



The goal in wise pasture management is to optimize animal and plant productivity without harming the soil, water, and air quality. Regularly assessing the state of your pasture helps you make important decisions. Certainly, if you notice your animals are doing poorly or their forage has declined while unwanted weeds have invaded, you'll want to make some changes. But you should also be on the lookout for visible soil loss, increased runoff, and impaired water quality as those indicate significant problems that could affect your pasture's productivity as time goes on. Soil testing at least once every three years will help you make the best decisions. Assess your pasture's condition before adding livestock, at peak forage supply periods, at low forage supply periods, when plant stress appears, and near the end of the grazing season to decide when to remove livestock. In a rotational grazing system, check often enough to make sure your animals are being moved through the rotation at an appropriate stocking rate and at appropriate intervals based on current conditions. During slow growth periods, the grass needs longer rest periods to recover.

**Management:** Short-duration, high intensity, low impact use

**Range Health: Economics of Maintaining Plant/Grass roots through Soil Health.**

**Management:** Continuous summer grazing

Shallow Loamy

“Root biomass and health is a direct reflection of above ground biomass and health and critical for healthy soil biology”

Shallow Loamy

Roots continue to grow

- Good aggregated soil
- Higher real estate values
- Water conservation
- Long term income \$\$\$
- Erosion control by holding the soil in place
- Quicker plant development and reproduction
- Increased soil moisture (infiltration)
- Stabilized soil temperatures
- Increased forage for domestic and not-domestic animals
- Improved soil fertility for plant maintenance

Roots stop growing

- Loss of future range production
- Loss of plant vigor
- Long term loss of income \$\$
- Lower real estate values
- Lowered water storage; more runoff
- Higher maintenance costs
- Soil loss by wind/water erosion
- Decreased forage for domestic and not-domestic animals
- Invasive/undesirable plants likely to occur

Compacted soil

Rangeland ecological processes will exude fertility as long as there is rest and recovery to allow for nutrient cycling, allowing for the adequate production (self-maintenance) of vegetation.

Five Soil Health Principles

- \* Plant Diversity
- \* Less soil disturbance
- \* Livestock integration/Adaptive Grazing Mgt.
- \* Cover The Soil
- \* Living roots year around

“Management must be your goal.”

About 50% of the total volume of plant growth is available for the production of livestock and livestock product. The rest belongs to the land and the plant for insurance against drought.

Rangeland Principle: “Take half / leave half”

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Agronomy Tech Note 76: [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/nm/technical/?cid=nrcs144p2\\_068965](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/nm/technical/?cid=nrcs144p2_068965)

Clarence Chavez: 7/2014



## Pasture Condition Indicators

- Percentage of desirable plants
- Percentage of legumes
- Live plant cover
- Plant residue and litter as soil cover
- Plant diversity and vigor
- Livestock concentration areas
- Uniformity of animal use
- Visible erosion
- Visible soil qualities (compaction, color, presence of earthworms, etc.)

## Soil Quality Indicators

- Aggregate stability
- Compaction
- Water Infiltration
- Organic matter
- Physical and biological crusts
- Soil biota
- Soil pH
- Salinization
- Water or wind erosion



### National Pasture Condition Scoring Guide and Score Sheet

An invaluable tool from the USDA NRCS that walks you through assessing a pasture in a systematic way.  
<https://bit.ly/2UiCrsh>



### Web Soil Survey

Web access to relevant soil and related information for more than 95% of the counties in the U.S. to help you make wise land use and management decisions.  
<https://bit.ly/3haqBlf>



### Assessing the Pasture Soil Resource

Methods to determine biological activity of pasture soils and tips on improving the usefulness of typical soil and plant samples.  
<https://bit.ly/3xvq3U4>



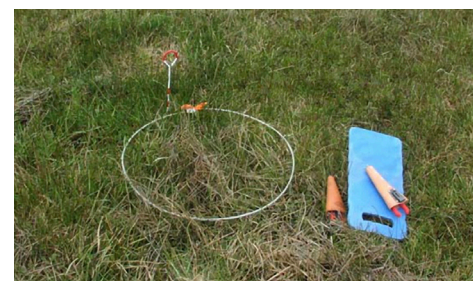
### Stand Evaluation

How to assess pasture species composition, productivity (yield and quality), and make decisions about renovation or re-seeding.  
<https://bit.ly/3wOjDQ1>



### Using a Grazing Stick for Pasture Management

How to use a grazing stick to determine forage stand yield and decide how to allocate forage.  
<https://bit.ly/3efXAuo>



### Clip and Weigh Forage Yield Calculator

This calculator will provide dry matter yield values for forage sampled in pounds per acre and pounds per acre per day.  
<https://bit.ly/3qqD2ny>

Learn More About Reading a Pasture at The Center for Regenerative Agriculture and Resilient Systems  
<https://bit.ly/3xTbMk1>