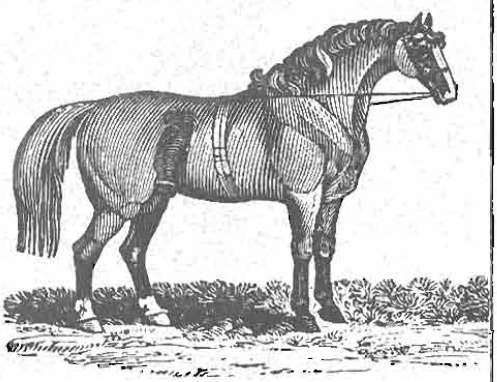
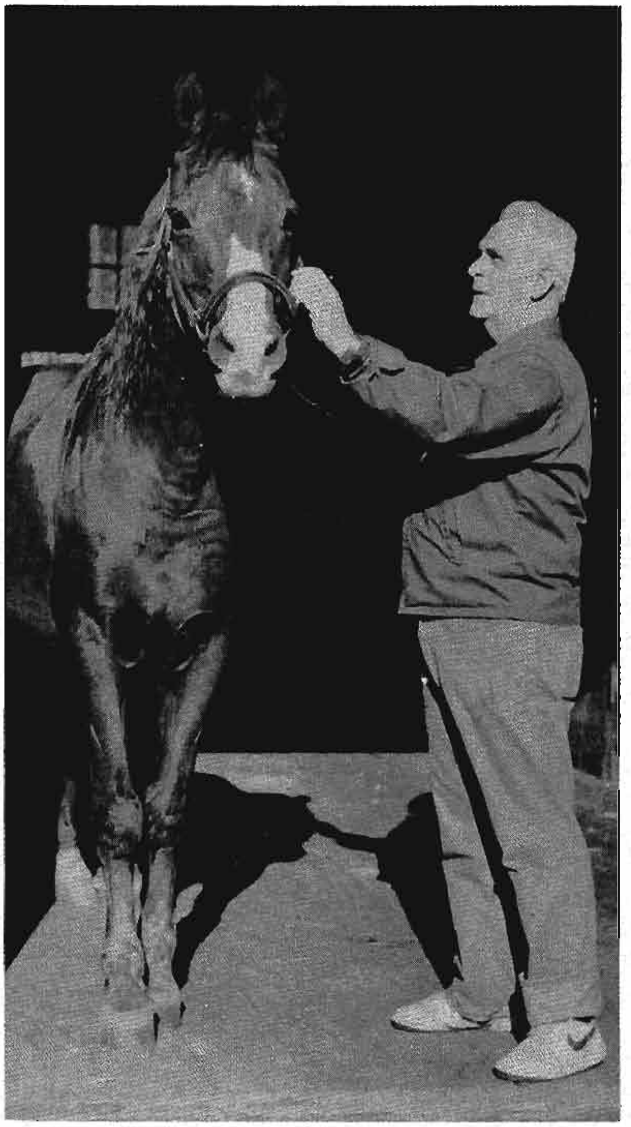
Keeping Horses in Residential Areas

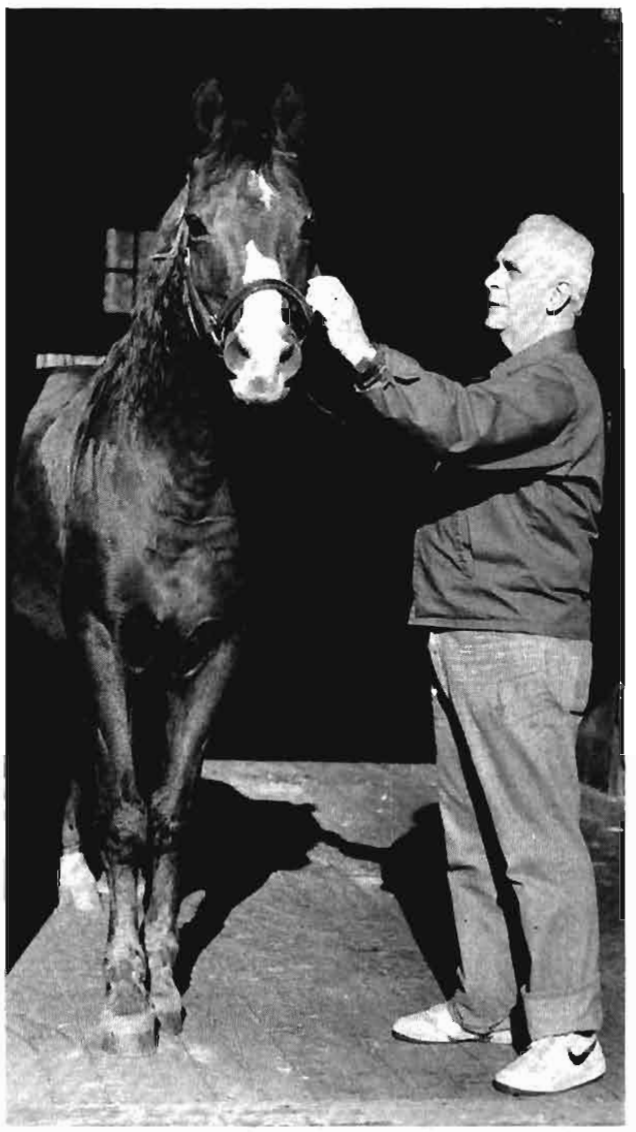




CONNECTICUT COOPERATIVE EXTENSION SERVICE
COLLEGE OF AGRICULTURE AND NATURAL RESOURCES
THE UNIVERSITY OF CONNECTICUT, STORRS

KEEPING HORSES IN RESIDENTIAL AREAS

By Jim Gibbons
Cooperative Extension
Community Resource
Development Agent



Introduction

According to the American Horse Council and the Animal Science Department of the College of Agriculture at The University of Connecticut there were approximately 46,000 horses in Connecticut in 1985. Connecticut had the largest horse population of any New England state and had more horses per square mile (11) than any other state.

Horses provide economic benefits to the state. The annual contribution to the state's economy by horse owners is approximately $56 million. Trailer registrations alone contribute $20,000. Several industrial plants in the state are involved in the manufacture of horse products including: Smith Worthington in Hartford, the oldest continuous saddle maker in the United States; North and Judd in New Britain, the nation's leading manufacturer of saddle and harness hardware and second in the nation in manufacturing bits, stirrups and spurs; and Capewell Manufacturing in Hartford, the world's largest manufacturer of horseshoe nails.

