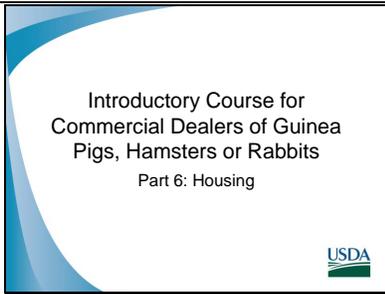
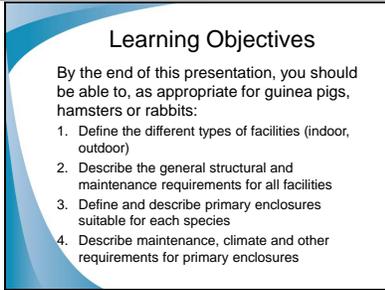


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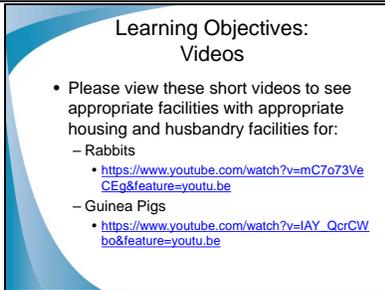
The housing provided to guinea pigs, hamsters or rabbits at commercial facilities is important to their overall health and well-being. The Animal Welfare Act regulations and standards provide detailed information on housing standards for licensed facilities. It is important to understand the regulations and make sure your facilities meet the standards established by the regulations.

By the end of this presentation you should be able to:

1. Define the different types of facilities (indoor, outdoor)
2. Describe the general structural and maintenance requirements for all facilities
3. Define and describe primary enclosures suitable for each species
4. Describe maintenance, climate and other requirements for primary enclosures

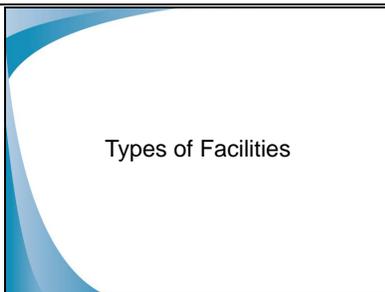
Be sure to refer to the regulations or ask your Inspector if you have any questions about housing.

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These videos show facilities that meet and in many cases exceed the AWA Standards and Regulations. Your Animal Care Inspector can provide information on how to make your facility meet standards, and when going above the standards can be good for your business.

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Types of Facilities

- Type of facility:
 - Indoor facilities
 - Outdoor facilities
 - Allowed for rabbits
 - Variance required for guinea pigs
 - Not allowed for hamsters

Facilities for these species fall into two categories – indoor and outdoor. (Please note that sheltered facilities, with an indoor section with access to outside areas, are not allowed for these species.)

The following slides explain the requirements for each type of facility in more detail.

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**General Requirements:
All Facilities**

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Basic Requirements

- Housing for guinea pigs, hamsters and rabbits must:
 - Be structurally sound
 - Be kept in good repair
 - Protect animals from injury
 - Contain animals securely
 - Restrict other animals from entering

Housing for guinea pigs, hamsters and rabbits must:

- Be structurally sound
- Be kept in good repair
- Protect animals from injury
- Contain animals securely
- Restrict other animals from entering

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Electrical Supply

- Housing facilities must have enough reliable electric power to provide for:
 - Heating
 - Cooling
 - Ventilation systems
 - Lighting
 - Carrying out husbandry practices

The electrical supply for housing facilities must be sufficient to provide required conditions for the animals. This will help keep animals safe, comfortable, and healthy

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Water Supply

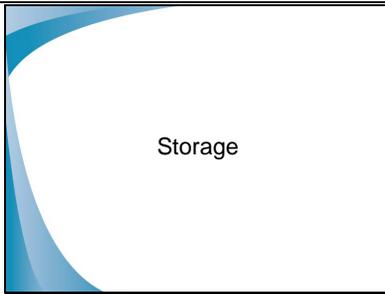
- Housing facilities must have sufficient running potable water to meet animals' needs. For example:
 - Drinking (by guinea pigs, hamsters, rabbits, people, other animals)
 - Cleaning
 - Carrying out other husbandry practices



