



www.natureswayresources.com

JOHN'S CORNER:

NEWS FROM THE WONDERFUL WORLD OF SOIL AND PLANTS

by John Ferguson

Since the start of the COVID-19 pandemic we have seen a huge increase of folks buying our vegetable and rose soil mixes to start their own vegetable gardens. Likewise, in the nursery we have seen a very large increase in folks buying all kinds of vegetable transplants for their Victory gardens. In today's column I want to explore why it is so important to grow as much of our own food as possible.

There was a nice article in the Doctor Mercola newsletter the other day titled:

Is It Time to Start Growing Your Own Food?

- The benefits of growing your own food include the enjoyment of fresh organic produce, getting exercise in the garden and reducing stress.
- Victory gardens were encouraged during WWI and WWII; some are again turning to gardening in response to COVID-19.
- Conventional farms are incentivized by profit: Many are growing crops to be used in processed foods. This potentially contaminates water and air and reduces biodiversity.
- The No. 1 rule for growing nutrient dense food is healthy soil; protect it by diversifying your plants, avoiding tilling and by covering the surface with cover crops or mulch.
- Quality seeds are essential. In small spaces you can grow your plants in pots indoors or on balconies and enjoy nutritious powerhouse sprouts all year long.



www.natureswayresources.com

The full article can be found at: articles.mercola.com

A [related short](#) video on regenerative agriculture with Dr. Mercola and Gabe Brown an organic farmer from North Dakota whom is growing many types of organic crops on less that 20 inches of rain each year. This video illustrates how the modern principles of gardening based on soil biology that we often call organic works so well and saves people money.

We have several major issues with the nutrient density of our food supply. As soils became depleted of many nutrients, plants were bred (hybridized) to grow on nutrient or mineral depleted soils. Many of these plants no longer have the ability to absorb the nutrients even if they are present in the soil.

This one reason why many folks are growing heirloom vegetables. Not only do they taste better they tend to have much higher nutrient density.

It is believed that 85-90% of the plants ability to absorb nutrients is controlled by microbes in the soil. This requires a wide range of microbes as each species might be responsible for helping the plant absorb a single element.

For the microbes to help release and collect the elements (nutrients) they must be present in the soil. Lastly as we have been farming the same plots of land for decades, each crop has mined the elements from the minerals in the soil, especially trace, micro and pico amounts of many elements. This is why it is so important to re-mineralize our soils.

The following is an excerpt from an article in Ecological Farming Daily:

Nutrient Depletion In Our Food



www.natureswayresources.com

Over the last 70 years, the level of every nutrient in almost every kind of food has fallen between 10 and 100 percent. This is an incredibly sobering fact. An individual today would need to consume twice as much meat, three times as much fruit, and four to five times as many vegetables to obtain the same amount of minerals and trace elements available in those same foods in 1940.

Note: Since this study was done there have been an additional 25+ years of declining nutrient density, hence the problems are much worse today.

Dr. David Thomas (5,6) has provided a comprehensive analysis of historical changes in food composition from tables published by the Australian Medical Research Council, the Ministry of Agriculture, the Ministry of Fisheries and Foods, and the Food Standards Agency. By comparing data available in 1940 with that in 1991, Thomas demonstrated a substantial loss in mineral and trace element content in every group of food he investigated.

The nutrient depletion summarized in Thomas' review represents a weighted average of mineral and trace element changes in 27 kinds of vegetables and 10 kinds of meat:

5. Mineral Depletion in Vegetables (1940-1991; average of 27 kinds of vegetables):

Copper – declined by 76%

Calcium – declined by 46%

Iron – declined by 27%

Magnesium – declined by 24%

Potassium – declined by 16%

6. Mineral Depletion in Meat (1940-1991; average of 10 kinds of meat):

Copper – declined by 24%

Calcium – declined by 41%

Iron – declined by 54%

Magnesium – declined by 10%



www.natureswayresources.com

Potassium – declined by 16%
Phosphorus – declined by 28%

Significant mineral and trace element depletion was also recorded in the 17 varieties of fruit and two dairy products tested over the same period (5). The mineral depletion in meat and dairy reflects the fact that animals are consuming plants and/or grains that are themselves minerally depleted.

In addition to the overall decline in nutrient density, Thomas found significant changes in the ratios of minerals to one another. Given that there are critical ratios of minerals and trace elements for optimum physiological function, it is highly likely that these distorted ratios have an impact on human health and well-being (5).

Remember this study only looked at major and minor elements. Declines in the micro nutrients are far worse.

I found an interesting bit of trivia in a journal article the other day: “Americans eat one cubic centimeter (~1/4 teaspoon) of plastic each week.” Plastics contain many chemicals that hurt our health from being directly toxic to the disruption of our hormone systems.

