Rules of Adaptive Stewardship: Rule of Disruption

Fostering System Resilience and Adaptive Capacity Through Intentional Disruption: Emulating Regenerative Natural Systems

Overview

The Rule of Disruption is about enhancing an ecosystem's ability to adapt by mimicking natural disturbances (like seasonal changes or animal activity). By changing up farming practices, such as grazing patterns and cover cropping, farmers can improve soil health, productivity, resilience, and biodiversity. The key to these disruptions is being intentional with how and why they are introduced. These disruptions need to be planned and purposeful to build greater resilience in the land. Planned disruptions are not a “rigid system, recipe, or formula. It is a flexible practice that allows for almost constant adjustment to fit conditions, goals, and objectives” (Understanding Ag). By incorporating diverse and adaptive practices, farmers can create more resilient and adaptable farming systems capable of handling environmental variability and change.

How It Works

Every living cell and organism, including soil microbes, plants, and animals, has a memory and adapts based on past experiences. If the same practices are used year after year, these organisms become accustomed and lose their ability to adapt. Implementing disruptions builds an organism's or community's ability to adapt and respond to change. By introducing variations in agricultural practices, farmers can stimulate these adaptive responses, enhancing the resilience and overall health of the ecosystem.

For example, consider the practice of rotating crops in agriculture. If a farmer plants the same crop in the same field every year (i.e. corn), the soil becomes depleted of specific nutrients, and pests that favor that crop can become more problematic. However, by rotating crops—planting different crops in a planned sequence—the soil's nutrient balance can be restored, and pest cycles can be disrupted.

Experiencing disruptions builds an organism's or community's ability to adapt and respond to change, but just don't forget to switch up the crop rotation and/or extend the rotation; otherwise, it too can become predictable and lead to similar issues.

Examples of Planned Disruption

Stock Density

Altering stock densities involves varying livestock numbers to benefit ecosystems, requiring record-keeping and making prompt changes in response to natural cues (e.g., skipping a paddock because it's too wet). Methods like moving herds multiple times a day and using High Density/Low Density to enhance trampling and manure deposition, and promoting ecological health.

Alter Paddock Configuration and Paddock Direction

Change the layout and direction of paddocks to affect how animals move during grazing. By periodically adjusting the configuration of paddocks, you introduce disruptions in their movement patterns. Likewise, if paddocks were arranged in a specific direction during the last grazing cycle in a larger pasture, alter their orientation for the next grazing session in that pasture. Repeatedly grazing the same paddock at the same time of year will unintentionally target certain species, leading to their decline and reducing biodiversity and resilience within the paddock. Varying the timing and location of grazing helps maintain a more diverse plant community, promoting overall ecosystem health.

Alter Livestock Species Order

Mix up the order in which you rotate different livestock species through paddocks for grazing. If you typically start with cattle, then move on to sheep, chickens, or pigs, occasionally switch up the sequence to introduce variety and optimize grazing patterns. Additionally, consider skipping some species on certain paddocks or adjusting the grazing duration for others to promote plant recovery and prevent overgrazing, enhancing pasture health and productivity.

Alter Rest-Rotation Periods in Each Paddock

Mix up rest-rotation periods in paddocks by occasionally extending the rest beyond 30-40 days. Opt for longer breaks of 80 days or more. This helps rejuvenate soil biology and diverse plant species, especially in semi-arid areas.

Sources

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