



www.natureswayresources.com

JOHN'S CORNER:

NEWS FROM THE WONDERFUL WORLD OF SOIL AND PLANTS

by John Ferguson

For those living in The Woodlands , there is a new landscaping rebate program for those whom purchase low water use drought tolerant plants. For each household there is a maximum of \$300 and you may receive a rebate up to \$150 of the purchase price (the rebate will pay up to 50% of the purchase price). The plant rebate is only for low water use and drought tolerant native plants. These range from large trees to small trees and shrubs. It includes many native perennial plants that are not only beautiful they provide food for butterflies, birds and wildlife. The complete list and instructions may be found at:

<http://www.wjpa.org/images/rebates/drought-tolerant-plants-low-water-usage.pdf>

Nature's Way Resources is a proud partner in this water saving program and currently has many of the plants in stock with more on order. Participating Nurseries for Native Plant Rebates are:

Nature's Way Resources

101 Sherbrook Circle

Conroe, Texas 77385

936-273-1200

www.natureswayresources.com

Alspaugh's Ace Hardware of The Woodlands

10720 Kuykendahl Rd.

The Woodlands, Texas 77381

832-482-3063



www.natureswayresources.com

Studies showing the importance of soil microbes continue to be released almost daily. One study in the journal *New Phytologist* by researchers at the University of California found that the species of microbes makes a big difference. The study on a member of the pea family found a 13-fold growth increase when partnered with the nitrogen fixing bacterium *Bradyrhizobium*. However, other species of nitrogen fixing bacterium did not produce the same dramatic results. This study suggests a new field of study by matching which strain of microbes works best with which species of plants. In the meantime there are inoculants shown to work with many species of plants and the single best of the inoculants is a high quality well aged compost.

Recent tests found Monsanto's carcinogenic herbicide glyphosate in popular oat-based cereals at levels up to eight times higher than what scientists consider safe. That's outrageous! Corporate agribusinesses are spraying this dangerous chemical on crops right before they're harvested, putting your health at risk. This practice is unsafe and unnecessary. Our friends at EWG (Environmental Working Group) have filed a petition with the Environmental Protection Agency to get glyphosate out of our food. Will you join us? [ADD YOUR NAME: Tell the EPA to stand up for our health and get glyphosate out of our food!](#)

A related article from the Dr. Mercola Newsletter on our health:

Glyphosate Also Impacts Plant Nutrition and Soil Biology - Glyphosate's primary mode of action is that it shuts down amino acid synthesis, followed by inhibition of protein synthesis necessary for plant growth. As a result, the plant dies. However, this also causes the plant to be more susceptible to soil microbes, especially pathogens (*The link will take you to an article by Robert Kremer, Phd., is a certified soil scientist and professor of Soil Microbiology at the University of Missouri. He recently retired from the United States Department of Agriculture (USDA), where he worked as a microbiologist for 32 years. Since he is retired from the USDA he can now talk about the dangers of glyphosate without being punished by the government*). The reason for this is because the amino acids are also building blocks for other compounds that have defensive functions against soil pathogens. As a result, the plant becomes more susceptible to attack and infection by microorganisms in the soil.

Glyphosate also acts as a mineral chelator, and minerals such as zinc, copper and manganese, which are essential cofactors in many plant enzymes. Chelating or removing these minerals from



www.natureswayresources.com

the plants is largely responsible for impairing their protein synthesis as the enzymes involved in syntheses require the minerals to function. This then opens the plant up to attack.

Now, since glyphosate becomes systemic when applied to the plant, meaning the chemical is integrated into every cell of the plant, it also ends up passing through the roots into the soil. That's in addition to that coming into contact with the soil surface during application. Once the glyphosate is in the soil, it acts as an antibiotic and a chelator, making valuable minerals unavailable to the plant and greatly lowers the quality (nutrient density) of our food.

While that's bad enough, as this affects the nutrient content of the food, nutrients also become unavailable to the beneficial microorganisms living in the rhizosphere. What's more, if the minerals are bound to glyphosate in the plant, there's no way for your body to dissociate that bond to make the nutrients available when you eat it. Instead, those minerals will simply be excreted back out, or stored in your body right along with the glyphosate. [Click here for the full article.](#)

Another study has found that when different species of plants are planted together they are healthier than when a single species is used. In agriculture it is called mixed cropping and a variation is called intercropping where rows of different species are alternated. Another benefit is dense plantings of multiple species ensures a thick canopy of foliage. This prevents sunlight from reaching the ground and triggering weed seeds to germinate. With less sunlight reaching the ground, the soil is cooler and there is less evaporation. This means far less water is required.

Another type of soil amendment to enrich our soil and grow healthier plants is "bone char". This important for two reasons: 1) The world supply of cheap and available phosphorus (P) is running out. However, bone char is 37% phosphorus and 33% calcium (Ca) plus some other minor and trace elements. 2) One of the benefits of using bone char for phosphorus is that it does not contain the toxic element cadmium (Cd) that is found with mined phosphorus deposits which are used in artificial fertilizers. Bones can be cooked in an oven similar to making bio-char or just dried and ground up into small particles. The cooking process makes the nutrients in the bones more readily available for plants. Farmers have been using bones for thousands of years to provide nutrients for their crops. Many gardeners have used a similar product called bone meal (dried and ground bones) for decades.



www.natureswayresources.com

There is a new method of testing soils for fertility and nutrient management called the "Haney Test" that is growing in popularity. It integrates both microbial and chemical measurements providing more accurate information to help gardeners or farmers. Ward Laboratories has a easy to understand summary on their website at <https://www.wardlab.com/haney-info.php>

I often get asked where can I learn more about the dangers of pesticides and how I can protect my children (or pets). There is a non-profit organization dedicated to this issue called Beyond Pesticides. On their website one can find information on all types of health issues caused by pesticide exposure. This ranges from the food we eat, to just breathing the air after an application. They also offer a quarterly magazine and have a free e-newsletter. Many reasons to only use the modern organic methods in our gardening. For more information go to their website: <https://www.beyondpesticides.org>