

A photograph of two brown horses in a grassy field. One horse is in the foreground, grazing, and the other is in the background. The sky is overcast with dark clouds.

Equine Facilities and Pasture Considerations

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UNIVERSITY OF
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EXTENSION

Solutions in your community

Objectives

- Considerations
 - Resources
 - Needs vs Wants
- Farm Layout
 - Facilities
 - Pasture Systems
- Examples



What Resources are Available?

- Existing Farm
 - Buildings/Facilities
 - Land
- Equipment
- Labor and Time
- Water Sources
- New Farm
 - Land and layout

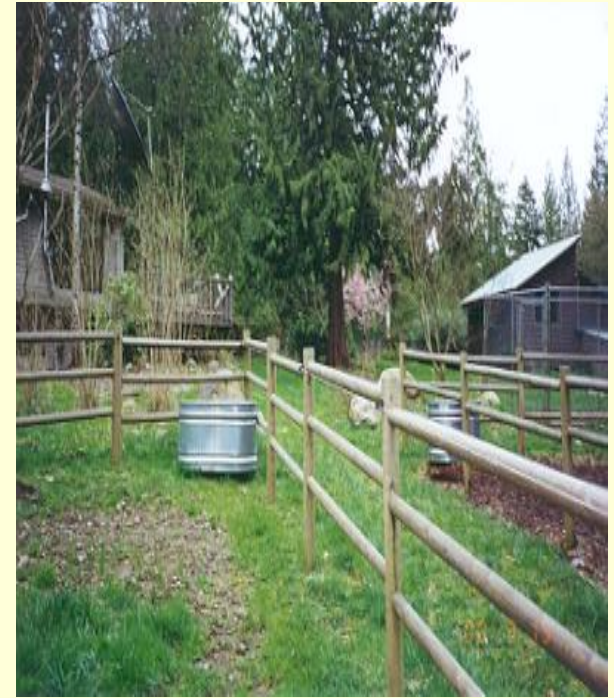


MScIpart

Considerations

NEEDS

- Sacrifice area
- Permanent fencing
 - (at least 1 area)
 - Perimeter
- Shelter/shade
- Clean accessible water source
- Quality forage
- Hay storage (100 – 150 bales)
- Mower/drag
- Manure storage area



Considerations

WANTS/AMENITIES

- Sand arena
- White fencing
 - Run-ins
- Heated/lighted barn
- Tractor/sprayer
- Tack room
- Wash rack



Consideration

- Discipline/Purpose
 - Training
 - Boarding
 - Breeding
 - Lessons
 - Lay-ups





NEEDS

Fencing

- Purpose
 - Management/movement
 - Safety of the horse
 - Protect others
 - Aesthetic properties/boarders
 - Considerations for type of fence to be used
 - Cost
 - Type of horse that will be using pasture/paddock older horses - may not require as strong of fence 2. foals/yearlings/stallions = more solid fencing
 - Durability/life expectancy = maintenance
 - Location and neighbors
 - Animal use (time in pasture and number of horses)
 - Safety
- “Good fences make good neighbors” – Robert Frost*

Fencing Materials

- Wood Fencing
 - Different types (3 rail, spilt rail)
 - Low Maintenance
 - Expensive (@ \$5 per linear ft)
 - 20-25 years life expectancy



Fencing Materials

- Wire Fencing
 - Different Types (board and wire, high tensile, electric, V-mesh)
 - Less expensive
 - Maintenance is low to medium
 - Extended life expectancy



Fencing Materials

- Other
 - PVC
 - Plastic grid/mesh
 - Poly rope/tape
 - Electric Tape
- Temporary fencing works well to divide lots



Fence Costs and Longevity			
Type of Fence	Initial Cost \$/Linear FT	Annual Maintenance Cost, \$/FT	Expected Life Years
Wood Post & Board	High	High	15-20
Wood Post & Rail	High	High	10-15
Polymer Post & Rail	High	Low	20-30
Steel Pipe	High	Low	15-20
Polymer Coated Wood	High	Low	20-25
High Tension Wire	Low	Moderate	20
Polymer Coated Wire Rail	Moderate	Moderate	20-25
Woven Wire	Moderate	Low	20-25
Electric Wire	Low	Moderate	20
Electric Tape	Low	Moderate	10

