



Housing and Space Guidelines for Livestock

As New Hampshire becomes more urban, the potential for conflict between the farming and non-farming communities increases. By using best management practices*, farmers can greatly reduce or eliminate problems of odor and fly control, pesticide drift, contamination of surface and ground waters, and damage to neighboring crops. With best management practices in place, farming activities are compatible with other land uses in urban environments.

Farming activities may involve full-time, part-time or backyard farmers. Existing commercial farms are protected by the Right to Farm Law. This allows for properly managed agricultural enterprises to continue operating in residential areas.

Housing

Most farm animals need some shelter in the winter time, but their natural coats allow them to endure much colder temperatures than people can tolerate. When animal housing is designed for human comfort, it can actually be too warm and unhealthy for animals. Buildings with plugged air cracks and windows covered with double plastic are often poorly ventilated. This situation can result in a buildup of moisture and animal odors, creating an unhealthy environment.

A simple, three-sided shelter with an open front will meet the needs of many farm animals and is often the building of choice to raise healthy livestock. When designing a three-sided animal shelter, make sure the open side faces the south away from prevailing wind. Locate the structure on an elevated, well-drained site and make it accessible for feeding and materials handling.

There are several factors to consider when planning adequate livestock shelter in cold weather:

- **Air quality:** An animal shelter should either be open, with provisions for natural ventilation, or enclosed, using fans and proper air inlets around the ceiling perimeter to provide ventilation. Tight buildings result in a buildup of respiration gases and animal odors, which can irritate the animals' lungs and cause pneumonia.
- **Drafts:** Animals can stand cold temperatures, but you should protect them from drafts. Constructing panels in front of an open building can reduce drafts. When animals are allowed to run loose in a pen, instead of being hitched, they will search for the most comfortable spots.
- **Dry bedding area:** Animals will be comfortable in the cold if they have clean, dry bedding. A thick, dry bed provides insulation from the cold ground and decreases the amount of energy the animal has to expend to keep warm. Shelter from the snow and rain allows an animal's coat to remain dry, to provide maximum insulating value.

- **Fresh water:** All animals need water to survive. Under cold conditions, provide fresh water often or use freeze-proof watering devices.
- **Adequate food:** Animals can endure severe cold temperatures if they eat enough food to maintain their energy reserves. Animals need food for growth and maintenance. They require additional amounts of good quality feed during cold weather to allow for the extra energy expended in keeping warm. Hay racks or feed bunks will properly dispense forages to reduce waste.

Space

Refer to the table on the next page for estimates on the space needs of various animals for exercise yards and pasture. You will not need a pasture as long as you provide adequate purchased feed, have an exercise yard and develop a sound plan for manure management.

If you do provide pasture, the number of animals it will support per acre depends on soil fertility and environmental considerations. *Rotational grazing* — the practice of sectioning off one section of a pasture with electric fencing and confining animals in that section, then repositioning the fence and moving animals to another section — prevents pastures from being overgrazed and will support more animals than one large unimproved pasture of equal size.

The following table lists the minimum space requirements, housing types and fencing needs of various farm species, along with the number of animals that will meet the food, fiber, recreation and other needs of an average family farmstead. Use it only as a rough guide.

(Note to municipal planners: The minimum space and housing guidelines in the chart apply to both commercial farms and backyard operations. However, you should not apply the numbers of animals suggested in the "Family Needs" category to commercial farms when drafting ordinances regulating agriculture in your community.)

*Refer to the "Manual of Best Management Practices (BMPs) for Agriculture in New Hampshire" for specific guidelines on proper animal waste handling and barnyard management. To request a copy, call the New Hampshire Bureau of Markets at (603) 271-3685.

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Suggested Space and Housing Guidelines for Fully Mature Farm Animals

Animal Unit	Horse	Beef Cow	Dairy Cow	Dairy Goat	Pig	Sheep	Hen	Broiler	Turkey
Enclosed Housing Area/Animal	1 horse - Tie stalls 45 sq. ft., 5' x 9' - Box stall 12' x 8' or 10' by 10'	1 cow 75-100 sq. ft.	1 cow 75-100 sq. ft.	1 goat 20-25 sq. ft.	1 pig 48 sq. ft. with exercise yard; 100 sq. ft. without exercise yard	1 sheep 20-25 sq. ft.	1 hen 3-4 sq. ft.	1 broiler 3-4 sq. ft.	1 turkey 6 sq. ft.
Exercise Yard Area /Animal	200 sq. ft.	100-125 sq. ft.	100-125 sq. ft.	50 sq. ft.	200 sq. ft.	50 sq. ft.	10 sq. ft.		20 sq. ft.
Pasture Area /Animal	1-2 acres	1-2 acres	1-2 acres	0.2-0.3 acres	12-14 sows/acre/ rotational pasture	0.2-0.3 acres			100 sq. ft.
Type of Housing and Boundary Setback	Enclosed ventilated barn or open 3-sided barn Setback 50 ft.	Open front 3-sided barn Setback 50 ft.	Open front 3-sided barn, free-stall or enclosed stanchion barn Setback 50 ft.	Enclosed barn with removable side panels or windows Setback 50 ft.	Enclosed barn, huts, shed, lean-to Setback 50 ft.	Open front 3-sided shed Setback 50 ft.	Enclosed barn Setback 30 ft.	Enclosed barn Setback 50 ft.	Enclosed barn Setback 50 ft.
Fencing	Electric Wooden rail Woven wire	Barbed wire Electric Woven wire	Barbed wire Electric Woven wire	Electric Woven wire	Electric Plank rail	Electric Woven wire	Chicken wire		Chicken wire
Family Needs	1 horse per family member	1/2 - 1 beef animal/year; raise 2 animals/yr to provide cont. supply	1-2 cows	2-3 goats	2 pigs per yr.	6 sheep	6 hens	24 broilers	12 turkeys