

UNDERSTANDING THE HORSE INDUSTRY..... ODOR BMPS THAT WORK BY ANN SWINKER PSU



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Horses 101: Understanding Horses, Owners, and the Industry

- The Equine Industry
- The Horse Owner
- PA Odor Regulations and Equine Facilities
- Survey of Adopted Best Management Practices
- The Horse - Behavior and Health Considerations
- Utilizing ACAs
- Manure Management
- Succeeding with Horse Owners

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The Horse Industry in Pennsylvania



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Economic Impact of PA Equine Industry

- Number of Horses: 215,693
- Annual Sale of Horses & Related Activities: \$435 million
- Related Assets/Investments: \$8.27 billion
- Total taxes: \$53.2 million
- Employment Compensation: \$412.3 million
- Economic Impact of Industry: \$615.1 million

** Based on 2003 Economic Impact Study*

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Horse Population - Breed Numbers

Light Horse Breeds

Quarter Horses – 40,110
 Standardbreds – 21,132
 Thoroughbreds – 21,117
 Arabians & Half Arabians – 11,154
 Morgans – 10,136
 Appaloosas – 7,985
 Other light horse breeds– 7,248



Draft Breeds

Belgians – 6,202
 Percherons – 3,000
 Other draft horse breeds – 1,831

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Horse Population -Racehorse Breeds



Racing Industry

Standardbreds -14,815
 Thoroughbreds - 11,550

Non Racing

Standardbreds -6,317
 Thoroughbreds - 9,567

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Use of Horses in Pennsylvania

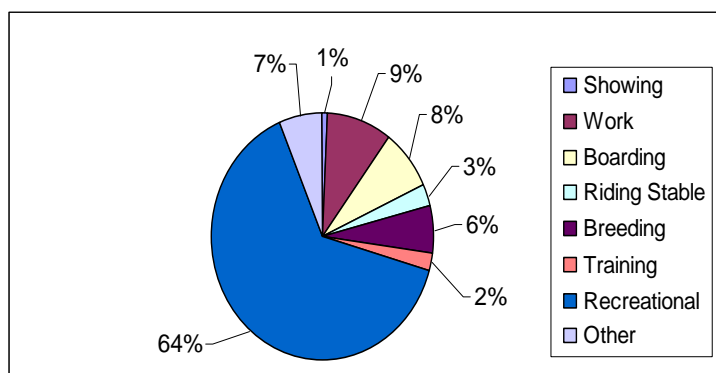
- ✓ **38,000 households own horses**
- ✓ **7,800 participate in activities without owning horses**
- ✓ **60.0 %- Trail Riding/Recreation**
- ✓ **22.0 %- Breeding**
- ✓ **20.0 %- Shows, Events, Clinics**



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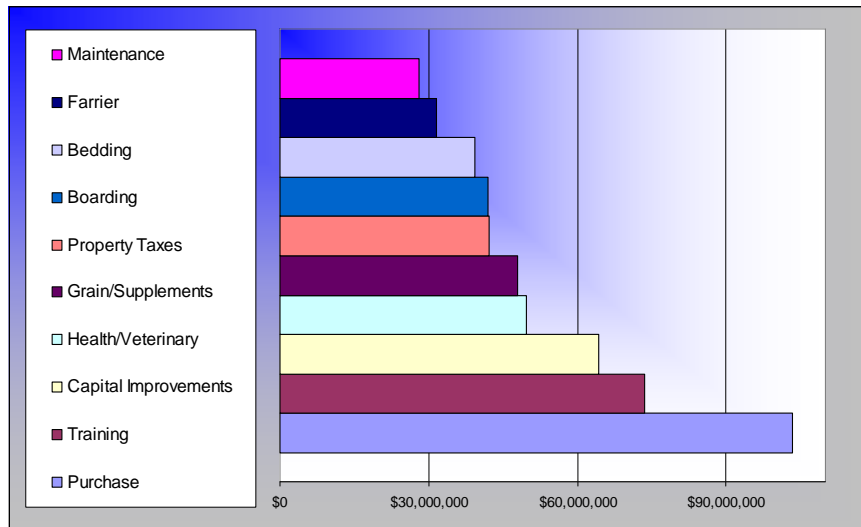
Types of Equine Operations

64% of horse farms are operated for recreational use.