Cost based on 2000 retail prices. Cost estimates do not include installation. Annual maintenance costs and expected life years based on proper installation and maintenance in accordance with manufacturer's recommendations. eXtension

Shelter/Barn

- Things to think about
 - Water
 - Air/Ventilation
 - Space Requirements
 - Storage
 - Shelter

- Water
 - Horses should have access to water at ALL times
 - Water should be clean
- Air/Ventilation
 - Must have a free flow of air for
 - Control temperature
 - Humidity
 - Stagnation
 - Horse urine has a high amount of ammonium

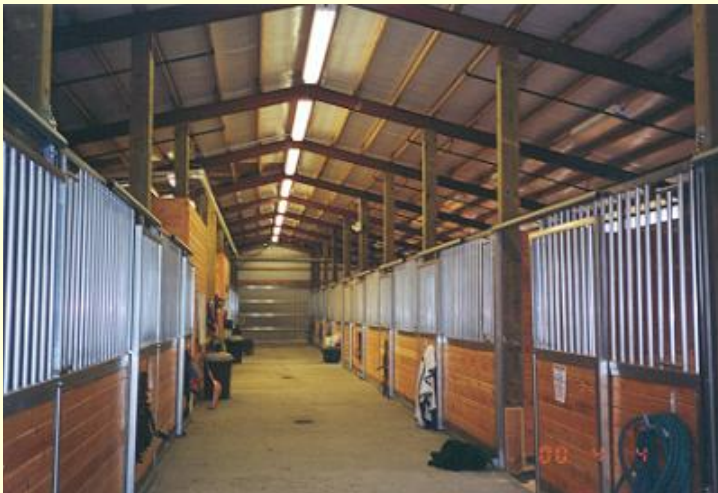
- Space
 - Horses should be able to move comfortably and lay down
 - Area should be free from sharp objects and waste
- Shelter
 - Should have roof and 3 sides
 - Protection from weather

Maryland Law

- Article 27, Section 59 requires that any person having the charge or custody of an animal must provide “nutritious food in sufficient quantity;” “necessary veterinary care;” “proper drink;” “air;” “shelter;” or “protection from the weather.”

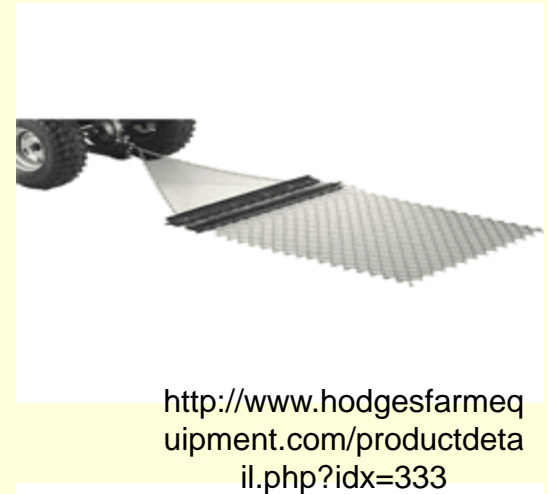
Space Requirements

- Stall for a 1,000 lb horse
 - 12 x 12 ft stall
 - Walls 7-8 ft tall
 - Ceiling 8-12ft
 - Aisle ways 10-15ft



Equipment

- Mower/Tractor
 - Watch the size
- Drag
 - Chain link fence
- Sprayer, broadcaster, drill
 - Many can be hired or rented.



Equipment for Everything



<http://www.pasturevacuums.com>

Manure Storage

An average 1,000-pound horse produces 9 tons of manure a year containing valuable fertilizer elements.

Removal and storage of manure from pasture and stalls

Designated area



Nutrient Management

- Nutrient Management incorporates
 - Soil Tests
 - Crops and Crop Nutrient Needs
 - Manure Usage
- A law in Maryland if you have over 8,000 pounds of animals (8 full size horses)
- A good farm management and environmental practice

