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JOHN'S CORNER

ORGANIC FERTILIZERS AND NUTRIENTS - 27:

MINERAL SAND Part-3

by John Ferguson

There are many types of mineral sands (sometimes called rock dusts) used in horticulture and gardening. Each offers different nutrients and benefits. We have talked about granite and basalt sand the last couple weeks. Today I want to look at Lava Sand which is a 3rd type of igneous material that is used as rock dusts to increase the fertility of soils.

Most of the lava sand sold in Texas comes from New Mexico. A few years ago I visited several of the mines that were selling lava sand and learned a little bit about them. There are many types of lava and depending on many factors related to chemistry and physics of the lava, these lavas produce different types of rocks. At the mines in New Mexico some of these lavas had a lot of dissolved gases in them that were trapped as it cooled. As a result they are lighter and softer than granite or basalts. This type of lava rock is crushed to make decorative landscaping stones and gravels. Lava sand is the by-product of this mining and crushing and depending on the minerals in the lava it may be reddish or black. The magma that produced the lava flows often cools relatively quickly in geologic terms, often leaving the rock material paramagnetic. The crushing and screening process often produces very small particles (silt sized to fine sand) that are called "lava sand". These smaller particles will help courser and sandier soils hold water better. They do not decompose over time as would organic materials like humates or compost so they can permanently change the physical properties of the soil. The relatively quick cooling (geologically speaking) leave the minerals in lava sand unstable as compared to granite or basalt, hence they release quicker into the soil. The beneficial properties of lava sand varies greatly depending on the source.

SUMMARY:
Lava sand is another tool in a gardeners tool box. It is often added to soils to improve their physical properties and add valuable trace elements. Often available in North and West Texas with very limited availability along the Gulf Coast, hence other rock sands are a better choice for this area.

PROS:

- source of a few major nutrients
- small amounts of minor and trace elements
- releases nutrients relatively quick as compared to granite or basalt
- aerates heavy tight clay soils
- helps light sandy soils hold moisture
- improves soils structure for many soils
- may be a source of Paramagnetism
- fine sizes are often added to vermi-compost bins to use as grit
- lighter than granite or basalt sand
- increases the CEC (cation exchange capacity) of soils

CONS:

- expensive since shipping charges from New Mexico are high
- may release nutrients too quickly
- often dusty when dry
- less diversity and quantity of nutrients as compared to granite or basalt sand
- quality and value varies greatly depending on the source
- extremely limited availability