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Equine Related Expenses



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Horse Owners



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- ✓ Average age – 41 (getting older)
- ✓ 59% female, professional
- ✓ Average income – \$47,600
 - 34% less than \$50,000
 - 28% over \$100,000
- ✓ 97% ride for pleasure, 6% for competition
- ✓ Ride infrequently unless involved in competition
- ✓ No agricultural background

Penn State Extension***PA Act 38 Odor Management Plan –
Odor Site Index***

Act 38 Odor Management Plan - Odor Site Index

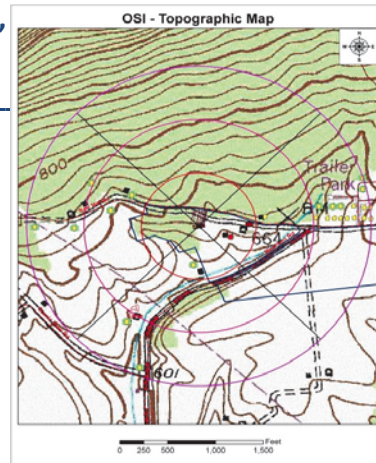
- Other Livestock >8 AEU in evaluation distance
- Distance to Nearest Property Line If nearest property is <300', is it preserved farmland,
- Neighboring Homes
- Public Use Facilities

Final OSI Score "high"

(score 100 or greater)

Species Adjustment Factor

Act 38, and the odor-management regulations promulgated under the Act (25 Pa. Code § 83.701 et seq.)



Act 38 Odor Management Plan – New construction on CAFO, CAO



*Southwestern PA Horse Racetrack
Odor Site Index was well over 600*



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Surveys of Adopted Best Management Practices



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Manure Management

- 44% had manure/bedding hauled off farm, 34% composted and used the manure; 8% disposed of compost off site
- ✓ 11% used fresh; 11% hauled fresh off site
- ✓ 2% used commercial contractors remove manure
- ✓ 52% stored manure on an unprepared site; 36% had a hard pack surface, 4% had a covered improved structure



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Conservation Planning

- ✓ 51% did not have surface water on the farm
- ✓ 13% had an E & S or Conservation Plan
- ✓ 22% had a nutrient management plan
- ✓ 3% reported obvious soil erosion
- ✓ 25% indicated some erosion
- ✓ 76% had a water run-off system for buildings



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Sacrifice Lots (ACAs)

- ✓ 54% did not use sacrifice lots
-Of those that used sacrifice lots
- ✓ 68% used them to protect pastures during inclement weather
- ✓ 61% used them to prevent over eating
- ✓ 31% used them to restrict exercise



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Choosing BMPs for Equine Operations

Consider.....

- * Equine grazing behavior
- * Equine health
- * Equine “social” behavior
- * Farm manager and “customer” opinions and goals
- * Economics



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Horse Health Considerations When Selecting BMPs



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FIBER IS IMPORTANT!!!



Horses should consume 1.5 to 3% of their body weight in feed each day. At least 70% should be forage!

Pasture-related Health Issues:

