



Good soil makes for good plants

By Bob Dailey

A productive soil looks, well, healthy. It's crumbly when you squeeze it in your hand. It will smell sweet – some say good soil smells like chocolate. It's dark, full of organic matter. And healthy soil means healthy lawns.

Healthy soil will have a half million microbes in every gram. These microbes include bacteria, algae, fungi, protozoa, nematodes, microscopic insects and mites.

Microorganisms are essential to soil health. As they go through their life cycles, they help decompose organic compounds. They also help plants obtain nutrients by binding minerals in the soil and making them available to plants. These tiny organisms help improve soil structure, fight plant disease and insects, and, in the end, contribute their bodies to the overall organic matter in the soil. In fact, in an acre foot of soil, there may be 10,000 to 50,000 pounds of beneficial microbes.

In addition to microbes, there may be 10 or more earthworms in every square foot. In fact, earthworms are a good barometer of good, productive soil. Earthworms turn the soil, and convert organic material into nutrients for plants. A healthy earthworm population in an acre of soil can turn over eight tons of soil in a year. That's a lot of work.

Good soil with five percent organic matter can hold almost two gallons of water per cubic foot of soil. A yard size of 1,000 square feet with that amount of organic matter can hold almost 2,000 gallons of water. This helps create longer root systems in grass plants and makes them more resistant to disease.

Using organic fertilizers and minimizing the application of chemical fertilizers can go a long way toward maintaining a healthy population of microbes and earthworms. Good, healthy soil is the secret to a good healthy lawn and garden.

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