

# Grazing Management

*Conservation solutions for  
your Pennsylvania farm*

## Do you have problems with...

*Bare ground or compacted soil in your pasture?  
Slow forage growth? Low-quality pasture?  
Standing water after rain? Weeds?  
Areas that animals won't graze?*

**If so, you should reconsider your grazing management!**

## DEFINITION:

Grazing management systems aim to produce high-quality forage to feed livestock for as much of the year as possible. There are several different system options: **continuous**, **simple rotational**, and **intensive rotational**.

### Why manage?

Many pasture problems, such as slow growth, weed invasions, and bare ground, are caused by the pasture management methods being used. Good management is the key to healthy, productive pastures, and healthy, productive pastures are the key to healthy, productive animals.



*Well managed pastures = high yields and healthy animals!*



*Badly managed pasture is often overgrazed and unproductive.*

PHOTO: Cornell University

### Some Benefits:

- Improved forage quality and yield
- Decreased feeding of hay and silage
- Improved distribution of manure
- Decreased weed infestations
- Decreased soil compaction
- Decreased soil washouts and erosion
- Improved animal health and productivity
- Increased number of animals on the same acreage

**A well-managed pasture can improve the environment and your bottom line.**

## MANAGEMENT OPTIONS:

Management methods used will vary from farm to farm based on the pasture characteristics and the farmer's goals. See the comparisons below to determine which method is best for you.



*A good goal = highly productive forage and livestock!*

PHOTO: Premier1

### First Step: Set Goals.

When you are setting goals for your pasture think of yourself as a **grass farmer**, not a livestock producer. Think of your livestock as a way to harvest and sell the grass.

A good, overall goal is to produce enough high-quality forage to feed your livestock by grazing *as much of the year as possible*. Grazing is the least expensive way to harvest forage. You can lower your input costs by optimizing the use of your pasture.

Production goals should be based on the **economic return per acre**- not the production per animal. Compare the pounds produced per acre or per dollar invested instead of animal weight gain or milk production per animal. This type of comparison will show your profit more clearly.

### The Different Systems:

Once you have your goals set, consider the different methods of grazing.

#### 1. Continuous Grazing

Grazing is considered continuous when livestock are left to graze one area for a long period of time.

#### 2. Simple Rotational Grazing

A system with more than one pasture qualifies as rotational. A simple system has a few pastures that livestock are rotated through to give forage some rest between grazings.

#### 3. Intensive Rotational Grazing

Intensive grazing is when livestock graze on small areas of pasture, or paddocks, for a very short period of time, rotating frequently from one to another to maximize forage regrowth.



*Continuous grazing*



*Rotational Grazing*

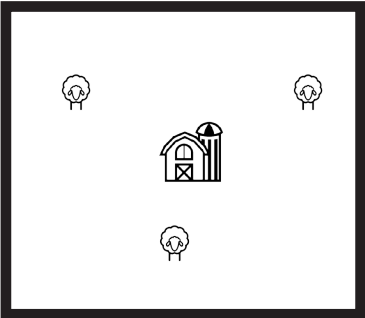
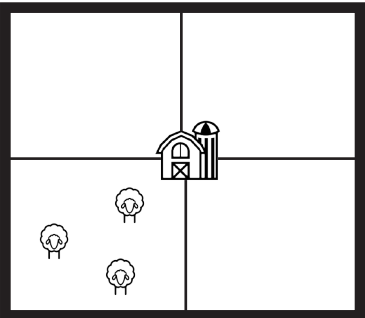
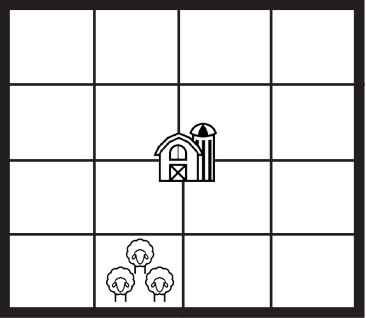
# COMPARING SYSTEMS:

Each of the systems produces different benefits and challenges, see the chart below for side-by-side comparisons.

## Overview:

Livestock systems that rely on continuous grazing are often over *and* under grazed. When livestock are allowed to graze freely they eat the most palatable forage first. If these desired plants are not allowed time to recover and regrow, they will die and over time the pasture will decline in productivity and weeds can take over. Rotational grazing systems are designed to let forages rest between grazings so that they can grow back more quickly. The more paddocks and the more frequent the rotation, the healthier the pasture.

