

Regenerative Organic Principle: Livestock Integration

A Symbiotic Dance of Livestock and Soil

Overview:

Integrating livestock into farming systems is a key aspect of regenerative organic agriculture, supporting a sustainable and circular agricultural system (circular bio-economy). This integration accelerates the regenerative process by enhancing soil health and overall farm productivity. Animals' movements and activities, such as grazing and trampling, till the soil, distribute seeds, and cycle nutrients. These interactions improve soil structure, increase organic matter, promote biodiversity, and enhance nutrient availability, leading to faster and more effective ecosystem regeneration.

Here's How It Works:

- (1) Feeding: Livestock, such as cows, graze on pasture vegetation, consuming grasses and other plants.
- (2) Manure Production: As the livestock digest this vegetation, they naturally deposit manure directly onto the fields.
- (3) Nutrient Recycling: This manure is rich in organic matter and essential nutrients like nitrogen and phosphorus.
- (4) Soil Fertilization: The manure decomposes in the fields, enriching the soil with essential nutrients, increasing soil biology.
- (5) Plant Growth: The enriched soil supports the growth of various plants, improving overall farm productivity.
- (6) Reduction in Chemical Fertilizers: This natural fertilization process reduces the need for commercial chemical fertilizers.
- (7) Environmental Benefits: Healthier soil also improves water retention, protection against erosion, floods, droughts, and desertification, increased biology above and below the soil, carbon sequestration, and reduction of greenhouse gases.

Five Grazing Fundamentals:

- (1) Timing: When during a season or year grazing occurs. Ensures optimal plant growth and nutritional value.
- (2) Frequency: How often the plants are grazed. Maintains plant health and prevents overgrazing.
- (3) Intensity: How heavily the plants are grazed. Prevents weakening of plants and ensures regrowth.
- (4) Duration: How long a grazing event lasts. Avoids soil compaction and overgrazing.
- (5) Rest: Allowing plants time to recover during the growing season promotes their recovery and sustainable forage production. Grazing a pasture too early depletes vegetation before plants can replenish root reserves, potentially sacrificing future grazing opportunities. For instance, grazing one week too early in spring could lead to the loss of three weeks of grazing in the fall.

Examples of Different Ways to Integrate Livestock in Regenerative Agriculture:

Rotational Grazing:

Strategy: Move livestock between different paddock on a regular schedule, allowing each paddock to rest and regenerate, preventing overgrazing and maintaining healthy vegetation. This approach facilitates management at the paddock level, allowing for the selective skipping of paddocks requiring additional rest while intensifying grazing in those in need of it.

Example: In Alberta, a cattle rancher divides the land into several sections. Cows are moved to a new section every few days, giving the grass time to recover and grow back in the sections they left.

Cover Cropping with Grazing:

Strategy: Plant cover crops that animals can eat to improve soil health, reduce weeds, and provide forage.

Example: A farm in Saskatchewan plants clover and rye after harvesting the main crops. Sheep graze on these cover crops during the off-season, improving the soil and reducing weed growth.

Multi-Species Grazing:

Strategy: Grazing different types of animals (like cattle, sheep, and goats) on the same land.

Example: On an Ontario farm, goats and cattle are grazed together due to their complementary dietary preferences. This combination ensures that all types of vegetation are utilized effectively, as goats and cattle eat different plants. This approach allows for higher stock density (better manure distribution) and better control of woody plants, promoting overall pasture health.

Stockpiled Grazing:

Strategy: Save some forage (like hay or pasture) for animals to graze on during winter, reducing feed costs and enriching soil.

Example: In Manitoba, a beef farm practices bale grazing by placing hay bales in the pasture before winter. During the winter months, cows graze directly from these bales, reducing the need for harvested feed and naturally spreading manure to enrich the soil.

Sources:

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