J&L Garden Center

The All Season Gift and Garden Center

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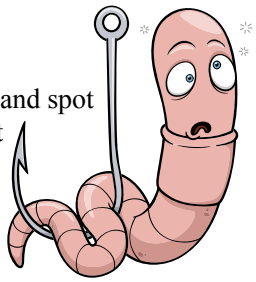
Wonderful Worms



Earthworms are a barometer of your soil's health. When you turn over a shovel full of black, moist soil, and spot three or four earthworms, you know you're working with good, healthy soil. By the same token, if you don't have very many earthworms in your garden soil, it would be to your best interest to find out 'WHY'. What conditions are preventing them from living there. Earthworms are among the most visible of soil organisms, but there are also many other micro organisms that are equally essential in maintaining healthy soil. Your soil may be fertile, but if no earthworms are present, the soil may be lacking these other microbes and further attention may be warranted

Besides their importance in the soil, earthworms have a major role in fishing. If you don't have a good healthy population of worms, you may visit your neighborhood fisherman, and buy some of his 'Wonderful Worms' for your garden.

Effect on Plants

The presence of earthworms has a profound effect on your plant's performance. Plants growing in soil with earthworms will produce higher yields than those grown in soil without worms. Earthworms have an insatiable appetite, and work day and night improving the soil. As one of nature's best recyclers, earthworms feed on organic matter such as decaying leaves, roots, and any other compost. Organic matter, during its brief stay inside the earthworm's digestive system, is transformed into worm castings: **"Black Gold"**. Earthworm castings contain five times more nitrogen, seven times more available phosphorus, eleven times more potash, and forty percent more humus than is usually found in any good garden soil.

Effect on Soil

Worms can be used to repair damaged soils. They transform the compact soils into more spongy ones. They improve a sandy soil's consistency, and helps it retain moisture. This makes all soils more porous and permeable at the same time.

The worm's digestive tract incubates enormous quantities of micro-organisms. Micro-organisms are essential to the formation of humus in the soil. Humus is an important part of maintaining a fertile and workable soil.

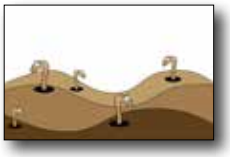
The earth worm's castings are rich in soil nutrients, enzymes, and bacteria; these also help increase soil fertility. Even in death, earthworms contribute to the soil. Their decomposing bodies release significant amounts of nitrogen, micro-organisms, and other plant nutrients.

Earthworms have an important effect on soil texture. Their burrows create extensive channels, allowing air, nutrients, and moisture to penetrate deeply into the soil structure. Earthworm movements up and down through the soil pulls organic matter from the surface down into the deeper layers of soil, leaving a trail of nutrients, bacteria, and micro-organisms along their path.

Earthworms are powerful. Pound for pound one worm is 1,000 timer stronger than a human being. Each worm excretes the equivalent of its own weight in castings every day. In one year, one acre of worms, living in healthy soil, will plow up about fifty tons of soil, and contribute about five tons of nutrient-rich castings.

Effect On Lawns

Many homeowners who, dismayed at the castings earthworms leave above the soil, try to eliminate or kill them. While the bumpiness may leave you with a less-than-perfect lawn, earthworms make enormous contributions to your lawn's health. Earthworms aerate the soil, so water and air can move through the soil more freely. Earthworms also decompose thatch, and create valuable nutrients. Controlling or eliminating earthworms is about as beneficial to your lawn as removing the spark plug out of the motor of your lawnmower.



Try aerating your lawn, this may help stop the worms from bringing as big of mounds of soil to the surface. Hopefully the worms will come to the surface through your aerator holes, instead of making new holes. If aerating doesn't help, try letting your lawn dry out a little more, or making the soil more acidic, to drive the worms from your lawn into other areas of your yard.

To help make the soil more acidic apply sulfur. Apply three pounds of sulfur per 1,000 square feet; two or three times each year. Be careful not to apply too much sulfur in one application, or you will burn your lawn. Do not apply sulfur during the heat of the summer. Sulfur may, or may not, help with the worm situation, but it will still help lower the pH of your soil. Sulfur is also great to use around Blueberries, Rhododendrons, Azaleas, all acid loving plants, and most everything else in the yard.

Increasing Worms In Your Soil

Increasing the number of earthworms in your soil is as easy, or as difficult, as increasing organic matter in the soil. Earthworms are drawn to organic matter like steel filings are drawn to a magnet. Earthworms gravitate to soils that have plenty of leaves,

grass clippings, compost, manure, or straw. Adding earthworms to your garden does not always result in an increased population of worms, but adding lots of organic matter to your garden soil does.

Since earthworms thrive in cool, moist places they prefer soil that has been mulched, or that has plant cover. Earthworms don't tolerate bare, dry earth. They will migrate to moist ground; without moisture, they may hibernate, or they may die. During the hot, dry summer weather earthworms will burrow deeper into the soil where moisture conditions are adequate for them to live.