At the turn of the century there were 17 million horses in the U.S. By 1915 that figure peaked at 21 million: most of the horses were on farms and ranches and were used for work. By 1957 horse numbers had drastically declined to 3 million.

Since then there has been a smashing comeback. This comeback has occurred not on the farm, but in suburbia where horses are kept for pleasure instead of work. In the U.S. 80% of the horses are kept for recreation; 20% for breeding, racing, and for working.

In addition to their economic and recreational value, horses also serve educational and therapeutical functions. More than 1,300 Connecticut youngsters are involved in 4-H horse projects under the guidance of 100 adult leaders. Horseback riding is being increasingly used as a form of therapy for handicapped individuals.

As the horse has moved from the farm to built-up areas it has encountered a few people who are not happy to have it as a neighbor. In some instances conflicts have developed when neighbors claim a horse is not cared for properly or is creating a neighborhood nuisance. Poor manage-

ment may cause state and local agencies to establish restrictive regulations that might affect all horse owners. These conflicts can be reduced if a few basic management practices are followed. Good management can protect the horse owner from legal sanctions and will prevent soil erosion and water pollution. Finally, good management is the key to having a healthy horse.

Horse Wastes

A horse drinks 8 to 12 gallons of water a day and sometimes more during warm weather. A 1,000 lb. horse ridden 1 to 3 hours daily will eat 10 to 15 lbs. of hay and 4 to 10 lbs. of grain. Each horse will generate 9 to 10 tons of manure per year. In addition to manure, urine and used bedding should also be considered horse generated wastes. The most common stall bedding is a 6'' layer of wood chips, which are replaced daily in a well managed stable. These wastes, if improperly managed, may attract flies or rodents and may generate odors. However, the major concern about horse wastes is as a water contaminant, because of nutrient or coliform bacteria generation. Unmanaged horse wastes can become a part of the ground surface runoff. Nutrient elements or coliform bacteria present in horse wastes may enter wetlands or watercourses and pollute ponds, lakes or reservoirs or percolate into the groundwater. Nutrients produce plants and algae and damage the water by overfertilization. One pollutant is the nitrate form of nitrogen in horse urine. Excessive nitrate levels in drinking water can be a health problem, especially to infants (Blue Baby Syndrome). Coliform organisms are always present in human and animal waste and indicate that more serious disease-causing bacteria may be present. Bacterial pollutant sources should be kept out of drinking water supplies and water used for recreation.

Existing Regulations Pertaining to Animal Wastes

The Connecticut Public Health Code, enforced by the local health officer, can require that manure be kept covered, stored in watertight pits or chambers and be removed at least once a week during the period from May 1st to October 1st. Also a 100' setback of manure piles from reservoirs and a 50' setback from a tributary to public water supply is mandated by the code.

The health code also states that barns, stables and manure piles which are a breeding place for flies may be declared a public nuisance and can be shut down by the health director.

The Department of Environmental Protection has the authority to regulate any activity where animals are kept in such a manner as to pollute the waters of the state. Serious horse-related pollution problems have resulted in the issuance of formal abatement orders to both horse and property owners. Section 22-279 of the General Statutes states that the Commissioner of Agriculture may quarantine all animals that are kept in unsanitary conditions which endanger the public health or health of the animal.

Connecticut's Inland-Wetlands Act generally excludes agriculture from regulation but one cannot engage in a farming activity that blatantly destroys a wetland or pollutes the waters of the state.

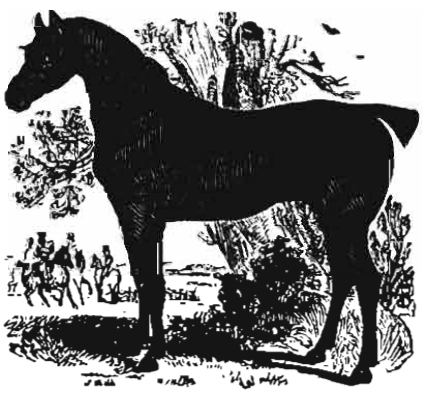
Some local zoning regulations limit the number and types of animals one can keep, limit animals to certain areas, or require minimum lot sizes before animals are allowed. Some municipalities also have ordinances that control the keeping of animals.

Site Planning and Waste Management

Before purchasing a horse, the land where the horse will be kept should be examined. Areas that are poorly drained, contain steep slopes or are excessively rocky should be avoided as they present conditions that could adversely affect the horse. Ideal sites are level and well drained, requiring little or no landscaping for fence and barn construction. However, even the best land and facilities can be ruined by poor management, particularly waste management. Large acreage and expensive barns do not guarantee a successful operation, but good management will. Probably the most famous horses in the world, the Lipizzaner Stallions of the Spanish Riding School of Vienna, are kept in a major city with no adverse effects because they are properly managed.

Generally, horse wastes are stockpiled before final disposal. Some suggestions for storage and disposal to reduce problems are listed below:

1) Keep manure away from wetlands, wells, water bodies and watercourses and avoid manure piles.
2) Manure storage areas should be easily accessible by man and farm equipment to facilitate proper removal.
3) Spread manure whenever possible as piles can breed diseases. The recommended application rate on pasture is 10 tons of manure per acre in the fall after the pasture season and before the ground freezes. Avoid spreading manure on pastures during



the grazing season for internal parasite control.

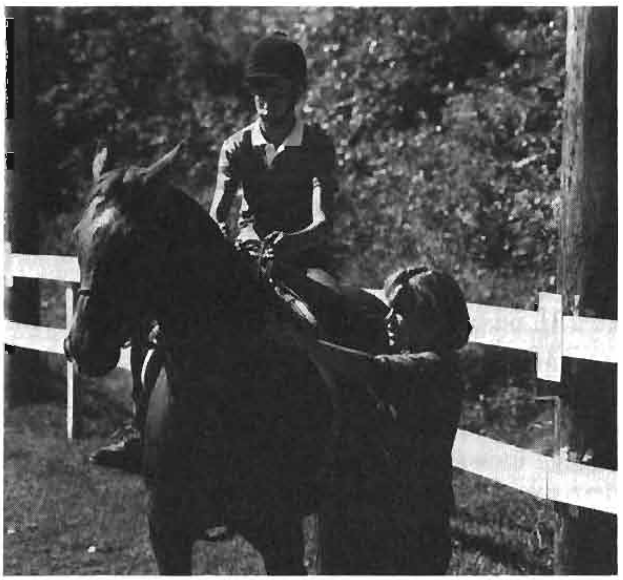
4) Periodically cover manure with lime to reduce odor. Cover manure with plastic sheets or a roof to keep moisture out and minimize runoff.
5) As horse manure quickly breaks down to inoffensive organic material with some nutrients, people find it valuable for fertilizer. It also improves friability of soil. Placing an ad in your local paper for free manure could result in a quick disappearance of your manure pile. Some horse owners sell manure to neighbors, landscapers, or nurseries.