Photo: D. Ausen, ISU

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Food and Bedding

- Store food and bedding supplies in a manner which prevents:
 - Spoilage
 - Deterioration of food
 - Vermin infestation or contamination from:
 - Rodents
 - Insects
 - Refrigeration is required to keep supplies of perishable food, including Vitamin C-rich food required for guinea pigs

- Food and bedding need special storage considerations.
- Food must be stored in a manner which prevents spoilage.
- Food that is improperly stored can lose its nutritional value.
- Food and bedding can become contaminated by vermin or insects. Make sure your storage area is free from these hazards.

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Open Supplies

- For guinea pigs and hamsters only:
 - Store open food in containers with tightly fitting lids

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In this image, both unopened and opened bags of food are stored properly

Photo: USDA:APHIS

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Waste Disposal

- Regular and frequent collection, removal and disposal:
 - Animal and food wastes
 - Bedding
 - Dead animals
 - Debris
- In a manner that minimizes vermin infestation, odors and disease hazards

The AWA regulations and standards require that housing facility operators have a way to regularly and frequently collect, remove and dispose of waste including those listed on the slide.

This must be done in a way that minimizes vermin infestation, odors and disease hazards.

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Waste Disposal (cont'd)

Manual removal of waste



Collects waste under cages and carries to outside for disposal



There are various approaches to effectively remove waste materials that contributes to a clean and well-maintained facility.

Photos: D. Ausen, ISU

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Washrooms and Sinks

- Washing facilities such as:
 - Washrooms
 - Basins
 - Sinks
- Must be provided to maintain cleanliness among animal caretakers



Facilities must have readily accessible washing facilities for animal caretakers. Facilities may include washrooms and sinks. Contact your State Department of Labor or Workforce Development with questions regarding workplace conditions or employment regulations.

Photo: D. Ausen, ISU

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Indoor Facilities

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Indoor Housing Facility

- A building intended to house animals must have environmental controls and meet these criteria:
 - Temperature and humidity
 - (Within the limits set forth for the species of animal)
 - Odors
 - (must be rapidly eliminated)
- Is an enclosed space:
 - Roof and walls are continuously connected
 - Windows are covered by transparent glass or hard plastic
 - At least one door that can be opened and closed



A building intended to house animals which has environmental controls and meets these criteria:

- Temperature and Humidity (within the limits set forth for that species of animal)
- Odors (must be rapidly eliminated)

Is an enclosed space:

- Roof and walls are continuously connected (a shed or barn set on top of the ground does not have a continuous connection between the walls and the ground. A foundation and floor must be provided)
- Windows or openings that provide natural light must be covered by transparent glass or hard plastic
- At least one door that can be opened and closed

Photo: D. Ausen, ISU

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Minimum and Maximum Temperatures for Indoor Housing

- **Guinea Pigs and Hamsters:**
 - Not below 60°F
 - Not to exceed 85°F
- **Rabbits:**
 - For temperature 85°F or higher, auxiliary ventilation is required



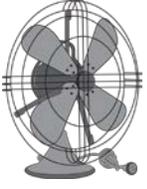
Auxiliary ventilation, required for rabbits when the ambient temperature is 85°F or higher, can include exhaust fans and vents or air conditioning.

Illustration: Oriana Hashimi-Toroghi: CFSPH:ISU

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Ventilation

- **Sufficient ventilation at all times**
 - Minimize odors, drafts, ammonia, condensation
 - Windows, vents, fans, air conditioning
- **Above 85° F**
 - Guinea Pigs and Hamsters:
 - Temp must be kept at 85° F or below
 - Rabbits:
 - Use Auxiliary ventilation including fans, blowers, air conditioning



In indoor housing facilities, sufficient ventilation must be provided at all times for the health and well-being of the animals and to minimize odors, drafts, ammonia, and moisture condensation. Windows, vents, fans or air conditioning may be used to provide ventilation.

