

# Cats in a Research Setting Scenario

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2021 ANIMAL WELFARE ASSESSMENT CONTEST

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# Notes

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1. THESE ARE FICTITIOUS ANIMALS AND SITUATIONS. They have been created using pictures and information collected from multiple sources to generate realistic, yet fabricated scenarios. Neither situation exists as presented here.
2. Please use the images provided throughout the presentation as well as text when making your assessment.
3. Data given applies to cats in the entire ROOM, unless otherwise noted

# Overview

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## Facility A

- University setting in the midwestern United States
- Cats are used in an Animal Care and Use (IACUC) Protocol as a model for early-onset asthma
- Facility is AAALAC accredited
- 3 full-time animal care staff

## Facility B

- University setting in the western United States
- Cats are used in an Animal Care and Use (IACUC) Protocol for motor neuron research related to spinal cord injury
- Facility is AAALAC accredited
- 4 full-time animal care staff

# Cats

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## FACILITY A

- Two identical rooms used for research involving cats
- Range in age from 6 months to 5 years
- Mixed sex (all spayed or neutered)
- Purchase purpose-bred cats from a USDA licensed facility
- Domestic shorthair

## FACILITY B

- Three identical rooms used for research involving cats
- Range in age from 6 months to 4 years
- Mixed sex (all spayed or neutered)
- Purchase purpose-bred cats from a USDA licensed facility
- Domestic shorthair

# Housing: Facility A

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- Cats housed in groups of 3 and according to age and sex
- Each room has 12 pens; 72 cats per room
- One litter box per pen (changed daily)
  - 1/8 inch (0.32 cm) of corncob bedding is provided in the litter pan daily
- 2 perches per pen
  - Adjusted by staff to ensure that cats can sit and stand upright under each perch
- Clean towels or blankets placed in gray tub daily
- Lights are turned on at 6am and off at 5pm
- 10-15 air changes per hour of recycled air
- Room temp ranges from 62-86°F (17-30°C), humidity range: 35-80%
- Cats observed for signs of aggression or fighting
  - Groups will be switched and if a cat still shows aggression/fighting the cat is moved to an individual cage within the same room



# Housing: Facility A

- Cats have access to both sides of the pen
- 3 cats weighing 10-11 pounds (4.5-5kg) each are in this pen
- Totally lying surface (including perches and not including the litter box) is 10.8 square feet (1 square meter)



Photo credit: Kimberly Williamson

Photo credit: Kimberly Williamson



# Housing: Facility A



Photo credit: Kimberly Williamson

Wider view of the same pen (cats can access both sides)



# Housing: Facility B

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- Cats housed in groups of 8 and according to age and sex
  - Each room has 2 pens
- Two litter boxes per pen (changed daily)
  - 1/4 inch (0.64 cm) of corncob bedding is provided in the litter pans
- 8 perches per pen (cats able to sit and stand under most)
- Clean towels or blankets are placed throughout the cage daily for cats to use when sleeping
- Lights turned on at 6am and off at 6pm
- 10-15 air changes per hour of non-recycled air
- 64-84° F (18-29° C); humidity range: 30-70%
- Cats are observed for signs of aggression or fighting
  - Cat might be added to a different group and if still showing aggression/fighting, the cat is moved to an individual pen in a separate room (usually there are 3 cats in the room at any time)

# Housing: Facility B

- Cats have access to both sides of the pen
- 8 cats weighing between 10 to 11 pounds (4.5-5kg) each are in this pen
- Total lying surface (including perches and not including the litter boxes) is 44 square feet (4.1 square meters)



Photo credit: Kimberly Williamson

Photo credit: Kimberly Williamson

Left side of pen

Right side of pen



# Housing: Facility B



Photo credit: Kimberly Williamson

Wider view of the same pen (cats can access both sides)