> FREE: Horse Manure. We will help load it onto your truck. 38 Standard Lane, Newville. 666-0000

6) As flies breed where decaying organic material accumulates, manure piles should be removed and if possible spread thinly on fields to kill fly eggs and maggots by drying. In cases of heavy fly infestation, apply insecticides at 10 to 14 day intervals to reduce the fly population. Spray when larvae are first seen for better control. The latest pesticide information is available through your county Cooperative Extension Service.
7) In densely built-up areas it may be necessary to daily bag manure during the summer months and take it to a suitable disposal area. In other areas weekly removal of manure in pastures and paddocks is suggested.
8) Large operations should have a complete manure management system.
9) Avoid keeping horses on hills. Especially avoid slopes where manure might move downhill toward homes, watercourses or public rights-of-way.

Soil Erosion And Management Practices

Soil erosion caused by horses is directly related to the system of management used by the owner. At one extreme are management practices where horses are kept in the stall most of the time with appropriate exercise directed by a human. At the other extreme are horses who are continually kept outdoors. The more time a horse spends on



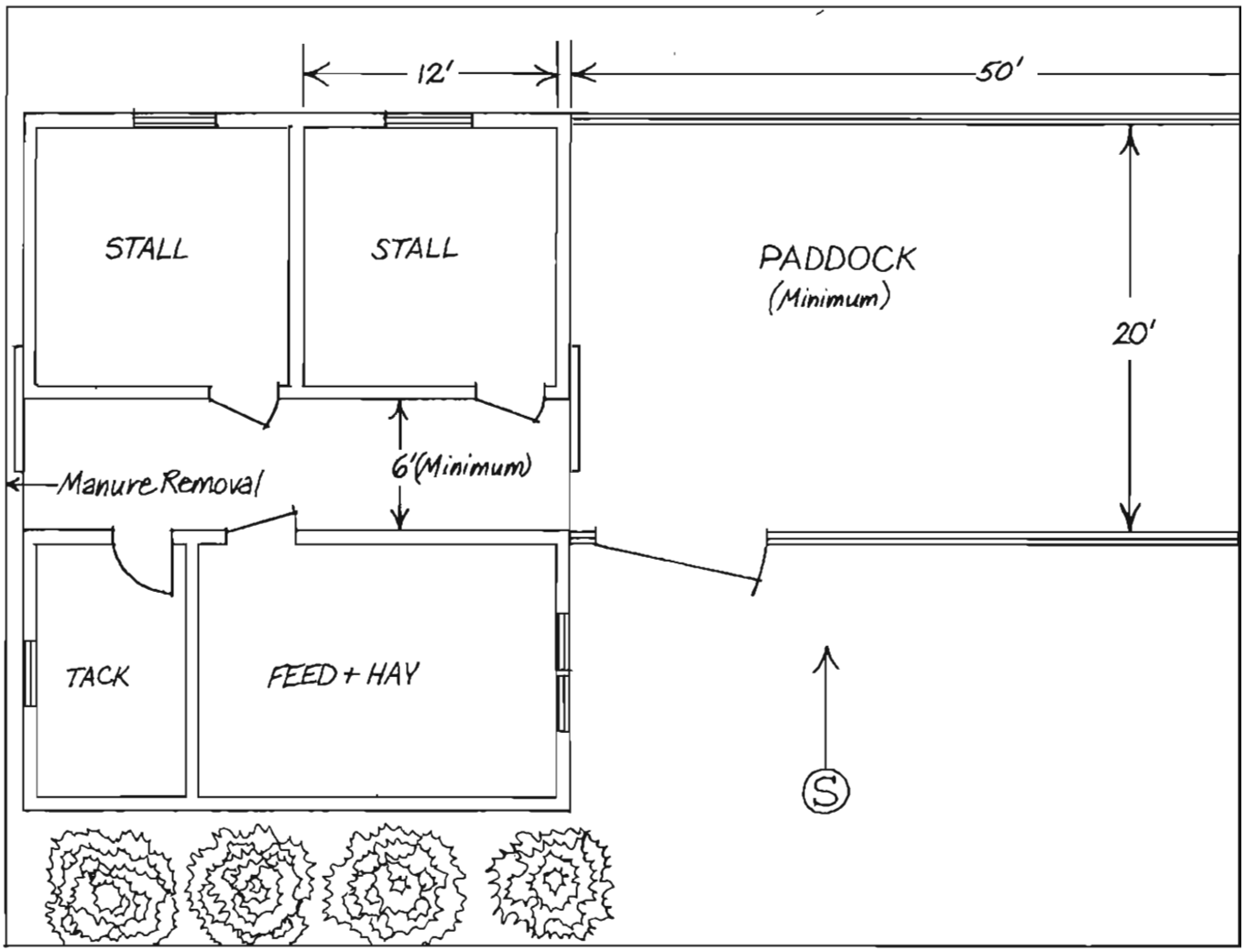
the land, the more potential exists for overgrazing and destruction of the ground cover. When the ground is not stabilized by vegetative cover, soil particles can be easily moved by rain and wind. These soil particles may eventually find their way into watercourses or wetlands and pollute these areas through siltation, which can kill fish, wildlife and flora and destroy a stream's ability to carry water and prevent floods. Many horses used for recreation spend most of their time in a stall with limited "turn out" time. This type of management helps to reduce ground cover destruction and is especially suitable in areas with limited acreage.

With this management plan in mind, let us consider "turn out" areas as they relate to soil erosion. Turnout areas fall into two categories, paddocks and pastures. Paddocks are well fenced, rather small holding areas ranging in size from 1000 sq. ft. to 1/4 acre per horse. Paddocks are heavily used and due to their small size are usually bare of ground cover. Hence, it is important that paddocks be located in areas that are level and contain well-drained soils. In some locations it may be necessary to install diversion ditches, berms or curtain drains to divert water away from these exposed areas. In heavy rain, hay bales might be used as temporary silt screens to prevent paddock soil from entering adjacent streams or wetlands. Of all types of horse-keeping areas, paddocks are the areas which should be located furthest away from water bodies. Animal access to streams should be avoided or limited as horses will push soil into the watercourse when they go to drink. Bridges should be provided where horses must cross streams.