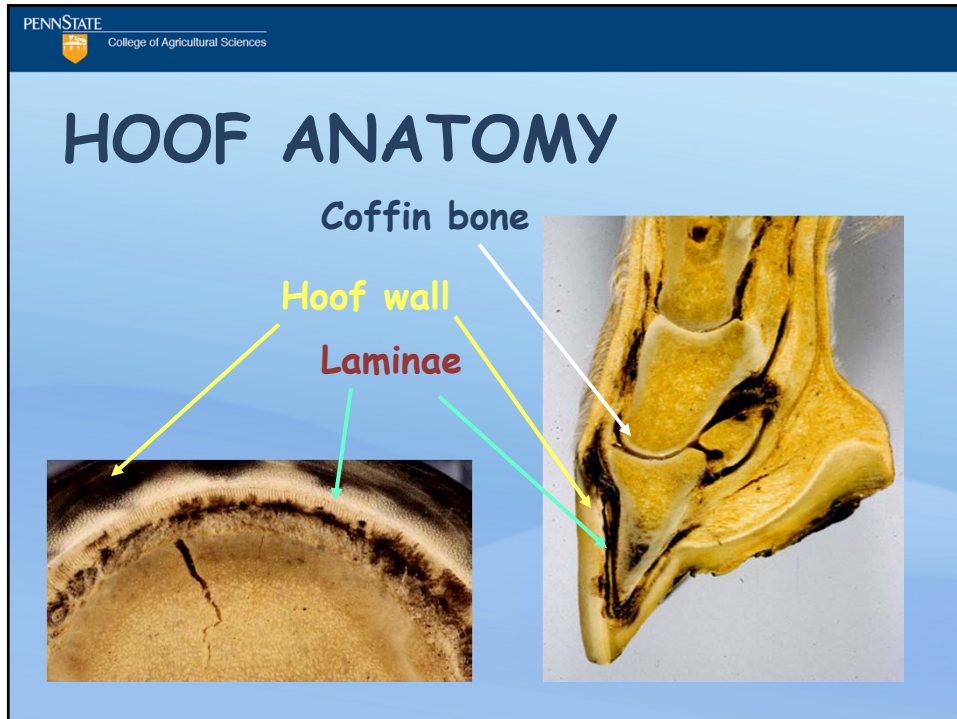
- Excessive weight gain
- Colic
- Laminitis
- Insulin resistance
- Spread of gastrointestinal parasites
- Toxic plants



“EASY KEEPERS”

- ✓ Get fat on hay or pasture alone
- ✓ Most (but not all!) more prone to laminitis and colic
- ✓ Most are insulin resistant (high insulin response to increases in blood glucose) that is often associated with obesity





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Laminitis

- A very real concern
- Subtle, easy to miss onset
- Excruciating pain
- Potential for laminar failure and hoof deformity
- Can result in permanent lameness



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Under “normal conditions” one horse can be maintained on:

- ½ acre of pasture, if turnout time = < than 3 hr/d
- 1 acre of pasture, if turnout time = 3 to 8 hr/d
- 1 ½ acre of pasture, if turnout time = 8 to 12 hr/d
- > 2 acres = unlimited turnout time

Mowing, irrigating, fertilizing, over-seeding, and rotating pastures can allow higher animal densities while still maintaining proper vegetative cover. Adverse environmental conditions, poor soil health, and lack of management will reduce recommended grazing time.

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- * Select forages that are appropriate for horses and that can better handle grazing pressure
- * Utilize rotational grazing
- * Manage turnout time using sacrifice areas



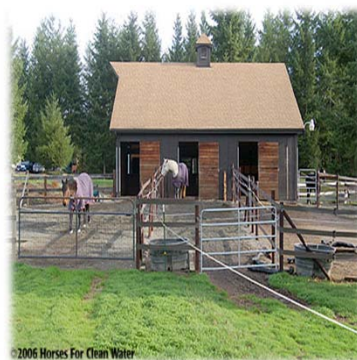
Animal Concentration Areas (ACAs)



Sacrifice Area (ACA, Stress Lot)

- * Small enclosure - paddock or corral
- * Generally has no vegetation
- * Small area is sacrificed to benefit the rest of the pastures

When should horses be confined to a sacrifice area?



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Manure on Equine Operations



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Manure Storage BMPs

- *Very important for the industry
- *Survey of 65 PA equine farms - 53% of the farms hauled manure (stockpiled and fresh) off-farm, 27% spread fresh manure and only 7% composted manure



Benefits of Composting Manure

- Reduces fly population
- Kills parasites, pathogens, and weed seeds
- Reduces odors
- Improves marketability
- Nutrients in a more stable form
 - Slower release
 - Less of a pollution threat
- Reduces volume 25% - 50%

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Summary

When dealing with horse owners.....

- ✓ Remember they care deeply about their horses and that they are passionate, opinionated, fearful, challenging, and enthusiastic
- ✓ Listen to their concerns and goals
- ✓ Understand that they may not have an agricultural background
- ✓ Take time to understand owners (and their horses) – building trust is important
- ✓ Be positive - they may not be as bad as you think



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Conclusion

- ✓ Most horse owners deeply care about the the well-being of their horses and want to protect the environment.
- ✓ Many are looking to us for assistance.
- ✓ Care of the horse and the environment can go hand and hand.



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