## Comparison Chart:

	Continuous	Simple Rotational	Intensive Rotational
Advantages	<ul style="list-style-type: none"> <li>Start up costs are low</li> <li>Requires less management</li> </ul>	<ul style="list-style-type: none"> <li>Higher forage quality &amp; yields</li> <li>Gives pastures time to regrow</li> <li>Can lengthen growing season</li> <li>Better distribution of manure</li> </ul>	<ul style="list-style-type: none"> <li>Maximum forage production</li> <li>High stocking rates</li> <li>Most even distribution of manure</li> <li>Weed and brush control</li> <li>Requires little additional feed</li> <li>Soil composition and water quality increase over time</li> </ul>
Disadvantages	<ul style="list-style-type: none"> <li>Lower forage quality &amp; yields</li> <li>Supports less animals/year</li> <li>Uneven pasture use</li> <li>Resulting areas of bare soil</li> <li>Uneven manure distribution</li> <li>Weed problems</li> <li>Requires alternative feed</li> <li>Long term costs are higher</li> <li>Soil composition and water quality decline over time</li> </ul>	<ul style="list-style-type: none"> <li>Forage production is not as high as in intensive system</li> <li>May require alternative feed</li> <li>Higher costs for fence and water</li> <li>Soil composition and water quality decline over time, though not as quickly as in a continuous system</li> </ul>	<ul style="list-style-type: none"> <li>Requires careful monitoring of forage supply</li> <li>Initial costs (fencing, water) are higher</li> <li>Requires more intensive management</li> </ul>
Visual			

# CHOOSING AND DESIGNING A SYSTEM

Now that you've learned a bit more about your options, you need to decide which system to use and how to design it. Consider the following, and don't hesitate to contact your local NRCS office for any assistance!

## Questions to Consider:

### 1. What are your production goals?

Establish well thought out goals for your farm. Examples of good goals include: increase livestock number, increase forage, reduce feed costs, reduce erosion, improve animal performance, etc. This will give you a better idea of how to answer the following.

### 2. How much land is available to you?

Map and measure the land that is available to you- how much forage can you feasibly produce?

**One acre?** Your land will likely be best used as an exercise lot, as you won't be able to create sufficient forage and will need to supplement with feed.

**1-5 acres?** You should divide the pasture and implement a simple rotational grazing system, moving your animals when grass height reaches 3-4 inches. Use a sacrifice area during low growth and winter periods.

**More than five acres?** With this amount of land you can implement intensive rotational grazing. Move your animals frequently to maximize forage production and economic returns.

### 3. How productive is your pasture?

**Soil** - Before planning a grazing system you must figure out how healthy and productive your pasture is. A County Soil Survey, or a cheap soil kit, can help you determine the types of soils in your pasture. With that information you can calculate your estimated forage yields.

**Vegetation** - Pasture walks and assessments can calculate the health of your pastures. If the initial forage species do not align with your goals than you should make modifications to the system to obtain the forages you desire. Contact your local USDA NRCS or extension office for assistance.

### 4. How many animals can the pasture support?

Once you've calculated how much forage your land can produce you will need to calculate the number of animals the land can support. If you plan to graze more than the land can support you should further calculate how much additional feed you will need to provide. Contact your local USDA NRCS or extension office for assistance.

### 5. What are the existing water and fencing structures?

What will the cost be to design a new system? Will existing structures need repair? For more information about fencing and watering options see our Fencing and Watering Facility fact sheets.

# ROTATIONAL GRAZING:

Switching to a rotational system from continuous grazing? Learn more about the practice to get you started!

## OVERVIEW:

Rotational grazing works best when the number of livestock equals what the pasture can support. If livestock are overstocked additional hay will be needed. A good, overall rule is to remove your animals from a pasture to a new paddock or a barn before the forage gets below 3 inches tall. Grazing past this point is detrimental to the pasture's health. Generally, pastures need 20-30 days of rest during rapid growth periods, and 40 or more during slow-growth periods.

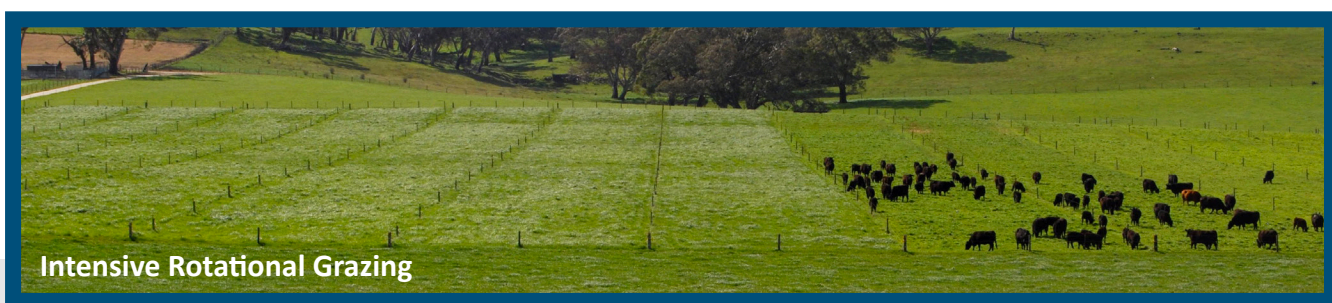


PHOTO: Transterraform.com

## MATERIALS:

**Fencing:** Rotational grazing requires a permanent external fence as well as internal fencing. Internal fencing can be permanent or temporary based on your goals (See *Fence Fact Sheet*).

