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**She Digs Her Dirty Job.** (Diane Stott is a microbiologist who studies dirt because the world needs soil to produce food) *Sarah Tuff*.

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When most people look at a plowed field, they see dirt. Diane Stott sees something more precious. "It's not dirt," she says as she crosses a field in northern Indiana. "That's why I'm wearing the T shirt." Her shirt is printed with a single word: SOIL.

Stott, a microbiologist, studies soil for a living. She works for the U.S. Department of Agriculture's National Soil Erosion Research Laboratory. Work by Stott and other soil scientists helps save one of earth's most valuable resources. Without rich, healthy soil, the world could not produce enough food.

#### SAVE THE SOIL!

Soil seems to be everywhere: in fields, in backyards, clinging to the soles of our shoes. But the nation's fertile soil is vanishing at an alarming rate. For every bushel of corn produced in the U.S., about a bushel of soil disappears.

How? Rain can wash loose soil into streams and rivers. To replace an inch of washed-away topsoil, plants and other matter on the surface must break down for hundreds or even thousands of years. Soil disappears when houses or malls are built on land where crops could be planted. Pollution also ruins soil, making it unsafe for planting.

For the past 10 years, Stott and other experts have worked hard to slow the damage. "The rates of soil loss may sound pretty bad," she says, "but those rates have been reduced by about half since the mid-1980s."

Stott collects samples from fields and studies them in her laboratory. She can test soil to determine whether or not it has enough nutrients to grow good crops. She can also test for toxic contaminants.

She recommends ways for farmers to hold onto the soil they have. One way is a method called conservation tillage, or no-till farming. Tillage is plowing and preparing land for planting. No-till farmers do not plow their fields. They plant crops in a bed of grasses or other plants that will keep soil from washing away, even during heavy rainfall. Farmers also learn to conserve soil by plowing along the natural lines of the land, not in straight rows. And Stott and other scientists recommend adding the mineral gypsum to soil, which prevents erosion.

#### FOOD FOR EVERYONE

By helping preserve soil for food crops, Stott is helping the world avoid a hunger crisis. Every year the world's population increases nearly 8.9 million. By the 21st century, there will be 6 billion people. "There are going to be so many new people to feed that I believe a food crunch is coming," Stott says.

If farmers follow the suggestions Stott offers, there will be more soil and more agricultural products for the world. Since lost topsoil often winds up in waterways, preventing soil erosion also helps keep lakes, rivers and oceans clean. Stott and her colleagues are eager to share their hard work and ideas with farmers, environmental groups, farm bureaus and other scientists: "We'll pretty much talk to anyone who cares about food."