



# ANIMAL TRACKS

A newsletter for the Duke research community



November 2008

<http://vetmed.duhs.duke.edu>

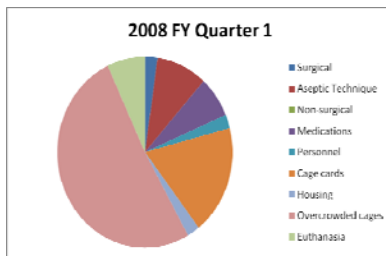
## Compliance Concerns With Animal Care Practices (Rodent Housing Density)

Dear Colleagues:

The Duke animal care and use program has over 1200 individuals engaged in a large number of animal use protocols and care SOPs. As a program, we continue to do well in being fully compliant with the expectations of animal care and use as approved by the Duke IACUC, but recently, we are having increasing concerns with rodent caging density issues.

During this most recent quarter, Duke's Office of Animal Welfare Assurance (OAWA) performed 256 audits of animal care and use activities. The audits were a combination of routine and select reviews, and covered all species and protocols. For this past quarter, the Duke animal program experienced a compliant performance rate for 360 audits, of 88%. This is a favorable report, but fails to meet our program plan of > 90% compliance, and no significant non-compliances.

The good news is there were very few significant non-compliances, and we were very close to our institutional definition for a compliant program of 90%, but we did not make it, and in large part due to rodent caging density issues. The overwhelming bulk of the non-compliant incidents reported during this period involved rodent caging density. Commonly, and often erroneously called 'overcrowding' the non-compliant nature of our density issues relate to deviation from approved SOPs or protocol, generally as it involved breeding colonies. There were no cases of inhumane overcrowding, but rather cases of holding density that exceeded the federal or Duke established guidelines.



Researchers tend to maximize the use of a single cage, and in doing so may exceed the guidance on cage density. Researchers may also be relying upon DLAR's notification that the cage requires decompressing, and in doing so the researcher is being tagged with an overcrowded cage.

See Rodent Density .... Page 2

## Bill Wade, LVT, RLATG Joins OAWA

Five years ago, the Office of Animal Welfare Assurance began an initiative to enhance the support for Duke's animal research community and the IACUC. The goals of this initiative were 'building' and 'bridging.' The strategic plan included a specific set of roles for individuals having specific skill sets. Our building process began with the hiring of Sonia Doss, RLATG, CMAR and Julie Sharp, DVM, who collectively worked to establish a collegial and effective post approval monitoring program (after Julie was promoted to Asst. Director, April Kolstad, DVM replaced Julie as Compliance Liaison). A number of months after initiating the post approval monitoring process, we added Deb Vanderford, DVM to assist PIs with protocol development and assist the IACUC with protocol processing and review. And now, the final member of that strategic plan has been added, the animal program educator.

Bill Wade, LVT, RLATG is not a new face to the Duke community. He has served faithfully since 2004 as the Operations Manager for the DLAR Vivarium. Bill comes to the OAWA with 23 years of experience in education and training of veterinary medical and laboratory animal science personnel. Having a career spanning 34 years in the profession of veterinary technology, he is a Licensed, Certified and Registered Veterinary Technician, and an AALAS Registered Laboratory Animal Technologist.

See OAWA Staff .... Page 3

## Upcoming Dates & Deadlines

November 24	Significant Change Deadline
December 1	New Protocol Deadline
December 4	Significant Change Meeting
December 5	Brown Bag Seminar: Export Controls
January 5	New Protocol Deadline
January 12	Significant Change Deadline
February 2	New Protocol Meeting
February 23	Brown Bag Seminar: Preparing for an IACUC Semi-Annual Inspection

*Deadlines are 5 PM on the date listed! No exceptions!*

**The IACUC has determined that rodent caging density is an important program concern which requires the attention of all rodent users!** This issue of Animal Tracks reviews the policy and methods to prevent having a citation of non-compliance for overcrowding applied to your laboratory.

As described in the Duke animal care and use program policy, animals require an appropriate housing environment to thrive and provide a stable biologic model. Barring any scientific evidence to the contrary, the density recommendations of The Guide provide an appropriate and reasonable density. In some cases, The Guide is not sufficiently clear, so the Duke IACUC created a policy which uses The Guide as a basis and considers the style of caging, researcher needs, and affect upon the animals.

According to the NRC/ILAR Guide for the Care & Use of Laboratory Animals, a mouse weighing >25 grams requires 15 in<sup>2</sup> (or in other words, a 75 in<sup>2</sup> mouse cage <the Duke standard mouse cage> can hold up to 5 mature mice). Lesser sized mice require less space per animal (see chart).

Animal Weight	Floor Area/Animal
<10 grams	6 in <sup>2</sup> per animal
Up to 15 grams	8 in <sup>2</sup> per animal
Up to 25 grams	12 in <sup>2</sup> per animal
>25 grams	>15 in <sup>2</sup> per animal

However, one must account for ALL rodents in a cage, and in the case of breeding operations, the new litter (especially large litters) and multiple adults may require attentiveness to prevent an violation of density guidelines! The regulations do give the veterinary staff the ability to make a professional judgment based upon individual animal needs, behavior, compatibility of the animals, numbers of animals, and the goals of the housing situation, however having the veterinary staff 'exempt' a cage of rodents from the guidance must be an infrequent activity resulting from a biological surprise (e.g., the mom produced more pups than usual). So, don't euthanize your animals just because you are worried about getting an 'OVERCROWD' notice; the DLAR vets can help, just don't make a habit of using DLAR to address rodent overcrowding.