Pastures are used to provide feed for the horse. If using improved pasture, 1 to 1-1/2 acres per horse should be provided, depending on the quality of the pasture. This area should be divided into thirds and the horse rotated to a new section every 3 weeks or when the grass has been grazed off. This system of rotational grazing helps prevent overgrazing and thus reduces soil erosion. Whichever system of horse management you prefer, carefully analyze its impact on the land and water. Choose a management plan that will not cause soil erosion and water pollution. If you are to be a good neighbor these practices are as important as how you feed and water your horse.

Other Management Suggestions

1) Keep animals off septic systems as they can punch through grass to expose septage.
2) Exposed areas should be set back from roads, side yards and neighbors.
3) Screen paddocks and barns. Good landscaping creates a good impression. Buffer areas along property lines. Evergreens provide a year-round buffer that reduces noise, odor and dust.
4) Clear area of trees that horses might bite. They can girdle the tree by chewing off bark and the tree may eventually fall on the horse, house, or a neighbor. If horses gnaw the bark off trees check their diet for fiber deficiencies. If trees are desired in pastures or paddocks put fencing around the tree trunks to protect them from being girdled.
5) Fill or avoid low areas; puddles breed flies and attract rodents.
6) Clean up paddock area to reduce odors and parasites.
7) Horses require 50 to 60 sq. ft. of shade in warm weather. In some cases artificial shade such as a overhang or a three sided shed will have to be provided.
8) Remove any wild black cherry trees from keeping areas as they can be poisonous to horses.



Fences

It has been said that good fences make good neighbors. This is particularly true when one has animals. Connecticut state law requires that animals must be confined on the property of their owner or keeper and that fences must be maintained so as to properly enclose animals. Any damage caused by a wandering horse is the legal responsibility of the horse owner.

Fences keep horses in and people and predators out. They also separate stallions and mares, restrict animal access to lush spring pastures or help in rotating animals on pastures.

Fence costs have risen sharply, as a result many people put up poorly-made fences or postpone making needed repairs. Some owners don't pay attention to their fence until part of it is on the ground and the horse is consuming the neighbor's lawn and shrubs.

Fence Materials

Barbed wire should never be used to confine horses as it can cause severe injuries.

Wood, — plank, board, split rail, rail, etc. — is safest for horses. Wood fencing is expensive to put up and maintain, but it is effective and attractive if properly cared for.

A very common fence in Connecticut is the post and rail fence made with red cedar posts and native hardwood rails. Railroad ties are also used as posts. Posts should not be more than 10 feet apart.

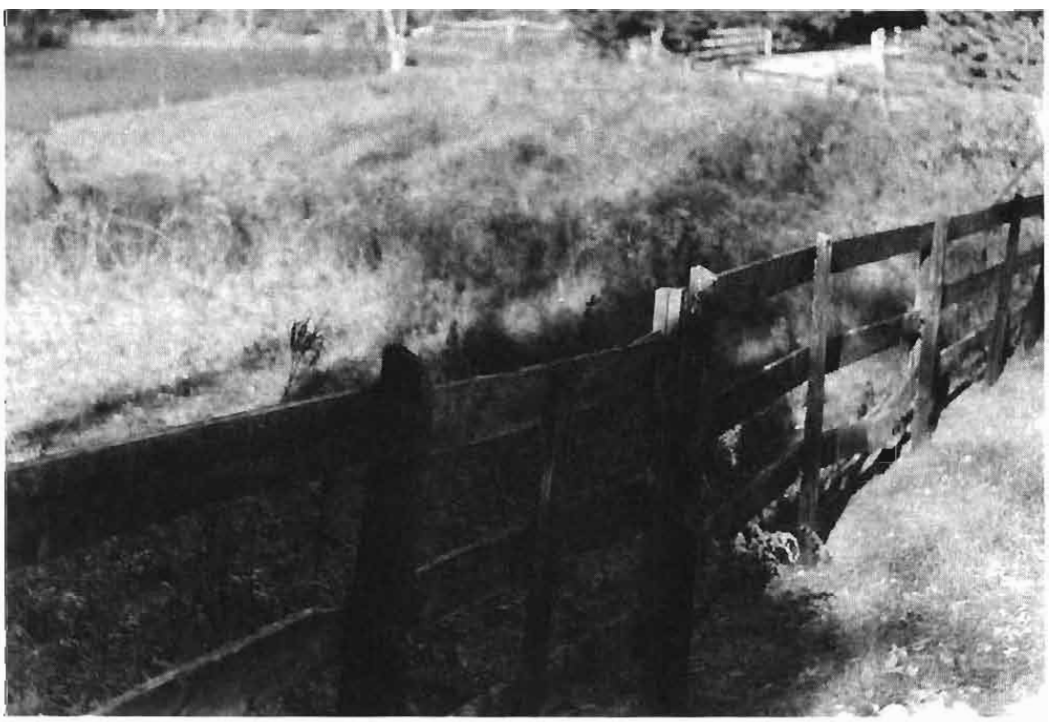
Metal fences include woven wire, chain link, cable, barbless wire and plain wire. One of the most common fences used for horses is woven wire with 4" openings usually installed at a height of 48". This type of fencing has a long life with reasonable initial cost and maintenance requirements that are less than wood.

If you are introducing a horse to an area with wire fence, tie strips of ribbon or cloth every 4 feet on the top strand to help the horse see the wire so it will not run into the fence.

If electric fencing is desired it is important to use only approved safe systems. *Horses must be trained to avoid an electric fence* as some animals don't naturally respect them. Electric fencing is often used in conjunction with some other type of fencing.

