NATURE'S WAY RESOURCES
an organically based service company

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NEWS FROM THE WONDERFUL WORLD OF SOIL AND PLANTS

Last week we talked about the benefits of Native Mulches on earthworms and I want to continue our discussion on native mulches.

I often get asked "When is the best time to mulch?" My usual answer is "Whenever you can". Nature hates bare ground and if there is not a good thick layer of mulch, nature will cover it with something, which is usually the plants that we call weeds.

With that said, I will often ask "When does nature (God) mulch the soil? Of course, the response is in the fall. Thus, for the large majority of our plants, shrubs and trees, fall is the best time.

To be a successful gardener in Texas one must mulch (and everywhere else also). Mulch comes from the German "*molsch*," meaning "soft," and refers to any loose, generally soft material that is laid down on top of the soil to protect a plant's roots or spread lightly over the plant itself. Mulch is not a soil amendment; it is a covering or surface layer used to protect the topsoil.

Nature does not allow bare ground hence neither should we. *Mulching is considered to be the most important step in any gardening program and it is often the most overlooked!* All natural or organic mulches will improve the soil eventually, but like all things they vary in quality and effectiveness.

A good mulch lets air (oxygen) and water enter the soil and allows carbon dioxide to escape. A good mulch will readily decompose releasing the stored nutrients and will provide microorganisms, earthworms and beneficial insects a good home and food source.

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For many years along the Gulf coast, we only had pine and hardwood bark mulches available. When the green waste recycling programs started emerging to save landfill space, that begin that began to change. I remember years ago when I had to petition the Texas Association of Nurserymen to even get it listed in their directory. The Texas Association of Nurserymen (TAN) recognized "Native Mulches" as a separate class of mulches from barks and other materials in their 1997 product directory. Note: TAN is now called TNLA (Texas and Nursery Landscape Association).

At the time, I called it Native Mulch but it would not sell even though I had dozens of research papers on the benefits and its superiority to other types of mulch. So, I changed the name to "Native Hardwood" since it had a lot of hardwood species in it, and it flew out the door (marketing!).

As the mulch industry has matured over the years since then, the hardwood has been dropped and Native Mulches are easily available from many suppliers. Native mulches are now available as fresh ground or aged (composted) and in many variations.

However, mulch (Native or otherwise) is just like any other product, some are very good and some are very bad. In general, just like everything else in life. A few years ago in the newsletter, we had a series of over 30 articles on the Pros and Cons of the many different mulches that are available to gardeners. These are on the website https://www.natureswayresources.com/mulchcorner.html in the article section or in the archived newsletters.

So, what is Native mulch? "Native" mulch is made from recycled fresh green tree and brush material that was recently alive from hundreds of species of shrubs and trees, growing in a given environment, that have been ground up into mulch at a recycling facility. Native mulch is produced from a mix of native trees and brush with only a small amount of bark.

The better native mulches have a high percentage of buds, shoots, leaves, and cambium layers in them. These materials are rich in protein, vitamins, minerals and other nutrients which is the reason deer, beavers, squirrels, and other animals eat them as a food source. Hence, these native mulches are many times higher in nutrients and value than bark mulches.

Native mulches encourage the biodiversity of beneficial microbes and earthworms in the soil. They feed the plants naturally as they decompose, and they help prevent plant and soil diseases.

Some suppliers like Nature's Way Resources will compost their native mulch, further increasing its value and effectiveness. The heat of the composting process kills any pathogens and weed seeds that might have been present. The composting process concentrates the nutrients contained in the raw material and stabilizes nitrogen in a form beneficial to plants.

The composting process breaks down the cellulose contained in the raw material rendering it a far less attractive home for termites and fire ants after it is applied, compared to bark or other woody mulches (e.g. dyed mulches). The composting process also makes it one of the most fire-resistant mulches available. Remember the drought in 2011 when several homes caught fire from an ember that landed on the mulch in the flowerbeds from the forest fires, igniting it, which then trailed up the flowerbeds and spread to the house. Additionally, the composting process turns the material a rich beautiful deep chocolate brown color.