# Food and water overview

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## FACILITY A

- Cats are fed dry food ad libitum (1 food and 1 water dish per pen)
- Cats are observed individually to ensure they are eating and drinking; uneaten food removed daily
- Water dishes are emptied, rinsed, and refilled daily
- Dry food is supplemented with 1 tablespoon canned food (added on top of dry) once daily

## FACILITY B

- Cats are fed dry food ad libitum (2 food and 2 water dishes per pen)
- Each pen is observed individually to ensure they are eating and drinking; uneaten food removed daily
- Water dishes are emptied, rinsed, and refilled daily

# Food for adult cats

Facility A: Purina Cat Chow dry food (for cats over 12 months of age)

Nutrients	Amount
Crude Protein (Min)	36%
Crude Fat (Min)	16.0%
Crude Fiber (Max)	2.0%
Moisture (Max)	12.0%
Linoleic Acid (Min)	1.4%
Calcium (Ca) (Min)	0.8%
Phosphorus (P) (Min)	0.7%
Vitamin A (Min)	10,000 IU/kg
Vitamin E (Min)	200 IU/kg
Taurine (Min)	0.15%
Omega-6 Fatty Acids* (Min)	1.5%
Bacillus coagulans* (Min)	600 million CFU/lb

\*Not recognized as an essential nutrient by the AAFCO Cat Food Nutrient Profiles

Facility B: Fed Iams Cat Chow dry food (for cats over 12 months of age)

Nutrients	Amount
Crude Protein	38.0%
Crude Fat (Min)	18.0%
Crude Fiber	3.0%
Linoleic Acid	2.50%
Calcium	0.8%
Phosphorus	0.70%
Selenium (Sodium selenite)	0.35 mg/kg
Taurine	0.15%
Omega-3 Fatty Acids	0.2%*
Omega 6 Fatty Acids	2.00%*





# Cleaning

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## FACILITY A

Pens are spot cleaned daily

Cats removed with their pen group and placed in a separate room once per week while staff sanitizes everything

- Whole process takes about 2 hours
- Cats moved back after 2.5 hours

## FACILITY B

Pens spot cleaned daily.

Cats are removed as a group and placed into a separate room every two weeks while cleaning staff sanitizes everything in the pens

- Process takes about 45 minutes
- Cats moved back after 1.5 hours

# Enrichment: Facility A

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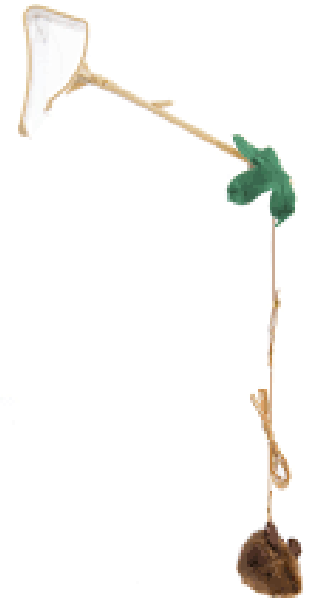
Enrichment items (toys and scratching board) are sanitized and rotated between pens every week

- Staff frequently orders new toys to add to the rotation

Caretakers spend time daily with cats when they are changing feed and water

Cats are given catnip twice per week

Student volunteers spend time with cats 3 days per week to let cats out of cage and interact with them



# Enrichment: Facility B

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Enrichment items (toys) are never shared between pens and typically thrown away after they are damaged

- New items added every 2 weeks

Caretakers spend time daily with cats when they are changing feed and water

Cats are given catnip once per week

Student volunteers spend time with cats 5 days per week to let cats out of cage and interact with them

- Cats receive treats and play with novel toys



# General Husbandry

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## FACILITY A

Required PPE in cat rooms: shoe coverings, closed-toe shoes, long pants, face masks, disposable gowns, hair coverings, and exam gloves (Bite-resistant gloves are used when handling cats for medical procedures)

Staff also cares for dogs and mice

- Mouse and dog duties performed first, then cats; most PPE changed between rooms/species