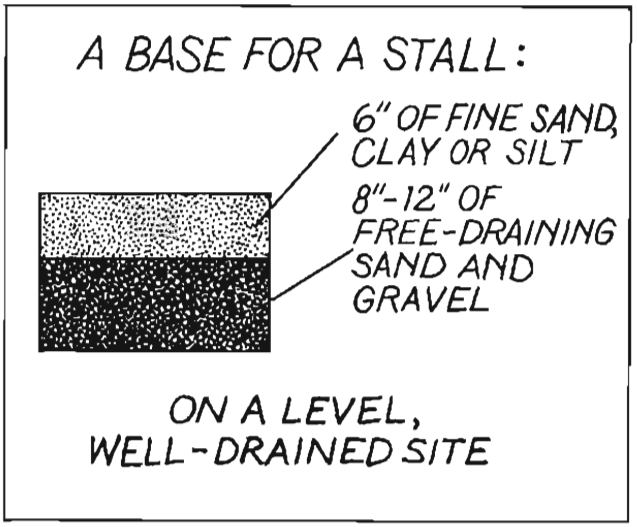
Shelter

In the Northeast rapid changes in weather demand that shelter be provided for animals. Shelters do not have to be elaborate. In many cases existing structures can be converted into



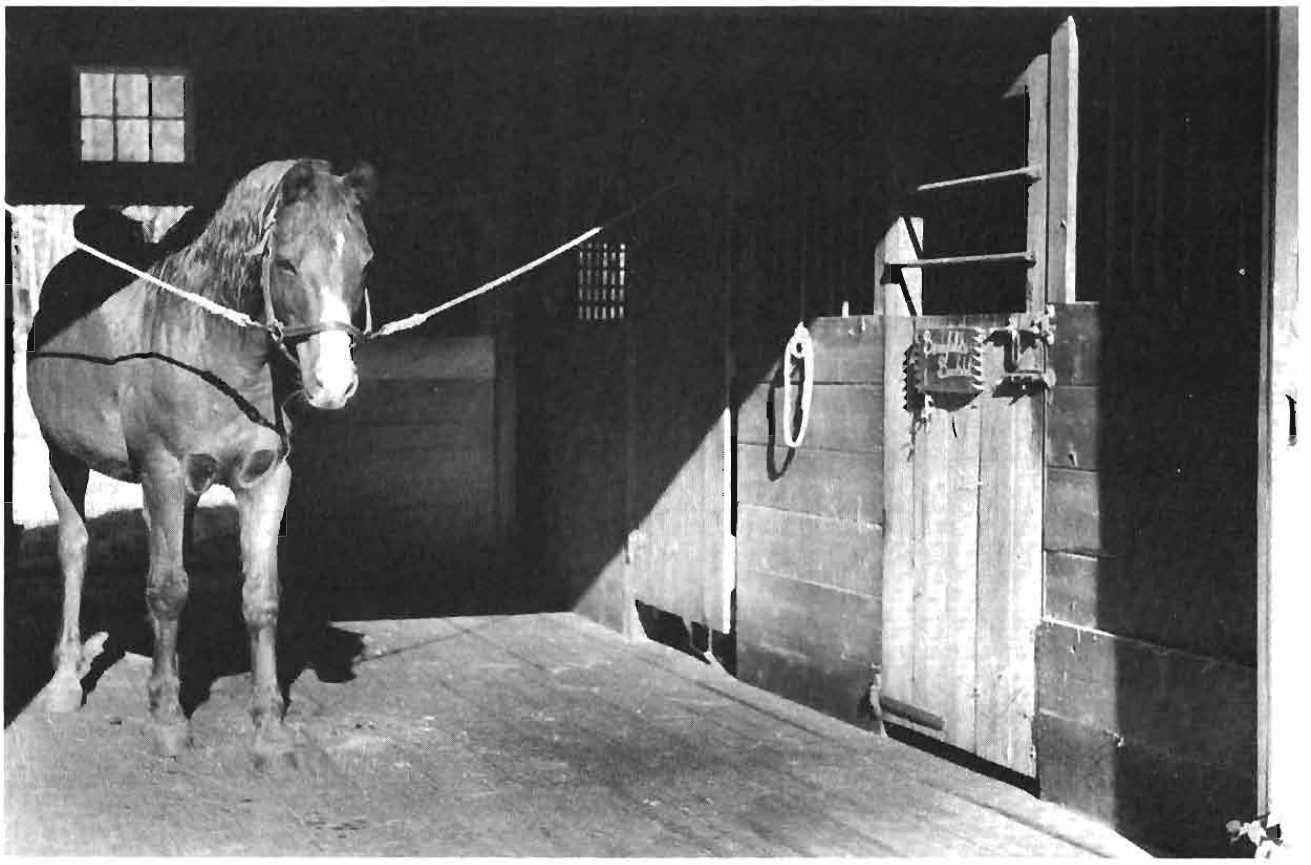
barns. A three-sided shed open to the south, well bedded and free from drafts and rain is in most cases the ideal shelter.

Flooring in barns is important in keeping stalls dry and clean and preventing injury to horses. Brick, concrete, wood and asphalt are all used. A most satisfactory base for a stall is 8"-12" of free-draining sand and gravel, set on a level, well-drained site. This base is then covered with 6" of fine sand, silt or clay found in sand washing tailings purchased from sand washing operations. This material compacts to a desired density, gives a good "cushion" and has enough vertical permeability to allow excess urine to drain off. In addition, this material is free from stones and is inexpensive. The one disadvantage is that the silt will have to be restored every two years or so, as cleaning gradually removes it. Many horsemen desire a hard aisle surface paved with asphalt, roughed concrete or paving brick. This makes for ease of cleaning and permanence. These surfaces, however, can be slippery to flat-shod horses. It may therefore be desirable to cover hard aisle surfaces with rubber floor mats.



Enclosed stables must be properly ventilated and free from drafts. This helps reduce odors and is necessary for the good health of the horse. Daily cleaning of stalls is the most important chore needed to keep neighbors and animals happy. Top-quality stable management calls for performance horses to be fed a grain ration three times a day, the stall thoroughly cleaned after the first feeding, and manure removed after each of the other two feedings.

A good barn design with attractive fencing does much to make a horse acceptable in a suburban area. Build a barn large enough to not only shelter animals, but to provide storage for bulky feeds and equipment as well. As a rule of thumb, devote 1/3 of your barn space for animal shelter, 1/3 for roughage and bedding and 1/3 for alleyway and feed grain. Feed should be stored out of the reach of horses. Keep feed in rodent-free containers. One rat will eat 27 pounds of feed a year. A 30 gallon metal trash can will hold



a 100 pound sack of feed and makes an excellent rodent-proof container. A cat can also help reduce rodent population.

Don't build barns in wet, rocky or steep slope areas. Build in areas that are reasonably high and well drained yet level enough to easily place building and exercise areas. A site with a gentle south or southwest slope is ideal. Barns built in wet areas tend to attract rats as they prefer to live close to food, shelter and water.

Use the soil survey of your area to help plan your animal operation and conservation measures. The Soil Conservation Service can assist you with conservation and site planning.