Despite their critical role in building healthy soil, there isn't much respect for this little wiggler. The next time you see an earthworm stranded in a puddle, or on a dry patch of concrete after a rain storm, show it a little appreciation. Pick it up gently, and set it back in the garden, where it can burrow back into its favorite place: moist, cool, organic rich soil. With this simple act, your garden will benefit greatly.

Life Cycle

Earthworms are found everywhere on the earth's surface except in the extremely cold northern and southern latitudes. The earthworm's activity depends directly on the soil temperature.

During the winter, earthworms burrow deep into the soil, below the frost-line. Earthworms cannot tolerate temperatures much below 32 degrees Fahrenheit. During the spring and summer, earthworms become active in the top twelve to eighteen inches of soil, where most of their food, organic matter, is located.

Earthworms are hermaphroditic which means each worm contains both male and female organs. Each earthworm is capable of producing egg capsules. However, a worm must mate with another worm to produce fertile eggs. After mating, each worm lays a cocoon containing four or five eggs. After two to three weeks, the eggs hatch, and small worms appear. The young worms have the same shape as adult worms. Worms are headless, eyeless, toothless, and do not have antennae. From tip to tail their body is composed of ringlike segments. Earthworms are completely self sufficient from the time they are born.

Earthworms begin to mate and reproduce two to three months after birth. Mating can occur once a month in some species but generally earthworms only mate twice a year. Earthworms can be easily collected, grown and raised in the backyard, as many worm farmers and fishermen can testify.

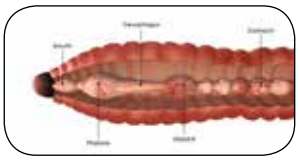
During the hot summer weather earthworms migrate to cool, moist areas of the yard and may burrow deeper into the soil to find such conditions. Most earthworms live between one to three years.

Interesting Worm Facts

1. When an earthworm is cut in two, both halves do not live. Depending on where the worm is cut, the half with its head might live and grow a new tail end. The severed tail end dies.

2. Earthworms range in size from 1/25 inch to eleven feet long.

3. Worms are deaf, and have no eyes. However, they can detect light, as well as vibrations.



4. An earthworm does not have lungs or gills. An earthworm breathes through its skin, which is in contact with the air in the pores of the soil. When it rains, and the pores are full of water, the earthworm must either move to the surface for air, or drown.

5. Earthworms are both male and female but they must mate with another earthworm to reproduce. Earthworms mate by attaching their saddles (the thick band) to each other. Each worm then lays a cocoon in the soil which usually contains four or five eggs.

6. There are at least six thousand species of earthworms in the world. The nightcrawler is one of the largest species of the North American Earthworm, and is prized by fishermen. Common garden worms look like nightcrawlers, but are smaller. Redworms, or manure worms, are small (about 1,000 to a pound of mature worms).

7. Earthworms vary in colors. They can be pink, tan, brown, blue, green, and even purple.

8. Most earthworms are not native to the United States. Many species were introduced from Europe, their cocoons were probably packed into the soil under the shoes of colonists' horses.

9. Earthworms are more prevalent in the humid sections of the Eastern United States, than they are in the arid Western regions.

10. A very healthy 16" by 16" section of a garden may contain up to 100 earthworms. An acre of good farm soil may be home to a million earthworms

11. Some worms live 60 years or more, but most earthworms live less than a year.

12. When nightcrawlers are hungry, they don't leave their hole entirely to find leaves or dead grass. They keep their tails in their tunnel and reach out and bob back and forth, looking for something to grab. When they see something delicious, like a leaf, they pull it back down with them.

13. If something tries to grab them, a nightcrawler will hold on to the walls of its tunnel for dear life.

Earthworm Castings

The earthworm is extremely valuable in creating topsoil and maintaining soil fertility. Earthworm castings, or excrement, are far richer in minerals than the soil which they ingest, and it is said that an average earthworm will produce its weight in castings every 24 hours. Earthworms burrow as deep as six feet into the ground aerating the soil, making holes for roots to grow, for rain to penetrate and for breaking up hardpans.

Each year their castings furnish a considerable amount of valuable fertilizer, up to 50 tons per acre. Worm castings are richer in nitrogen, phosphate, calcium, and magnesium than the finest of top soil. All elements of worm castings are water-soluble and are immediately available as plant food. Earthworm castings help eliminate the need for artificial or chemical fertilizers for your plants. Once your plant has been planted in worm castings (a mixture of 5 parts soil to 1 part worm castings) your plants will draw essential nutrients from the castings. This amazing plant food will markedly improve the health of your plants in 30 to 60 days, making your plants more luxurious looking than you ever imagined they could be.

Worm castings are completely odorless, and they are beneficial to both indoor and outdoor plants; perfect for small vegetable gardens as well as your house plants.

More Resources

http://extension.usu.edu/files/publications/factsheet/HG_Lawn_2005-01.pdf
http://extension.psu.edu/plants/crops/soil-management/soil-quality/earthworms
http://extension.illinois.edu/worms/live/