Benefits of Nutrient Management

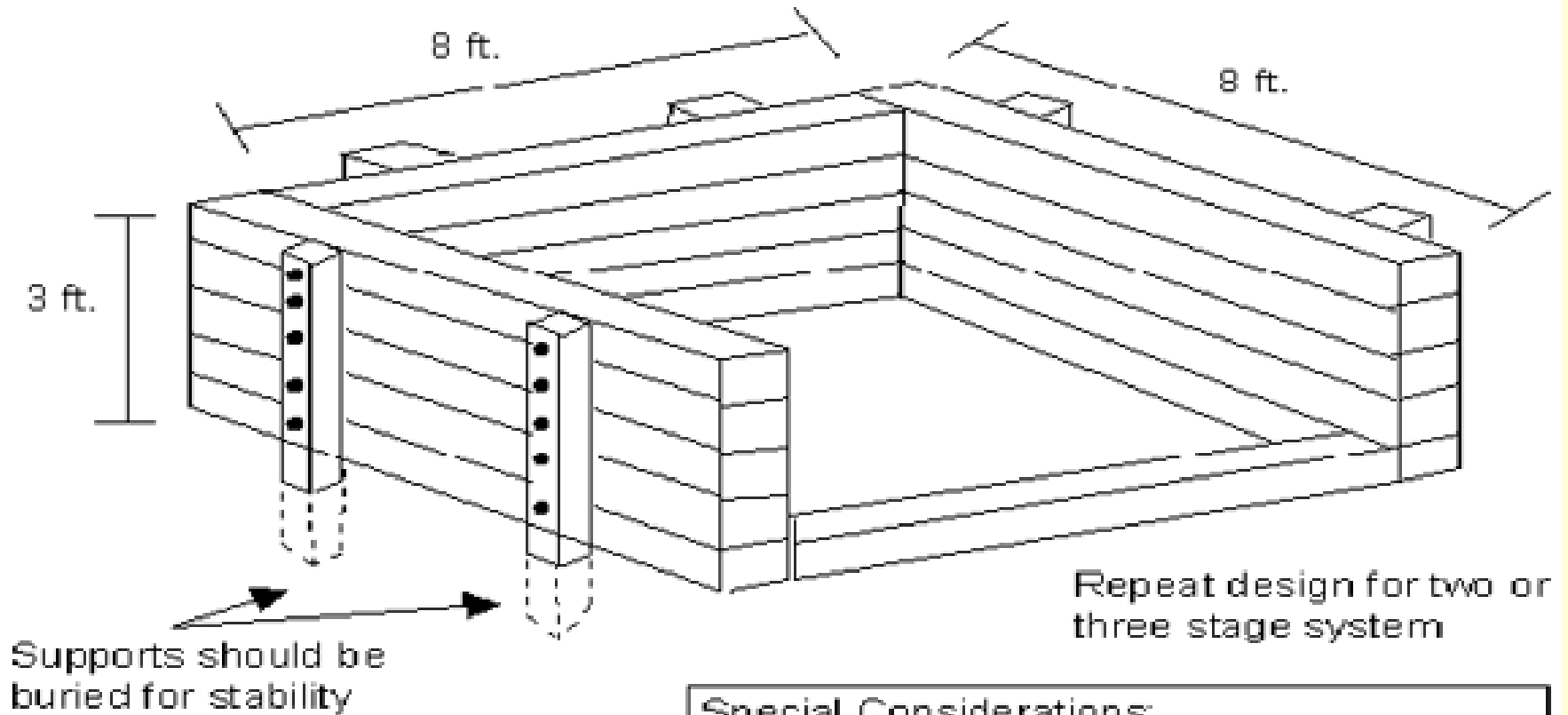
- Reduces fertilizer costs
- Gives pH values – pH helps plants use nutrients
- Better management and usage of forage and pastures
- Better manure handling and management



Horse Manure Compost

- Produces a relatively dry end-product that is easily handled.
- Reduces the volume of the manure (40 percent to 65 percent less volume and weight than the raw manure).
- At proper temperature, kills fly eggs and larvae, pathogens and weed seeds.
- Has less of an odor compared to raw manure and is more easily marketed.
- Produces manure that acts as a slow release fertilizer and an excellent soil conditioner.
- To be done right, composting requires an investment of time and money. Machinery required includes a tractor, a manure spreader and a front-end loader. Some ammonia-nitrogen is lost during the composting process, and an ammonia odor may result for a short period. When composting is done on a large scale, additional land and machinery requirements exist.