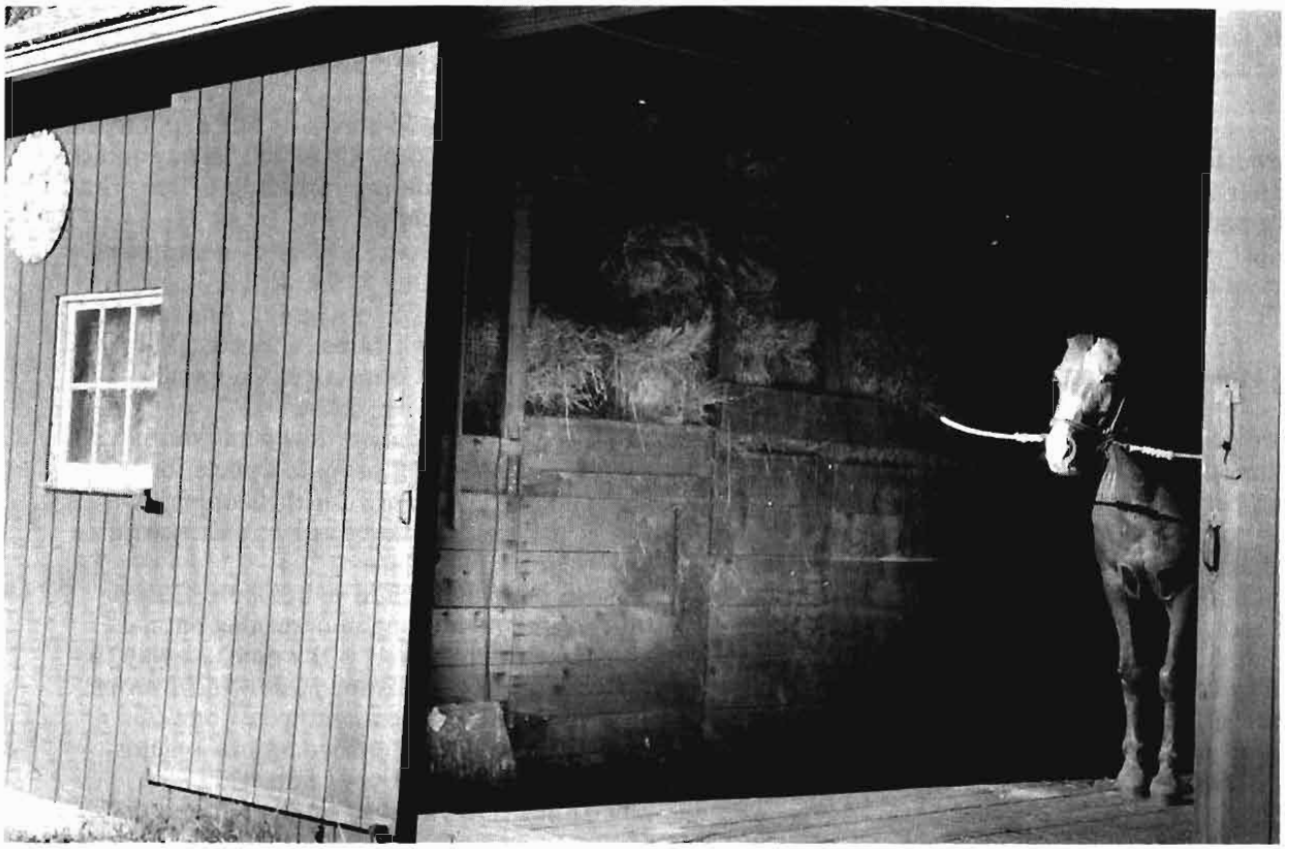
Land Requirements

One of the most common misconceptions regarding horses is the amount of land needed to keep them in a safe and healthy manner.

Many zoning regulations have established land requirements for keeping horses that are excessive and arbitrary when compared to what livestock experts suggest. Some zoning regulations require 2, 3 or even 5 acres before a horse will be allowed. These requirements are much greater than the keeping area of 1,000 sq. ft. often cited by those familiar with horses.

Most horses are kept in stalls, in fully enclosed barns or in three-sided sheds surrounded by a fenced exercise area. Stalls range in size from 8'x8' for a pony to 16'x16' for a stallion or 16'x20' or larger for foaling mares. The average horse needs a 10'x10' or 12'x12' stall. Stalls should be able to safely accommodate the horse and its attendant. A minimum ceiling height of 8' should be provided for the horse while at least 12' is needed for a horse and rider.

Many horses are fed a purchased feed of grain and hay and hence do not need large pastures for their basic supply of food. A paddock of 1,000 sq. ft. will serve most hobby or 4-H horse keeping operations. If competitive riding is planned, The National Horse Show Association recommends 110'x220' for indoor horse show rings and 120'x240' for outdoor rings.



Pasture

Fields can be used either as exercise areas or as pasture. The function of a pasture is to produce nutritious feed for the horse. Pastures are frequently overgrazed, reducing yields and encouraging weed growth.

As horses move around the weed infested lot looking for edible plants, the sod is churned-up, further reducing grass growth. To avoid these conditions, feedlots and exercise areas should be separated from improved pastures.

There are basically two types of pasture: permanent and improved cropland. Permanent pasture is land left unplowed or unseeded for many years and is usually located on wet, rocky or steep sites. Cropland is tillable land that is more productive than permanent pastures when it is limed, fertilized and seeded. In most areas of Connecticut, lime is needed to correct soil acidity and fertilizer must be applied periodically. Before making these improvements to your pasture, obtain a soil test kit from your nearest Extension Service office.

How Much Pasture

As a general rule provide 1 acre of improved pasture per animal unit to provide grazing through the growing season in Connecticut. An animal unit equals 1 horse or cow or 5 to 7 sheep or goats. It must be emphasized, however, that a horse does not necessarily require 1 acre of land. This standard only applies when pasturing is used as a management system to provide feed.

Use Rotational Grazing

A system of alternate grazing produces more feed than continuous grazing on the same field. Divide the acre into thirds and rotate animal every 3 weeks or more frequently if grass is grazed off.

Avoid grazing when soils are wet and soft as the soil becomes packed and poor pasture results. Grasses should reach 5 inches before grazing is begun. Cut at least once a season to control weeds. Cutting once in June and again in August results in even better weed control. Remove

animals from pasture in late September to mid-October so a fall growth of 3" is achieved before winter.