**Watering Facility:** Livestock need ready access to clean water. For a rotational grazing system this may involve installing a mobile, or temporary, watering system (See *Watering Facility Fact Sheet*).

**Handling Area:** If your farm does not already have a handling area used to load and unload animals or work on them than you will need to invest in one.

## ADVICE TO CONSIDER:

**Gather Information:** Before you design your rotational grazing system, do your homework. Read. Talk to graziers who are already doing it. Contact your NRCS office-- let them help you develop a grazing plan, estimate pasture sizes, acreage, material estimates, etc.

**Take Notes:** Once you've started grazing animals in your new system, take good notes about what happens-- the good and the bad. After a couple years, revisit your notes, evaluate your success, and modify your system as necessary. Continue to educate yourself and seek information from other graziers, conferences, and workshops to improve your system.

**Pay Attention:** Unusual weather and other variables that affect pasture production will require adjusting paddock size and grazing periods. Pay attention to what is happening in your fields. If too much grass is left behind, decrease paddock size. If grass is grazed too low, decrease time in the paddock, increase paddock size, or feed hay. Recognize when supplemental hay may be needed.

**Controlling Weeds:** If grazing is uneven or weeds are left behind, use a mower to mow pastures down to a uniform height before any weed seeds appear. Be careful not to mow too low.

# Conservation Solutions for your Pennsylvania Farm

## Technical Help Is Available

Your local Natural Resources Conservation Service (NRCS) office has experienced conservationists that can assist you in planning and implementing new grazing management on your farm. Detailed plans and instructions are available. They can also help you develop a Conservation Plan to solve other problems you have identified on your farm.

There is no charge for our assistance. Simply call your local office at the number listed below to set up an appointment for someone to come to your farm.

You may also be eligible to receive financial assistance through state or federal programs. Your NRCS office will explain various programs that are available so you can make the best decision for your operation. All NRCS programs and services are voluntary.



### NRCS FIELD OFFICES:

Adams: 717-334-4216 ext 3  
Allegheny: 724-482-4800 ext 3  
Armstrong: 724-545-1022 ext 3  
Beaver: 724-482-4800 ext 3  
Bedford: 814-623-7900 ext 3  
Berks: 610-372-4655 ext 3  
Blair: 814-695-6291 ext 3  
Bradford: 570-265-6969 ext 3  
Bucks: 215-453-9527 ext 3  
Butler: 724-482-4800 ext 3  
Cambria: 814-472-5502 ext 3  
Cameron: 814-375-2125 ext 3  
Carbon: 570-779-0645 ext 3  
Centre: 570-726-3196 ext 3  
Chester: 610-696-0398 ext 3  
Clarion: 814-226-8160 ext 3  
Clearfield: 814-375-2125 ext 3  
Clinton: 570-726-3196 ext 3  
Columbia: 570-784-1062 ext 3  
Crawford: 814-724-1852 ext 3  
Cumberland: 717-249-1037 ext 3

Dauphin: 717-921-2380 ext 3  
Delaware: 610-696-0398 ext 3  
Elk: 814-375-2125 ext 3  
Erie: 814-796-6760 ext 3  
Fayette: 724-437-7971 ext 3  
Forest: 814-226-8160 ext 3  
Franklin: 717-264-8074 ext 3  
Fulton: 717-485-3812 ext 3  
Greene: 724-627-5821  
Huntingdon: 814-627-1626 ext 3  
Indiana: 724-463-8547 ext 3  
Jefferson: 814-375-2125 ext 3  
Juniata: 717-436-8953 ext 3  
Lackawanna: 570-282-8732 ext 3  
Lancaster: 717-299-5361 ext 3  
Lawrence: 717-662-3740 ext 3  
Lebanon: 717-272-3908 ext 3  
Lehigh: 610-625-8392 ext 3  
Luzerne: 570-779-0645 ext 3  
Lycoming: 570-433-3902 ext 3  
McKean: 814-274-8166 ext 3  
Mercer: 717-662-3740 ext 3  
Mifflin: 717-248-9541 ext 3

Monroe: 570-282-8732 ext 3  
Montgomery: 215-453-9527 ext 3  
Northampton: 610-625-8392 ext 3  
Northumberland: 570-286-7114 ext 3  
Perry: 717-582-4144 ext 3  
Pike: 570-282-8732 ext 3  
Potter: 814-274-8166 ext 3  
Schuylkill: 570-622-1312 ext 3  
Snyder: 570-837-0007 ext 3  
Somerset: 814-445-6876 ext 3  
Sullivan: 570-265-6969 ext 3  
Susquehanna: 570-278-1011 ext 3  
Tioga: 570-724-1726 ext 3  
Union: 570-524-2549  
Warren: 814-723-1217  
Washington: 724-222-3060 ext 3  
Wayne: 570-282-8732 ext 3  
Westmoreland: 724-834-3970 ext 3  
Wyoming: 570-836-2490 ext 3  
Venango: 814-226-8160 ext 3  
York: 717-755-2966 ext 3