

## Soil Health: Principle 5 of 5 – **Livestock Integration**

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The Soil Health foundation consists of five principles which are: soil armor, minimizing soil disturbance, plant diversity, continual live plant/root, and livestock integration. This article will discuss the fifth principle, livestock integration.

In this fifth of five articles on soil health, Jay explains the concept of “livestock integration” and why animals are important for building soil health.

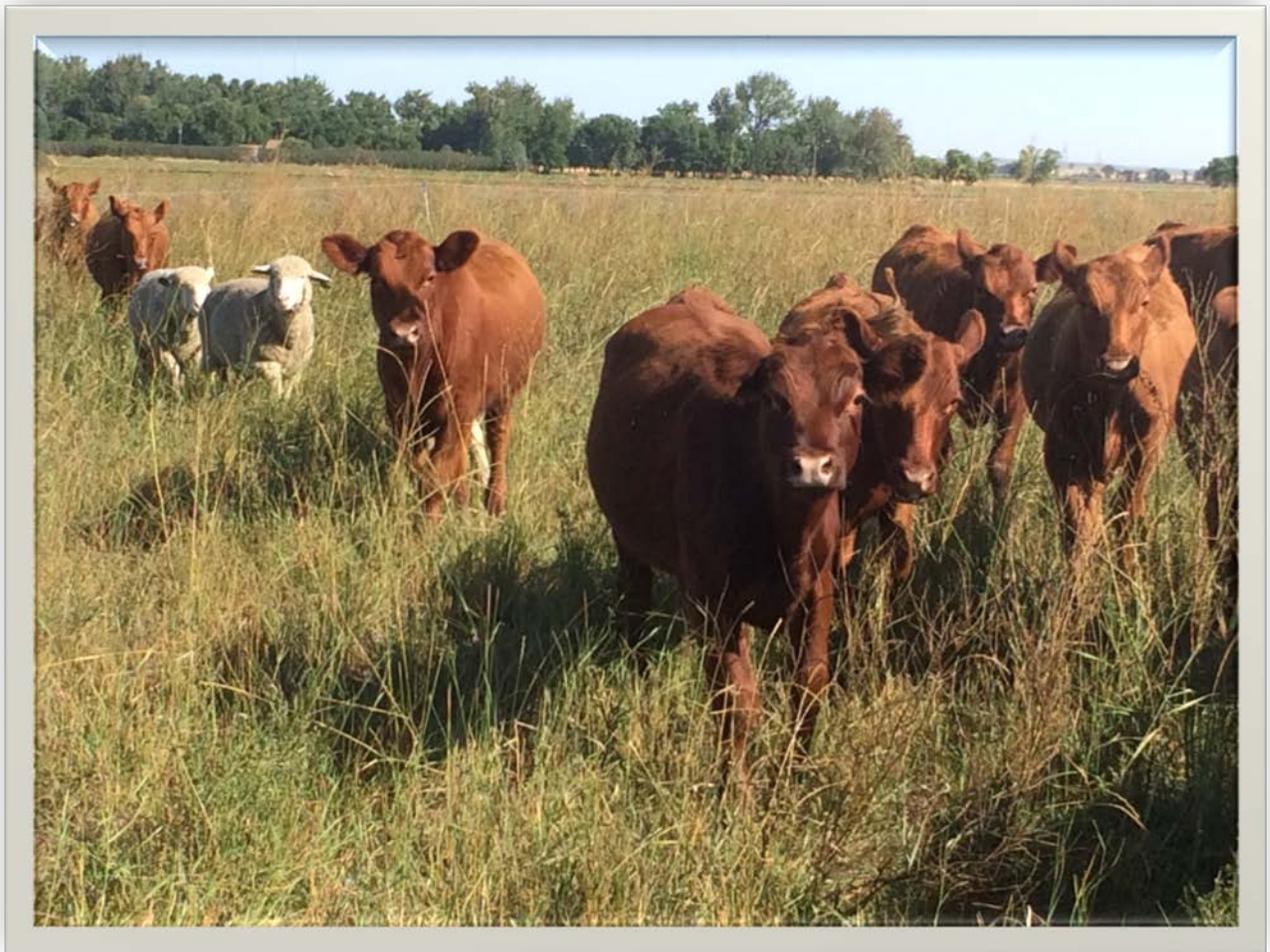
Animals, plants, and soils have played a synergistic role together over geological time. In recent years, animals are playing a reduced role due to being placed in confinement and fewer farms now include livestock as part of their overall operation.

Why do we want to return livestock to the landscape?

- Fall or winter grazing to convert high carbon annual crop residue to low carbon organic material; balancing the carbon/nitrogen ratio and managing our crop rotation residue for no-till seeding.
- Spring or summer grazing annual and/or perennial plants with short exposure periods followed by long recovery periods; allows the plants to regrow and harvest additional sunlight and CO<sub>2</sub>.
- Reduce nutrient export from our cropland and hayland fields. In lieu of transporting feed to a feed lot, we can reverse the roles and have the livestock graze the material in place. Recycling the majority of nutrients, minerals, vitamins, and carbon.
- Manage weed pressure by grazing in lieu of an herbicide.
- Grazing cover crops and/or crop residues allow us to take the livestock off the perennial grasslands earlier in the fall. Extending the grass recovery period and providing a higher livestock nutritional diet.
- Grazing reduces livestock waste associated with confinement; helping manage our water quality and nutrient management concerns. Allowing cattle and sheep to be herbivores by securing their energy needs from plants.

How do we return livestock to the landscape?

- Winter and fall grazing cover crops and annual crop residues.
- Summer grazing a full season cover crop, allowing adequate plant recovery, followed by a second grazing during the fall or winter.
- Winter feeding on hayland fields by rolling out bales or bale grazing.
- Seed rotational perennials, graze and manage as part of the crop rotation.



NRCS Photo Caption: Yearlings and dry ewes grazing rotational perennials; grass plants, legumes, and forbs at the Menoken Farm; diversity in plants and diversity in animals.