MVGC Club Meeting September 16, 2025 - Clifford Fire Hall

Program: Vermiculture Composting
Presenter: Tammi Smith, *Master Gardener – Luzerne County*

Tammi thanked the group for the invitation. She has a passion for worms and has been raising them since 2019, researching their benefits to the soil.

There are 3,500 species of worms worldwide, ranging from a few inches to 27 feet long. The Oregon giant worm grows up to 4 feet. One of Tammi's bucket list items is to visit Australia's annual giant worm festival.

Earth worms were not native to North America but were brought by settlers with their plants. They have become part of the ecosystem. Earthworms existed 20,000 years before dinosaurs. Charles Darwin studied them for the last 20 years of his life. Initially, people thought earthworms were pests eating plant roots, but Darwin convinced them otherwise.

<u>There are 3 types of worms:</u>
1. Epigeic worms (leaf litter) -which are also known as surface dwellers because they live above soil level. Those are worms used for composting.
2. Endogeic worms - which live below ground. Top 6 to 12 inches of soil. Aerate the soil, and the castings from these worms help to keep the soil moist.
3. Anecic worms - which live below soil level but explore at and above soil level to find sources of food. They live 3 feet below the soil and build burrows.

Earth worms absorb oxygen through their skin. They can live up to 4 months under water, in the right conditions. They need to stay moist. Earth worms are integral to our ecosystem. They break up hard clay soil. They can remediate soil damaged by chemicals. Herbicides and pesticides will kill them.

Once you have earth worms in your soil, they invite good bacteria. Which helps to break down material to the molecular level so plants can absorb the nutrients. Earthworms have a symbiotic relationship with bacteria; each species of worm have a relationship with certain bacteria. When they ingest organic material Red wigglers are in compost
Cold compost – does not kill weed seeds. She collects food scraps – coffee grounds, filters, fruits and veggies. A lot of people in her community donate scraps to her.

Composting worms will move where the food source is: shredded cardboard, food waste, coffee grounds., etc. It breaks down 90% of organic material. Citrus peels are the one thing they don't like, unless they are really rotted.

Worm castings – she has baggies, 1 for each person. Adding worm castings to your plant has macro calcium. Earth worms need pebbles in their guts to help break down material. They are resistant to disease; they will die from protein and sunlight will paralyze them.

The volume of vegetables will increase by 80 to 90%. Worm casting make great seed starters. They do need some soil. Worm casting soaks up water and breaks up soil. Worm mucus keeps root borers and other pests away.

Asian jumping worms are invasive and highly destructive to forest ecosystems. They consume leaf litter excessively, leaving behind gritty, dark pellet-like castings. These castings are easily washed away by rain, preventing nutrients from reaching the soil and disrupting natural decomposition processes. Their eggs are remarkably resilient, capable of surviving both freezing and boiling conditions. The worms live for approximately one year and can be identified by their iridescent appearance in sunlight, a prominent, flattened band encircling their body, and a tendency to shed their tail when handled.

Sparrows are known to prey on these worms. Vinegar has been found to be an effective method for killing them.

Leaf litter worms burrow down in winter and form a ball. Mellon rinds will attract worms. Pumpkins, watermelon, corrugated cardboard. In the Fall, give them a treat. Add leaves, grass and it will break down during the winter. Adding charcoal to your soil increases beneficial bacteria to your soil. A couple of inches of composting material. Fruit and vegetables and eggshells. Sun flowers suck up polluted soil.

An acre of untreated grass woodlands will have a million worms living in it.
You need to make sure you put the best into the soil.

This is the Worm Casting Tea recipe for house plants:
Add 1 cup castings to 2 gallons of water, stir, let it sit overnight, stir again. Saturate the house plant and it will replenish the nutrients.

Notes taken by Recording Secretary
Maureen Kupiec