Guinea pig and hamster indoor housing temperature cannot rise above 85°F.

When the ambient temperature rises above 85° F for rabbits, provide auxiliary ventilation using fans, blowers or air conditioning.

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Lighting

- Sufficient light for inspection, cleaning and observation of animals
- Natural or artificial
- Uniform lighting
- Protect animals from excessive light



Facility lighting must be sufficient to permit routine inspection, cleaning and observation of animals.

Animal areas must have regular natural or artificial light. Lighting must be diffused uniformly throughout the facility and provide enough light so that good housekeeping practices, cleaning and observations of animals can be carried out. Primary enclosures must protect animals from excessive light.

The facility in the photo uses both artificial light and natural light from the openings to the outside.

Photo: D. Ausen, ISA

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Interior Surfaces

- The interior building surfaces of indoor housing facilities shall be constructed and maintained to be:
 - Substantially impervious to moisture
 - Readily sanitized



Floors, walls and surfaces in contact with animals must be substantially impervious to moisture.

Photo: D. Ausen

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Outdoor Housing Facility

- Definition: Any structure, building, land or premises which houses animals or is intended to house animals which:
 - Does not meet the definition of any other type of housing as provided in the regulations AND
 - In which the temperature cannot be controlled within set limits
- Allowable for rabbits (and guinea pigs with approval of Deputy Administrator)
- Hamsters may never be housed in an outdoor facility

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Outdoor Housing Facility

- **Must have:**
 - Shelter from sunlight for rabbits when temp is above 90°F
 - Artificial cooling by sprinkler or other means is required
 - Shelter from cold weather must be provided for rabbits when temp falls below 40°F
 - Shelter from rain or snow
 - Protection from predators
 - Proper drainage

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Primary Enclosures

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Definition

- **Primary Enclosure:**
 - Any structure or device used to restrict an animal to a limited amount of space.
 - For example:
 - Room
 - Pen
 - Run
 - Cage
 - Hutch



A primary enclosure is any structure or device used to restrict an animal to a limited amount of space. Examples of primary enclosures include a room, pen, run, cage or hutch.

Photo: D. Ausen, ISU

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Minimum Requirements: Primary Enclosures

The following slides discuss the minimum requirements for all primary enclosures.

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General Requirements for Each Species

<p>Guinea Pigs & Hamsters</p> <ul style="list-style-type: none"> • Enclosures and racks, shelving and other accessories must be made of smooth material substantially impervious to liquids and moisture 	<p>Rabbits</p> <ul style="list-style-type: none"> • Primary enclosures must contain rabbits and keep predators out • Enclosures must keep rabbits clean and dry
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Flooring Requirements for Guinea Pigs, Hamsters, Rabbits

<p>Guinea Pigs & Hamsters</p> <ul style="list-style-type: none"> • Enclosures with a solid floor must have clean bedding • Must protect all animals' feet and legs from injury 	<p>Rabbits</p> <ul style="list-style-type: none"> • Enclosures with a solid floor must have litter • For nursing females with litters less than one month of age, a suitable nest box with clean nest material must be provided • Must protect all animals' feet and legs from injury
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Space Requirements: Guinea Pigs, Hamsters, Rabbits

- Primary enclosures shall be constructed and maintained to provide for space for each animal:
 - To make normal postural adjustments
 - To allow adequate freedom of movement

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Space Requirements for Guinea Pigs and Hamsters

- For primary enclosures acquired after Aug. 15, 1990:
 - (Refer to AWA Regulations and Standards for primary enclosures acquired before the above date)

Primary enclosures must meet or surpass requirements set by the regulations for minimum space and exercise for the animals housed in them.