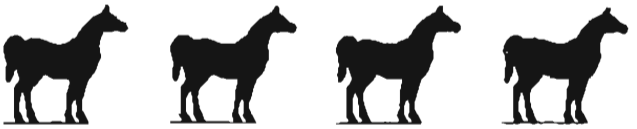
Whenever a horse is introduced to fresh green grass after long periods of stabling or confinement in paddocks, care should be taken to provide short initial grazing sessions to minimize the chances of the horse getting colic.

Riding Horses On Public Highways

As more people are using public highways to exercise their horse, it is important that they know the laws pertaining to this activity.

According to Section 14-293a of the Connecticut General Statutes, any person riding a horse on a public highway shall conform to the regulations governing highway use, traffic control and highway safety. In municipalities with charters, laws can be established to regulate the driving or leading of animals through the streets and to provide for the removal of any offensive manure found in the streets.

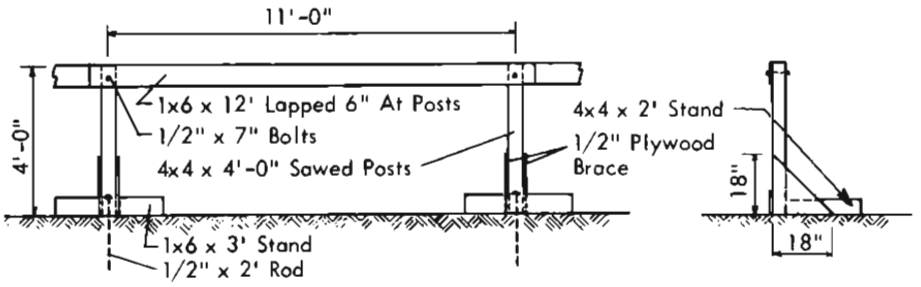
Connecticut has also passed a law protecting the horse and rider from motorists who frighten the animal by honking horns, speeding or other thoughtless behavior. Such drivers could be cited for a motor vehicle violation.

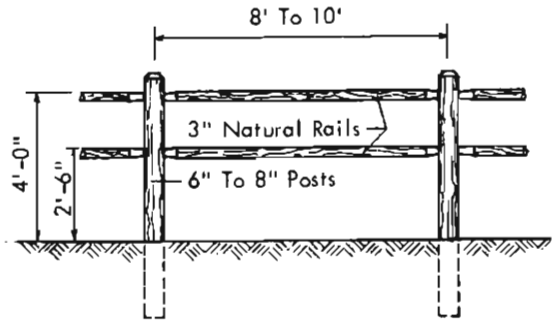


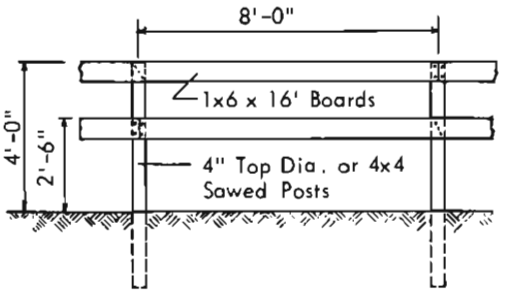
HELPFUL HINTS TO MAKE YOUR HORSE A GOOD "NEIGH"BOR

—Before you build a barn or fence, put in an electrical hookup, dig a well, etc., contact your local building inspector to see what permits are needed.
—Comply with local zoning laws and pertinent state statutes. See "State Regulations Pertaining To Keeping Animals And Farming" by C. James Gibbons, The University of Connecticut Cooperative Extension Service, 1984.
—Let your neighbors know what you intend to do. Talk over proposed plans for barns and fences and ask for their opinions when your operation might affect them or their property.
—Become involved in public policy issues related to farming and keeping animals.
—Cruelty to animals is the quickest way to call attention to your place. Know proper horse management and have your veterinarian or certified animal scientist periodically visit your horse.
—Don't ride on other people's property without their permission.
—Remind other horse owners of potential problems. Constructive criticism, well taken, can help avoid larger problems later on.
—Know what you are getting into. Ask yourself if you can truly afford to keep animals and properly maintain the areas where they will be kept. Contact your Extension agent and ask for farm planning assistance.

FENCES







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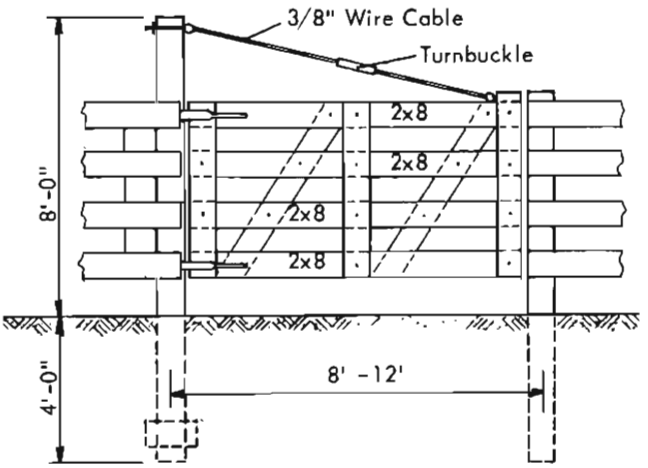
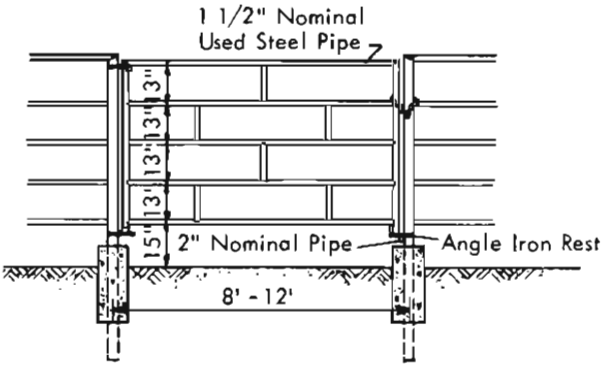
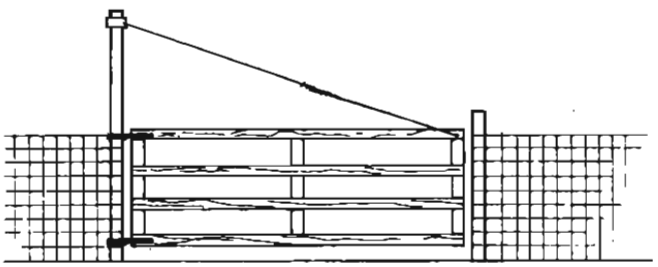
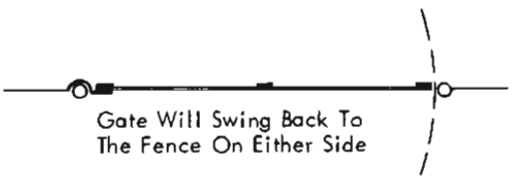