Realizing that 'mistakes happen,' and in an attempt to be partnering rather than prohibitive toward animal care and use, the Duke IACUC approved many months ago a practical and liberal set of guidelines for determining a violation of this policy:

- Overcrowding reportable to the IACUC is defined as more than five incidents within a three-month period.
- An incident is defined as overcrowding events that occur within 3 calendar days.
- Incidents will be tracked on a protocol basis and are not facility specific.

For example: if overcrowded cages are identified on a Monday (calendar day 1), and additional cages are identified on Tuesday (calendar day 2), these are considered the same incident. If overcrowding is identified on Monday (CD 1) and Thursday (CD 4), these are considered two separate incidents.

In essence, this means that any number of overcrowding cages identified on the same day are recorded as a single incident. In other words, it takes a 'continuing lack of attention' to the caging density before the IACUC determines that regulatory. It is this 'continuing lack of attention' that is significant and needs correction.

There are certain specific actions your laboratory can perform which will prevent a violation of the rodent housing guidelines. For adult experimental animals:

- House no more than five (5) mice (post wean to adult) in the same cage.

For breeding operations:

- House no more than three (3) adults and five (5) pups older than seven (7) days of age in the same cage; or
- House no more than two (2) adults and ten (10) pups older than seven (7) days of age in the same cage; or
- Use monogamous breeding schemes (rather than triad breeding schemes).

Other steps which will also help prevent an overcrowding citation, include:

- House one (1) adult female and as many pups as are the progeny of that adult female.
- Remove the male from breeding harems after pregnancy is confirmed to prevent post-partum breeding.
- Never all two (2) litters of pre-weanlings greater than two (2) weeks apart in age to be in the same cage.

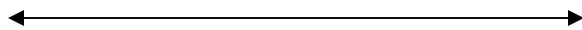
#### **SPECIAL NOTES ON OVERCROWDING:**

- An 'OVERCROWD' notice IS NOT a warning of impending overcrowding, but rather IT IS an indication overcrowding (a violation) has occurred. An 'OVERCROWD' notice is an IACUC reportable non-compliance, and must be corrected within 24 hours of notice application! **Do not use the DLAR Overcrowd Alert system as part of your standard breeding management plan.**
- Single housing of aggressive male breeders or pregnant females from one week prior to parturition until birth of the pups DOES NOT constitute an exemption to The Guide for the Care & Use of Laboratory Animals (Institute of Laboratory Animal Resources, NRC) and DOES NOT require separate IACUC approval. **You may move a pregnant female into a cage by herself up to one week prior to parturition and NOT have to request a special 'exemption' from the IACUC.**

Prior to coming to Duke, Mr. Wade served as the Manager of Compliance and Training for the Center for Comparative Medicine at Northwestern University. While there, he developed and implemented the animal research industries first on-line training software. His experience was further broadened by his service as the IACUC Chairman for the Joliet (Illinois) Junior College IACUC. A past president of the National Association of Veterinary Technicians in America, a certified instructor in a number of school and course venues, and a veteran of 24 years of military service, Mr. Wade brings a wealth of talent and tremendous potential to help our program mature and our research team develop an enhanced sense of compassionate and progressive animal care and use.

Bill's specific duties in this new position will include developing, coordinating, and providing federally mandated training for the Duke research community; and to set our minds at ease, this does not mean a large increase in required animal program training, but a more refined approach to training the federal requirements and training to meet the specific needs of the specific research laboratory or researcher. In addition to these duties, Mr. Wade will over time also assume coordinating responsibilities for the federally required IACUC facility inspections and conduct the newly state required controlled substances audits.

Join us in welcoming the newest member of the OAWA team. Mr. Wade is willing and able to assist your laboratory with specific training needs. You may reach Bill via email at [w.wade@duke.edu](mailto:w.wade@duke.edu) or by phone at 919.668.6720.



## IDENTIFYING CARCASS CONTAINERS

When animals are euthanized, the expectation is that the carcass will be placed in a plastic bag and stored in a carcass cooler. **All carcass bags must be identified as to laboratory, individual performing euthanasia, and the date the euthanasia was performed. Adhesive labels are preferred and available from DLAR.**

## HOUSING DIFFERENT SPECIES IN THE SAME PLACE

Section 2 of the Guide for the Care and Use of Laboratory Animals ("the Guide") discusses several aspects of the physical environment for housing research animals. Although there are no specific guidelines that reference co-housing of different species, some common factors apply should the need arise.

The need to co-house animals of different species can be the result of several factors. These can include space limitations, research needs or equipment availability. In addition to meeting the basic requirements of the Guide, as it relates to the micro and macro-environments, other factors include the potential for cross species pathogen transfer, traffic flow issues affected by current room pathogen status, availability of staff to work with both species and the availability of specific equipment needed to co-house different species.

Researchers must also consider inter-species relationships and their potential for interference. Predator/prey responses, sights, sounds and odors for example.

Co-housing of large animal species (ruminants, swine), though not recommended, may be necessary due to space constraints, research needs, etc. Again, health status of the animals is crucial due to the possibility of susceptibility to similar pathogens.

For rodents co-housing is possible with the use of Individually Ventilated Cage (IVC) racks. The health status of animals being co-housed should be confirmed. Veterinary consultation should be sought in the event known pathogens are present in either population.

IVCs can be set to either negative or positive to the room environment depending on health status. For example this would allow mice in an IVC to be housed concurrently with rats housed conventionally (micro-isolator on shelf).

Principle Investigators who are considering the option of co-housing different species should consult with animal care and regulatory staff to ensure that these capabilities exist or can be accommodated.