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Space Requirements: Guinea Pigs (After Aug 15, 1990)

Weight or Stage of Maturity	Minimum Space per Guinea Pig	Minimum Interior Height
Weaning to 350 grams	60 sq in 387.12 sq cm	7 in 17.78 sq cm
350 grams or more	101 sq in 651.65 sq cm	7 in 17.78 sq cm
Nursing females with litters	101 sq in 651.65sq cm	7 in 17.78 sq cm

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Space Requirements: Guinea Pigs (After Aug 15, 1990)

- Example:
 - Harem breeding primary enclosure
 - Floor space exceeds the minimum requirements for guinea pigs and females with litters
 - Open enclosure has walls high enough to contain animals



Photo: D. Ausen, ISU

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**Space Requirements:
Hamsters**
(After Aug 15, 1990)

Weight or Stage of Maturity	Minimum Space per Hamster	Minimum Interior Height
< 60 grams or 2.1 oz	10 sq in 64.52 sq cm	6 in 15.24 sq cm
60-80 grams or 2.1-2.8 oz	13 sq in 83.88 sq cm	6 in 15.24 sq cm
80-100 grams or 2.8-3.5 oz	16 sq in 103.23 sq cm	6 in 15.24 sq cm
>100 grams or 3.5 oz	19 sq in 122.59 sq cm	6 in 15.24 sq cm

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**Space Requirements:
Nursing Female Hamsters**
(After Aug 15, 1990)

Type of Hamster	Minimum Space per Litter (No other Hamsters Allowed in enclosure)	Minimum Interior Height
Hamster	121 sq in 781 sq cm	6 in 15.24 cm
Dwarf Hamster	25 sq in 161 sq cm	6 in 15.24 cm

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- Space Requirements:
Rabbits**
- Minimum floor space in all of the following tables does not include the space taken up by food and water receptacles
 - For primary enclosures acquired prior to Aug. 15, 1990, refer to AWA regulations and standards

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**Space Requirements:
Rabbits**
(After Aug 15, 1990)

Each Weaned Rabbit by Weight	Minimum Space per Rabbit	Minimum Interior Height
< 4.4 lbs Or <2 kg	1.5 sq ft .14 sq meters	14 in 35.56 cm
4.4-8.8 lbs or 2-4 kg	3 sq ft .28 sq meters	14 in 35.56 cm
8.8-11.9 lbs or 4-5.4 kg	4 sq ft .37 sq meters	14 in 35.56 cm
>11.9 lbs or > 5.4 kg	5 sq ft .46 sq meters	14 in 35.56 cm

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Example of primary enclosure with adequate floor space and height for adult rabbits.

Photo: D. Ausen, ISU

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**Space Requirements:
Nursing Female Rabbits**
(After Aug 15, 1990)

Weight of Female	Minimum Space per Female/Litter	Minimum Interior Height
< 4.4 lbs Or <2 kg	4 sq ft .37 sq meters	14 in 35.56 cm
4.4-8.8 lbs or 2-4 kg	5 sq ft .46 sq meters	14 in 35.56 cm
8.8-11.9 lbs or 4-5.4 kg	6 sq ft .56 sq meters	14 in 35.56 cm
>11.9 lbs or > 5.4 kg	7.5 sq ft .70 sq meters	14 in 35.56 cm

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Example of primary enclosure with adequate space for mother and babies as well as an appropriate nesting box with bedding materials.

Photo: D. Ausen, ISU

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- Innovative Primary Enclosures**
- For guinea pigs, hamsters or rabbits
 - Enclosures that do not precisely meet space requirements, but that do provide sufficient space and the opportunity to express species-typical behavior may be approved by:
 - Dealers and Exhibitors – Animal Care Administrator
 - Research Facilities – Institutional Animal Care and Use Committee

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- Conclusion**
- You should now be able, as appropriate for guinea pigs, hamsters or rabbits:
1. Define the different types of facilities (indoor, outdoor)
 2. Describe the general structural and maintenance requirements for all facilities
 3. Define and describe Primary Enclosures suitable for each species
 4. Describe maintenance, climate, other requirements for primary enclosures

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Questions?

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Acknowledgments

This presentation was produced by the Center for Food Security and Public Health, Iowa State University through a cooperative agreement with USDA APHIS Animal Care.



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