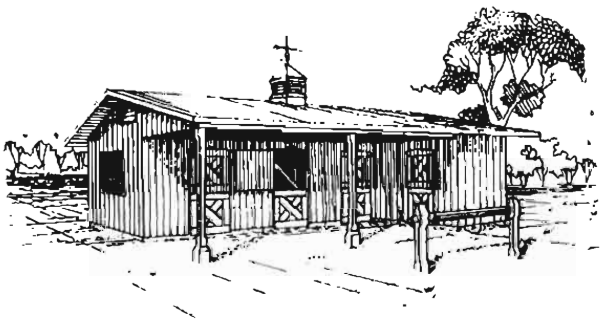


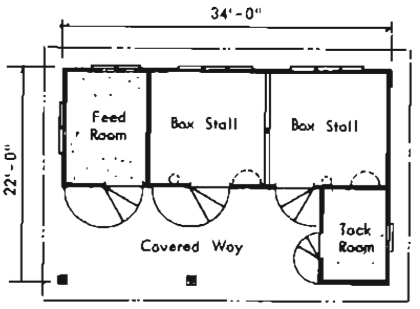




Two-Stall Barn USDA 5838

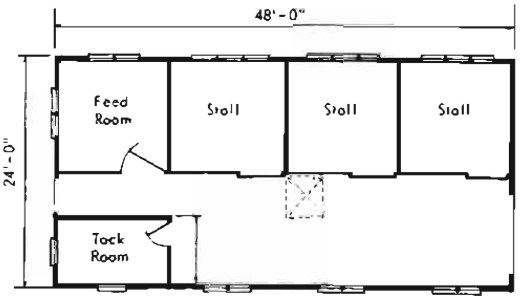
Two 12' x 12' box stalls with clay floors, a 6' x 8' tack room, and an 8' x 12' feed room are features of this 22' x 34' horse-barn. There is a useful covered way, and Dutch doors provide entry to the stalls. The barn may be expanded to house more horses.

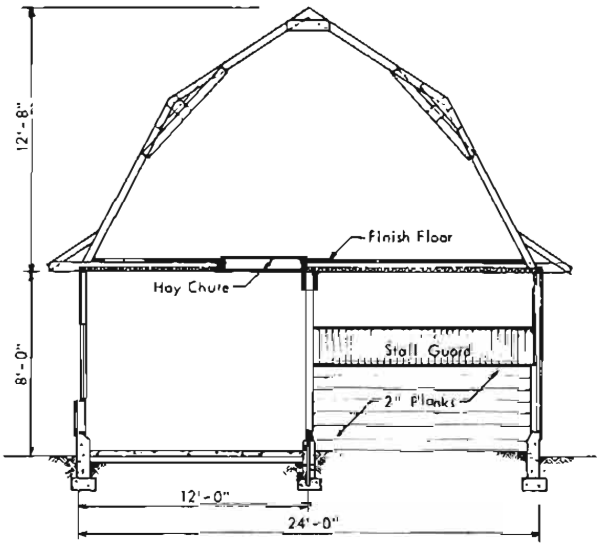




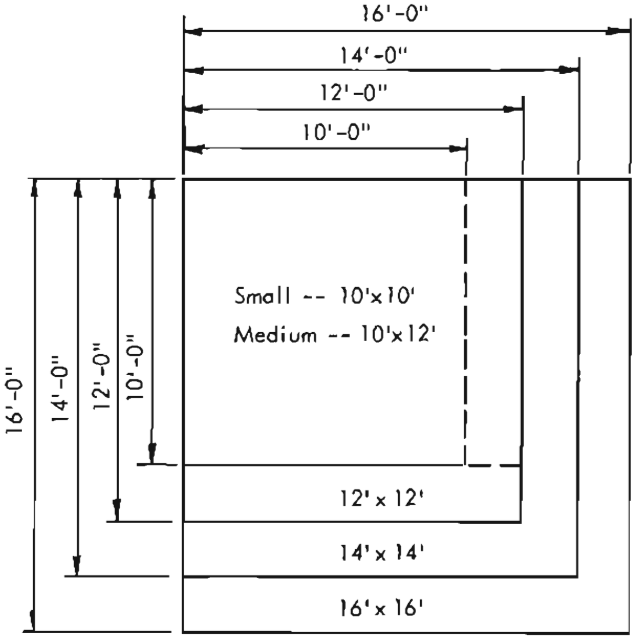
Three-Stall 1½ Story, Barn USDA 6024

This plan features three stalls, a feed room, a tack room and a 12' x 36' working alley. There is ample overhead storage for hay and bedding. The barn is 24' x 48'.





Box stall sizes



The drawings are taken from the Midwest Plan Service publication No. 15, *Horse Handbook; Housing and Equipment.* Copies of the *Handbook* may be obtained for $5.00 (including postage and handling) from the Department of Agricultural Engineering, U-15, 1376 Storrs Rd., The University of Connecticut, Storrs, CT 06268.

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Route 6
Bethel, CT 06801
Tel. (203) 797-4176

LITCHFIELD COUNTY OFFICE
Agricultural Center
Litchfield, CT 06759
Tel. (203) 567-9447

NEW HAVEN COUNTY OFFICE
670 Wintergreen Ave.
Hamden, CT 06514
Tel. (203) 789-7865

WINDHAM COUNTY OFFICE
Extension Center
Brooklyn, CT 06234
Tel. (203) 774-9600

HARTFORD COUNTY OFFICE
1800 Asylum Ave.
West Hartford, CT 06117
Tel. (203) 241-4940

NEW LONDON COUNTY OFFICE
562 New London Tpke.
Norwich, CT 06360
Tel. (203) 887-1608

THE UNIVERSITY OF CONNECTICUT
MARINE ADVISORY SERVICE
Avery Point
Groton, CT 06340
Tel. (203) 445-8664

MIDDLESEX COUNTY OFFICE
Extension Center
Haddam, CT 06438
Tel. (203) 345-4511

TOLLAND COUNTY OFFICE
24 Hyde Ave.
Vernon, CT 06066
Tel. (203) 875-3331

EFNEP OFFICE
1374 Barnum Ave.
Bridgeport, CT 06610
Tel. (203) 579-6307

EFNEP OFFICE
32 Hillside Ave.
Waterbury, CT 06710
Tel. (203) 755-4840

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