Bin Sample



Special Considerations:

- * locate for chore efficiency
- * insert PVC pipes for aeration
- * cover with a tarp
- * do not allow contents to get too wet or dry

Sacrifice Area

- Pound/Paddock/Run/Dry lot
- It is permitted (sacrificed) to become trashed.
 - the trashing is confined to one small area that can be controlled
- Animals are kept in here during periods (i.e. wet, winter) when it is not fit to put animals in the pasture.
- Size varies at least 350 - 400 sq feet per horse
- The area should include water, shelter and feed/hay



<http://www.fairfaxcounty.gov/nvswcd/newsletter/sacrificearea.htm>

Pasture Systems

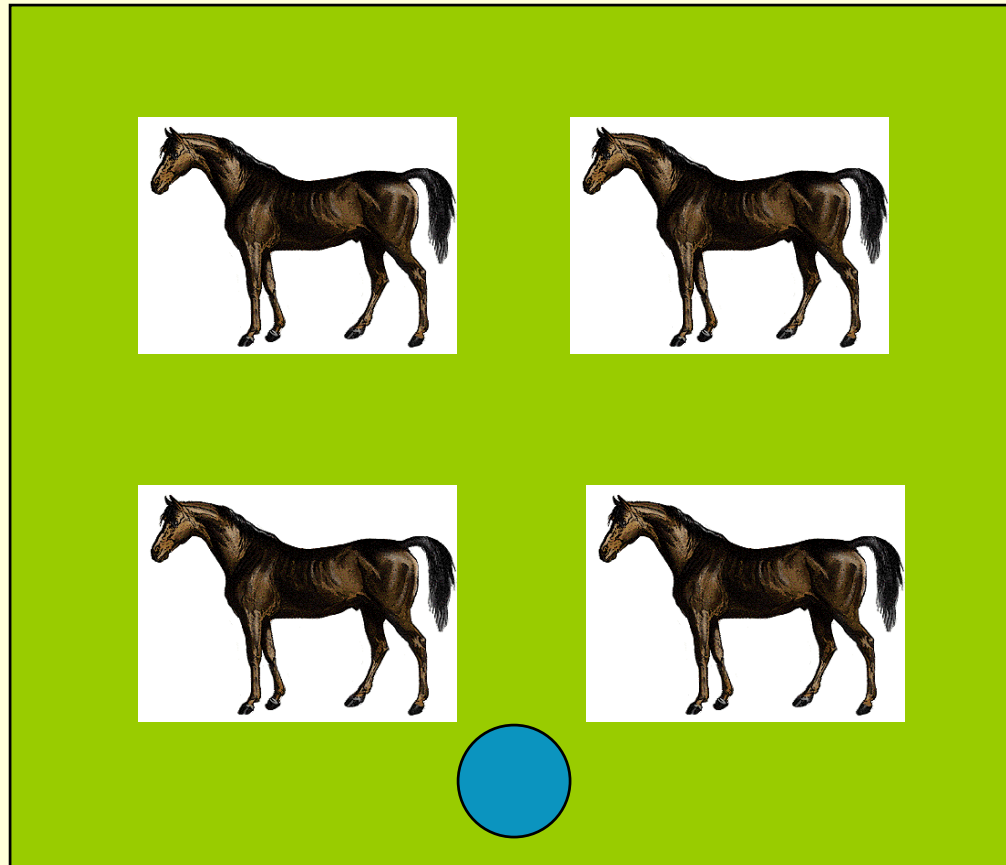
- Continuous
- Rotational
- Managed
- Unmanaged



Basic Types of Pastures

- Continuous
 - animals are allowed to graze in the pasture for extended periods of time
 - animals often do well in this system since they are allowed to choose the plants they eat
 - plants are often overgrazed and undergrazed in this system