Researchers at Virginia Tech University did some tests on watering plants with very slight concentrations of salt and compared them to those watered with no salt. The amount of salt used was 700 times less than the amount of salts found in seawater. They looked at three common salts; calcium chloride (CaCl_2), sodium chloride which is common table salt (NaCl), and potassium chloride (KCl). They found that when soils were irrigated with small amounts of saltwater there was more carbon dioxide released (up to 20% more) than in soils without any salts. This implies that when even small amounts of salt are present the microbes destroy



www.natureswayresources.com

organic matter (humus) in the soil at a faster rate than normal. Humus is critical to have good soil structure and for the soil to hold water till plants need it.

This another reason for gardeners to avoid high salt products (poultry manure products, cow manure, spent mushroom substrate a.k.a. mushroom compost, etc.).

This especially true along the Gulf Coast where we naturally have many soils with high salt levels and that receive additional salts blown in on tropical storms.

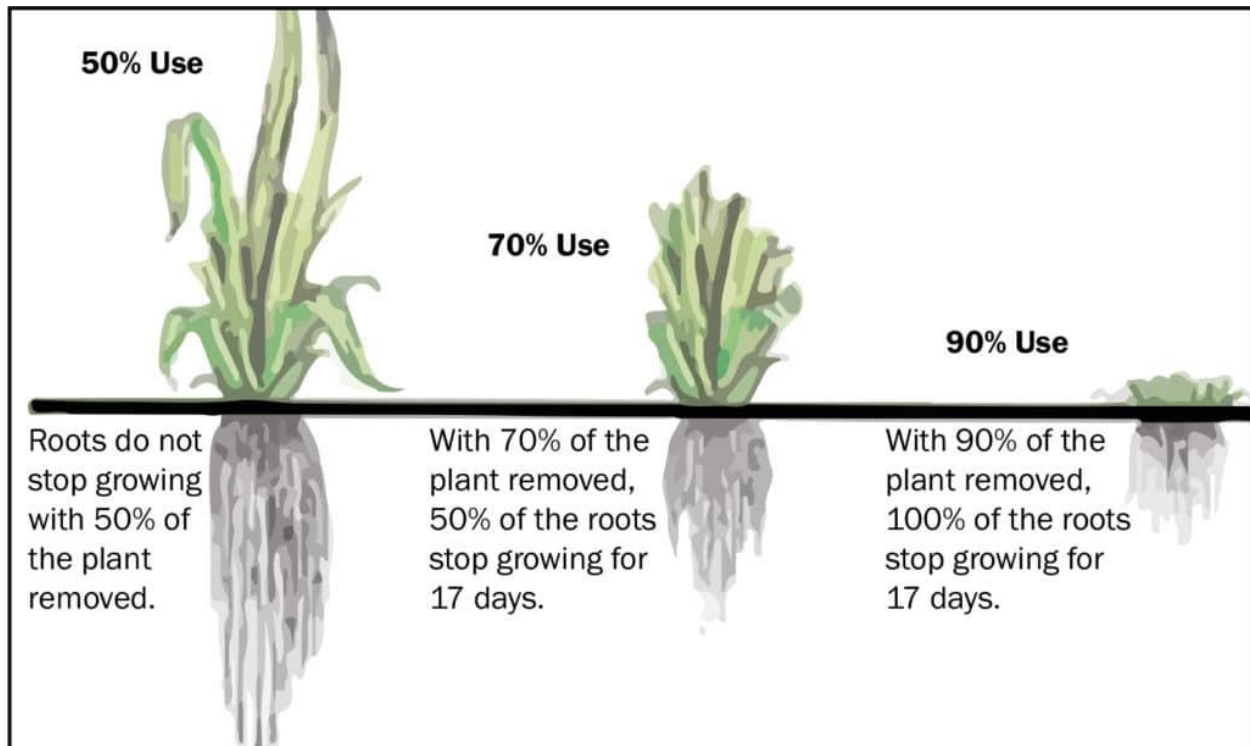
With summer approaching the subject of watering our lawns will become more important. Many folks I know, have not had to water their St. Augustine lawns since the drought of 2011! Studies from the University of Florida have found that the roots of this grass have the genetic potential to grow 12 feet deep. So, why don't they?

One of the reasons is how the grass is mowed. In nature, depending on the variety, the leaf blades of St. Augustine will grow 12-18 inches long. Hence when we cut it short, say 3 inches or less, we remove too much of the leaf blade (75-95%) needed for good plant health.

As the chart below indicates, the stress of mowing and being cut too short stops the roots from growing deep.

NATURE'S WAY
RESOURCES
an organically based service company

www.natureswayresources.com



If we want healthy lawns, we need to mow our St. Augustine to a height of a minimum of four inches. Note: Most lawnmowers do not have a setting this tall and will require modification to cut tall.