Protecting our Valuable Soil

Who would want to eat a dirt sandwich? Better question, who loves to eat a juicy cheeseburger with lettuce, onions, and tomatoes, on a fresh bun? Indirectly or directly about 95% of our food comes from the soil with the rest of our food coming from the water. Soil conservation is critical to all of us as the soil and clean water are needed for us to live. It takes several hundred years to thousands of years for an inch of topsoil to develop. However, a freshly plowed field on sloping land can lose an inch of topsoil in one afternoon! Fortunately, in Kentucky, each county has its own conservation district to help communities protect and preserve their natural resources like soil and water while the communities grow. The federal and state governments offer best management practices to help prevent the erosion of our soil. Best management practices include no-till planting, strip cropping, rotational grazing, and vegetative buffers along streams to protect waterways from being choked with dirt. In short, when we protect our natural resources like soil, we protect our future.

Last year my father received a federal cost share to help install waterers and add fencing to allow for rotational grazing on our beef cattle farm. The grant required us to follow some best management practices. Rotational grazing has many advantages, like moving the cattle before the grass is eaten close to the ground. This not only allows the grass to grow back quicker but the grass protects the pasture from soil erosion with its root systems and breaks the fall of raindrops with its foliage. The grass protects the soil from excessive rain by holding the soil and preventing ditches and gullies from forming. Also, the root system holds the nutrients in the soil in the root zone instead of leaching further down or being carried away by the excess water. Also, without good grass cover for shade, the ground heats up and dries out the soil. This forces earthworms and grubs below the root zone or kills them. Worms and grubs ingest soil and digest organic

matter and turn the matter into a natural fertilizer that the plants can utilize. Also, worms regulate PH levels in the soil, loosen the soil so water can be absorbed, and aerate the soil allowing in much-needed oxygen. Worms and grubs improve the soil. In short, rotational grazing provides many soil conservation benefits.

As part of the cost-share program, another best management practice was implemented as we planted about 1,100 nut-bearing trees beside our creek and Karst spring. We fenced off the area to prevent soil and animal waste from entering the waterways from the cattle. Trees are one of the best ways to limit water runoff and soil erosion. The trees provide a root system to stabilize the creek banks and limit erosion by protecting the soil from the force of raindrops. Also, trees and shrubs provide leaves, twigs, and decaying matter which act like a sponge to soak up excess water and their roots form a dense mat to further protect against soil erosion. In short, vegetative buffers along streams protect waterways from being choked with dirt which can deplete the oxygen supply killing fish and other aquatic organisms. Adding trees helps wildlife by giving them food, protection, and homes for many animals like birds, squirrels, rabbits, and deer. In summary, planting trees provide many benefits as well as soil conservation.

Have you ever wondered what is in the dirt, or where the dirt comes from? Well, the soil is made from rocks and minerals that have been broken up into tiny pieces forming sand, silt, and clay. Soils are formed from the parent material located in their area. The soil is made up of minerals, air, water, and some organic matter. The organic matter is created by decomposers like earthworms, fungi, and bacteria. The soil is home to many living organisms ranging from groundhogs to insect larvae. The key to taking care of the soil is to keep the soil from being moved to other places by wind, water, or mass movement like landslides.

In conclusion, soil conservation is critical to all of us because 95% of our food comes from the soil. Fortunately, Kentucky is home to good soil in most counties. Most Kentucky counties have a conservation organization that along with federal and state agencies, works to provide soil conservation best management practices to rural and urban areas. Best management practices help to reduce soil erosion, improve soil quality, and optimize water infiltration. We all need to do our part in protecting the soil because the soil provides us with most of the food needed to live on our planet.