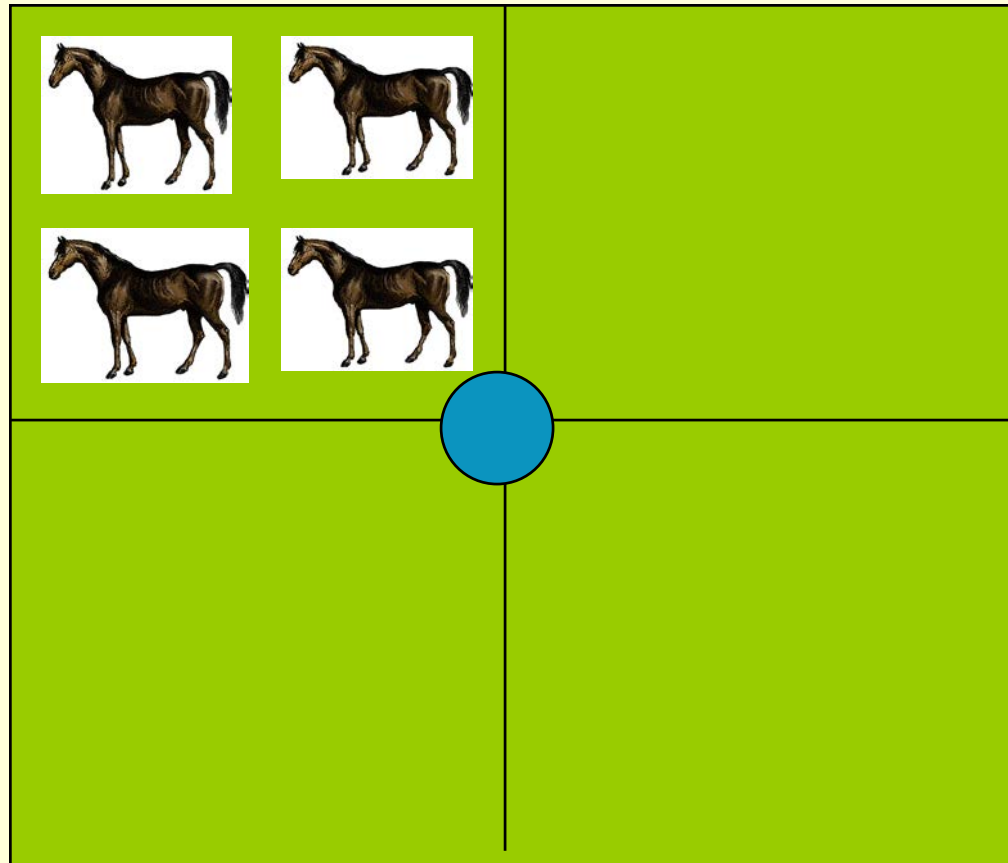
Continuous Grazing



Basic Types of Pastures

- Rotational
 - animals are allowed to graze for only a limited period of time and animals are moved when existing forage has been removed
 - intensive rotational grazing systems subdivide pastures into paddocks and use high stocking rates where animals are forced to eat all forages
 - this system is most efficient

Rotational Grazing



So you want to rotate?

- How many pastures do I need?
 - No formula, 1 horse = 1 acre etc
 - Depends on weather, forage, time spent grazing
- When do I rotate?
 - Must watch your pastures
 - Should allow horses to remove more than 50% of the forage
 - Ideally graze when grass is >4 inches

Rotating Pastures

- Benefits
 - Feeding less grain and hay
 - Reduce pest populations (manure and weeds)
 - Slow soil erosion
 - Allow daily exercise for horses

BE OBSERVANT and watch your pastures



Maintaining Pastures

- Rotate
 - Clip
 - Drag Manure
 - Irrigate/Sprinkler if possible
- Through the grazing season

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- Soil Test (3 yrs)
 - Fertilize/Lime
 - Spray/Herbicide
 - Overseed
- Done Yearly











Setting Up A Pasture System

Recommendations

- Develop a 5 year farm/business plan
- You need to plan ahead
 - plan for when fields need to be renovated
- Use existing resources whenever possible (fences, water, forage crops)
- Establish crops according to your plan
- Existing pastures can be renovated later if needed now for grazing

Setting Up A Pasture System

Recommendations

- Put your money into good perimeter fence.
 - this will help to keep predators out and your animals in.
- Map out farm, give each field own identity
- Soil test fields
 - each has its own personality, so treat it accordingly
- Develop a practical watering system
 - common problem for many
 - there are many factors to consider (costs, environmental, system)

Setting Up A Pasture System

Recommendations

- Create a sacrifice area
 - this will protect your pastures
- Estimate the carrying capacity of your pastures
 - impacts on the number of animals and paddocks (rotational)
- Calculate number of paddocks needed and days/paddock (rotational)
- Temporary fence works well to form paddocks

Pasture Suggestions

- Map it and sketch it
 - Layout and rotations
- Purpose of the operation
 - Doing lessons, training etc
- Think about all scenarios
 - New horse, sick horse, weather, vacation



<http://www.dadscats.com/breyer.html>

Thank You

Any Questions?



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