

JOHN'S CORNER

SOIL AMENDMENTS- ROCK DUSTS

By John Ferguson

Rock dusts are composed of various rocks that have been ground up to sand size particles or smaller. Depending on the type of rock used, they contain different minerals (plant nutrients) and properties. They are generally used to increase the fertility and sometimes the physical properties of any soil.

The first group of rock dusts come from igneous rocks that were once molten rock we call lava. The most common types are granite and basalt which have different minerals in them.

Granite Sand: Granite sand is typically produced from weathered granite by crushing it or just screening it to the desired size. Granites are mainly feldspar and quartz minerals and light in color and often pinkish. It is a good source of slow release potassium (K) and small amounts of phosphorus (P), iron (Fe), magnesium (Mg), and manganese (Mn).

Basalt Sand: Basalt sand comes from a dark colored fine grained igneous rock called basalt. It is produced the same as granite by crushing or screening it. Basalt has more iron (Fe) and magnesium (Mg) than granite with small amounts of manganese (Mn), potassium (K) and phosphorus (P).

Both granite and basalt sand release their minerals slowly over time and help loosen the soil as any type of sand.

Most igneous rocks like granites and basalt have a property known as Paramagnetism. After studying soils from around the world it was found that the healthiest soils with best plant growth and highest crop yields have high paramagnetic values while poor soils with lots of disease and insect pressure have low values. How these low level energy fields affect plant growth is not fully understood, but the direct correlation with plant growth has been confirmed. Volcanic rocks (lava, granite, basalts, etc.)



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generally have high paramagnetic values hence mineral dusts from these rocks have an additional value (Paramagnetism - Rediscovering Nature's Secret Force of Growth, by Philip Callahan, Ph.D., 1995).

Research has identified that this physical property is associated with good soil and is sometimes incorrectly called the Paramagnetic force. For those that are interested, in electricity we have materials (matter) that are conductors and insulators; similarly in magnetism, we have materials (matter) that are paramagnetic or diamagnetic.

Paramagnetism is just a natural property of certain types of matter. It is a form of magnetism that occurs only in the presence of an externally applied magnetic field (like the earth's magnetic field). A paramagnetic material will move towards (weakly attracted to) the source of the magnetic field. A diamagnetic material is repelled or will move away from the source of the magnetic field.

The bottom line is that these type of mineral dusts help the soil become more fertile which leads to stronger plants with more productivity and with less disease and insect problems.