumes (think clover or alfalfa), and forbs (things like dandelions, wildflowers). Then cattle are brought into a feedlot 6 months before slaughter and finished on feed that is a mix of forages and grains. This gives beef its nice marbling and flavor profile. Grass finished is where animals are kept on the forages until it's ready for slaughter.

What's the nutritional difference? Grain finished is .4 grams higher in protein, .1 mg higher in zinc, .2 mg lower in iron, and is 2.3 grams higher in total fats per serving of beef. This information is supplied by the Beef Checkoff Council which represents all beef producers.

What about eggs? There is definitely a difference when it comes to what eggs look and taste like when chickens have access to the outside. The color of yolk is yellower and tastes richer. Chickens are getting more bugs in their diet aka protein, and more beta carotene from plants they are picking at. But what about nutrition? Unless the chickens are fed an Omega-3 rich diet which translates to more Omega-3s in the egg, then nutritional differences are not statistically different between eggs.

Veggies are wild

In vegetables especially, there are huge differences in nutrient profiles amongst varieties. This is a known effect called nutrition dilution. Breeders of vegetables have focused for the most part on yield. The more the farm yields the more the farmer gets paid, so yield has been the main focus for plant breeders for a long time.

It's known that some varieties of vegetables aren't as nutritious. Because the plant was bred to produce more, less nutrients are expressed in the product. Plant breeders are now aware of this phenomenon and are breeding plants that both have high yield and are more nutrient packed. It's going to take time to get those varieties onto farms and to you in the grocery store, about 20 years or more.

Even with this known, nutrient density is wildly dependent on soil types, weather events, plant stress, and pest stress. There's some interesting research coming on how soil health may impact vegetable nutrition.

So what should I eat?

Dieticians recommend eating a variety of foods: fruits, vegetables, meats, grains, and fats. Eating the rainbow has been a popular mantra from dieticians for good reason- you're more likely to get all the nutrients you need from food by eating a large variety of foods, but especially fruits and vegetables.

With all this said, there *is* a difference in how things taste. Homegrown or local tomatoes in the height of their season are the best tasting tomatoes. Same with fresh sweet corn. You can't beat

local or homegrown. Many dieticians still recommend eating a variety and eating what you like as far as taste of a product. If that's a grass fed steak and organic salad, great! If you like grain finished burger and conventionally grown, but local potatoes, awesome!

Good stewardship in farming practices is still important for a plethora of reasons. One is reducing impact to the environment which is what the Michigan Agriculture Environmental Assurance Program (MAEAP) does with cooperating farmers.

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Annual rye grass and tillage radish cover crop – Dodde Dale Farms, Falmouth

Photo Credit- Jodi DeHate



Farm Fresh produce from DeHaVen Farm in Marion

Photo credit Jodi DeHate



Jack & Cheryl Thornton's cattle on cover crops- Chase, MI

Photo credit- Jodi DeHate



King of the herd. Jack & Cheryl Thornton's bull on cover crops – Chase MI

Photo Credit-Jodi DeHate