## FACILITY B

Required PPE in cat rooms: dedicated rubber boots, dedicated scrubs with long sleeves and pants, face masks, hair coverings, and exam gloves

Staff also care for dogs

- Cat duties are performed first, then dogs; all PPE changed between rooms

# Medical Care: Facility A

IACUC and lab animal veterinarians approves all protocols and are available 24/7

Cats observed daily for signs of illness in animals

Animal care staff performs wellness exams on cats four times per year

- Staff weighs cats and evaluates hair coat, eyes, ears, and skin, and trims nails, notify veterinarian of any issues
- Animal care staff will trim nails throughout the year if cats require it

All cats and kittens are routinely vaccinated

Approximately 10% of cats will scratch and/or bite during wellness exams or vaccinations

Fecal exams performed yearly on all animals, at 9 weeks of age for kittens, within 1 year of weaning, and if signs of illness are noted



# Medical Care: Facility B

IACUC and lab animal veterinarians approve all protocols and on call 24/7

Cats observed daily for signs of illness in animals

Animal care staff performs wellness exams on cats three times per year

- Staff weighs cats and evaluates hair coat, eyes, ears, and skin, and trims nails
- Abnormalities are noted and the veterinarian is notified if there are issues
- Longer nails are noted on about 40% of cats

All cats and kittens are routinely vaccinated

Approximately 3% of cats will scratch and/or bite during wellness exams or vaccinations

Fecal testing performed yearly or if cats have signs of illness

# Health: Facility A

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8% of animals treated for respiratory illness (not asthma) yearly

4% of kittens identified with diarrhea due to parasites

Body Condition Score (9 point scale)

- 30% have a BCS of 4 or 5
- 70% have a BCS of 6

3% of cats have self-induced alopecia that results in skin injury

# Health: Facility B

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2% of animals treated for respiratory illness (not asthma) yearly

12% of kittens identified with diarrhea due to parasite

Body Condition Score (9 point scale)

- 80% have a BCS of 4 or 5
- 20% have a BCS of 6

1% of cats have self-induced alopecia that results in skin injury

# Time Budgets

Behavior	Facility A	Facility B
Alert	6	3
Attempt escape	3	1
Eating and drinking	1	1
Fighting	1	2
Interacting with enrichment	6	3
Interacting with humans	10	17
Locomotor	2	6
Other	1	1
Play	2	10
Resting	62	52
Self-grooming	6	4

Numbers shown indicate the percentage of time cats performed a given behavior during the period when the lights are on

# Euthanasia

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## FACILITY A

- Performed by the facility veterinarian or an experienced staff member according to AVMA guidelines
- Euthanized 10% of cats (8/72) over the past year (all for welfare concerns, not study endpoints)
  - Pain due to severe skin injury (n=4)
  - Severely injured in a fight (n=2)
  - Severe respiratory disease (n=2)

## FACILITY B

- Performed by the facility veterinarian or an experienced staff member according to AVMA guidelines
- Euthanized 5% of cats (2/36) over the past year (all for welfare concerns, not study endpoints)
  - Severely injured in a fight (n=1)
  - Broken leg (n=1)



# Adopting out

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## FACILITY A

Cats kept until about 5-6 years of age, at which time they are adopted out

- About 75% of cats aged 5-6 years in the facility are deemed fit for adoption (due to health, body condition, behavior, etc.)
- Approximately 3% of cats that are adopted out are subsequently noted for behavioral issues
- Animals are used for approximately 8 studies prior to being adopted out

## FACILITY B

Cats kept until about 7-8 years of age, at which time they are adopted out

- About 85% of cats aged 7-8 years in the facility are deemed fit for adoption (due to health, body condition, behavior, etc.)
- Approximately 1% of cats that are adopted out are subsequently noted for behavioral issues
- Animals are used for approximately 10 studies prior to being adopted out