



April - May 2025 Newsletter!!

Let's talk about **COMPACTION** and how to **FLUFF IT UP!**

What creates Soil Compaction and how to combat it?

Soil compaction is the process by which soil particles are pressed together, reducing pore space between them. It usually happens when soil is subjected to **mechanical pressure**, such as:

- **Low microbial health**, certainly heavy machinery usage (tractors, harvesters)
- Livestock trampling
- Repeated tillage

This pressure squeezes air out of the soil and can make it **dense and hard**, often forming a "**hardpan**" layer that roots can't penetrate easily.

Effects of Soil Compaction on Soil Health

1. Reduced Pore Space

- Compaction decreases **macropores**, which are essential for **air/nitrogen and water movement**.
- This leads to **poor soil aeration**, making it harder for roots and soil organisms to breathe.
- Weed pressure is due to compaction. Tilthy aerated soil provides an opportunity for oxygen to be present in the soil.

2. Decreased Water Infiltration & Drainage

- Compacted soils don't absorb water well.
- This can cause **surface runoff** and **increased erosion**, while at the same time **trapping water above** compacted layers—leading to **waterlogging**.

3. Restricted Root Growth

- Roots struggle to penetrate dense soil layers.
- This stunts plant growth and reduces nutrient uptake, affecting **crop yields and plant health**.

4. Disrupted Soil Biology

- **Beneficial organisms like earthworms, microbes, and fungi can't thrive in compacted soil due to lack of air and mobility.**
- This results in **lower organic matter turnover** and weaker **soil microbial activity.**

5. Increased Soil Erosion

- With poor infiltration and less vegetative cover (due to weak root systems), compacted soil is more vulnerable to **wind and water erosion.**

How to Prevent or Mitigate Soil Compaction

- **USE EARTHGEN215'S PRODUCT LINE TO BREAK UP COMPACTION AND RESTORE SOIL POROSITY AND HEALTH.**
- **Avoid working wet soils** – soils are more vulnerable when wet.
- **Use controlled traffic farming (CTF)** – limit machinery to permanent lanes.
- **Use lighter equipment** or **reduce axle loads.**
- **Add organic matter** – improves structure and resilience.
- **Grow deep-rooting cover crops** (like radishes) – help break up compacted layers naturally.
- **Reduced or no-till practices** – preserve soil structure.
- **USE EARTHGEN215'S PRODUCT LINE TO BREAK UP COMPACTION AND RESTORE SOIL POROSITY AND HEALTH.**

Please call with questions as I am happy to assist you in regenerating your soil for optimum yield!!!

Please call the office directly to purchase our product line. **Our entire goal is to increase the farmers' yields and cut farmer's costs!! We are happy to answer all your questions.

Tom

Tom Golden

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