



Soils and Products We Use

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Harvests from Soil

Soil provides so much to us. We have food, shelter, and clothing all because of soil! We are able to eat because we grow and harvest food from the soil. We build homes using sand particles that become part of the concrete that is used for foundations and walls of our houses and wood from trees grown in soil. And some houses are made of bricks, made from clay, a type of soil.

We use ceramic plates, made from clay, in our kitchens to prepare and eat food that was grown in soil. And, we decorate our homes with pottery made from clay and painted with soil-based pigments. We use sheets and blankets and wear t-shirts made from cotton that grew in the soil. We keep our clothes in dressers made of wood, from the same trees that we get wood for our houses.

What other products do we use that are connected to soil? Pencils are made from wood in trees, a soccer ball is leather that came from cows that grazed on grasses grown in the soil, and the computer chip in a game controller contains silicon processed from our planet's plentiful sands. We also use clay-based facial scrubs and mineral-based make-up in front of our mirrors, which are made from sand particles. And, wine experts know that soil properties play a significant role in terroir (the complete natural environment in which a particular wine is produced, including factors such as the soil, topography, and climate) which influences grape and wine flavor, making wines from different vineyards different.

As we mentioned in the August Soils Support Health overview, if you get sick, many medicines and medicinal plants come from soil. There are also medicines derived from chemicals excreted by soil microorganisms; for example, the antibiotic, streptomycin which was discovered by soil microbiologists Albert Schatz and Selman Waksman. These microorganisms have developed ways of keeping each other in check. Some of the antifungal and antibiotic medicines we use today are a product of soil fungi and soil bacteria battling each other.



Soil provides a lot to people.



In other uses, some plants grown in soil are harvested for different types of cooking oils (like canola and sunflower) and even ethanol, for our cars. Glass is made from sand (a type of soil) and trees grow in soil, providing us with the paper we write on and wooden bats for softball and baseball.

Soil Minerals

Soil is made up of many different minerals (the inorganic particles in soils that weather from rocks). These minerals have unique properties that provide the soil with some of its variation and can provide people with different products. One of the first things you will observe about minerals is they are different colors and provide color to the soil. These colors can be used to make pigments for paints, dyes, and make-up. One mineral that is very red is hematite.

The minerals also have different chemical formulas and chemical behaviors. Minerals that are very reactive and have a lot of surface area make good filters for pools and waste water treatment systems to remove chemical pollutants from water. Some minerals are less chemically active and make good stabilizers. One example of a mineral that has been used as medicine to stabilize stomachs is kaolinite.

However, some minerals tend to shrink and swell with wetting and drying cycles. These minerals are not desirable for building on/with or shaping. Stable clay minerals are best used for pottery, clay tablets, and adobe bricks.

Many minerals are mined from deeper in the Earth for use in products ranging from sunscreen and jewelry to fertilizer and drywall compounds. Smaller amounts of these minerals are present in soil and may provide beneficial products to people. The exotic minerals of some soils make them more ideal for use as mud spas and mud baths

Recap

Soil provides many services and many products. The plants that are grown in soil can be used for food, clothing, recreation, aesthetics, building materials, medicines, and more. The minerals that make up soil particles can be used for dyes, make-ups, and medicines, or shaped into bricks, plates, and vases.



Soil minerals have unique properties that provide the soil with some of its variation and can provide people with: hot springs, adobe brick, quartz jewelry, and clay for pottery.