We make our native mulch in a way that it has a 50 % compost content. As I mentioned last week, earthworms get huge when living in our native mulch, many times larger than normal. The large amount of compost content explains why. Most earthworms eat microbes living on the organic matter. Earthworms can easily ingest the compost fines in the native mulch that are full of microbes. Since the microbes are feeding on a nutrient rich material, they are full of

nutrients, hence one gets very large fat and healthy earthworms. A healthy earthworm does a better job of aerating the soil, eating weed seeds, and producing plant growth hormones.

Another benefit of Native Mulch the way we make it, is that the microbes that feed on it will also break apart heavy dense sticky clay and turn it into beautiful loamy soils that all plants love. Research funded for over 30 years by Canada's Department of Forestry at Lavelle University, provided data from studies all over the world that have found this type of mulch is the quickest and most cost effective to improve soil whether sand or clay.

When used on one's flowerbeds the composted mulch fines turns into rich humus that holds water, nutrients and minerals in the soil preventing them from leaching. The humus formed is a mixture of humates, fulmates, ulmates, humins, and other compounds that make the soil healthy. The humus particles (compost fines) attract water molecules and can actually absorb them from the humidity in the air and then store the water for plants to use later when they need it.

Many of the experts that host our local radio gardening shows, talk about putting down 1-2 inches of compost and then top dress with a couple inches of native mulch. The fines in the native mulch are much denser than the larger pieces, hence when it is applied to one's landscape beds they naturally settle to the bottom and the woodier pieces that are lighter float to the top. This recreates the mulch layers that God uses in nature. The soil is covered with 1-2 inches of dark brown to almost black crumbly organic matter (a compost layer) and then 1-3 inches of brown leaves, twigs, etc. the woody mulch layer.

When this type of composted native mulch is used it is significantly lower cost than purchasing separate products and requires less work to apply.

Our native mulch since it is composted is naturally stabilized with a low C:N ratio (carbon to nitrogen), preventing nitrogen tie-up when applied along with other elements.

Native mulches improve soil quality faster than any other method and at lower cost. They increase plant growth rates and increase yields of vegetables and fruits. Native mulches prevent soil compaction as they provide food for earthworms and food for trillions of microbes that create soil structure.

Native mulches made from tree materials that have a high percentage of buds, shoots, leaves, and cambium layers in them. These materials are rich in protein, vitamins, enzymes, minerals and other nutrients. Native mulches feed and fertilize the soil as they are many times higher in nutrients than traditional barks.

Studies at Tx A&M University has found that native mulches are the best at reducing erosion. The material tends to physically lock together and it is full of beneficial fungus fibers that produce a glue called glomalin's that bind the mulch fragments together and to the soil particles. Hence, they do not float off in a hard rain as easily as most barks do. Native mulch is also full of bacteria that also produce glues (polysaccharides) that glue the particle to each other and the soil.

Native mulches make an excellent potting medium or rooting medium for many species of plants. My potted ferns love to grow in it and when fertilized with Microlife™ they grow very large and beautiful.

The use of native mulches completes the recycling loop. It helps save valuable landfill space by recycling grass, leaves, tree limbs and other woody material that would have created large amount of greenhouse gasses in the landfill. As it turns into humus it sequesters carbon into the soil.

Many beneficial insects like to hide in the coarse screened native mulch during the day and come out at night to eat pest insects like aphids.

Native mulch also has good insulating properties as we learned this year. The winter storm Uri killed the tops of many plants, but roots under a thick native mulch layer survived, and the plants quickly came back this spring

Native mulches are also a host to many species of soil life that help plants manage nitrogen (N) and phosphorous (P) in the soil.

I could go on and on as I have studied mulches for over 30 years and have collected boxes of research articles. Bottom line: Native mulches IF made properly are one of the best investments one can make in your landscape.

Note: For those interested, I have a good power point presentation on mulches (organic, inorganic and living) that takes about an hour or a little longer depending on discussion and questions.