

INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE MEETING
Tuesday, July 2, 2019
350-B ERML
12:00pm

Present: L. Arseneau, S. Allison, H. Chen, R. Dilger, L. Goodly, C. Hayes, N. Herndon, J. Hoover, D. Llano, K. Swanson, H. Valentine, J. Whitson, and J. Gulley presiding.
Absent: M. Dreslik, J. Fraley, D. French, J. Novakofski, and M. Vitoux.
Guests: K. Branson, R. Chafel, B. Hayek, S. Myers, and J. Van Cleeff.
A legal quorum was met.
Minutes authored by Ben Hayek.

I. Announcements

- a. SCAW – IACUC Training Workshop (UIC) November 22nd

Committee members were encouraged to attend the SCAW workshop; the OVCR has offered financial assistance to anyone interested.

II. Approval of Minutes

A motion was made to approve the minutes from 6/4/19. The motion was seconded and approved unanimously.

III. Response to Annual Review of Protocols

- a. No unresolved questions or concerns arose during the May 2019 Annual Reviews.

IV. Old Business

- a. Dairy update

A large trial will be ending next week, which will allow the farm to proceed with the planned down-sizing of the herd. Staff have been culling cows over the last month. During a recent walk-through, the facility showed increased signs of cleanliness. The committee would like the IACUC office to prepare a report for the next IACUC meeting showing the progress of herd down-sizing and SCC levels.

- b. Genesis/USDA subcommittee update

The Chair reported that a subcommittee has been formed to advise the IACUC as to whether the recordkeeping inaccuracies encountered during the Genesis investigation is an isolated incident or something that occurs with greater frequency. Cases for several other resident animals have been identified, and those records will be evaluated by the subcommittee.

V. New Business

- a. none

VI. Full Committee Review of Animal Use Protocols

19104 The influence of developmental PCB exposure on the mouse auditory system [REDACTED], [REDACTED]

Committee Discussion: The PI has justified the use of prolonged restraint. Animals will be acclimated to the procedure to reduce distress. They will walk freely on a treadmill for up to two hours. Animals will be monitored for excessive movement or audible vocalizations, and if either

are noted, the experiment will be terminated. Since the responses to reviewers' questions was just received, the committee agreed to send the protocol to DMR after the reviewers' concerns were resolved.

Action: A motion was made to send the protocol to DMR once the primary reviewers' concerns were resolved. The motion was seconded and approved unanimously.

VII. Protocol Deviations

a. 17149 [REDACTED] post surgical analgesia

On June 17 and 18, surgeries were performed on 45 mice (surgical cut down over trachea for direct injection of inoculum into the trachea). Ketamine/Xylazine was used for anesthesia, as described in the protocol, but the lab forgot about the need to administer an analgesic. The protocol states that Meloxicam 2mg/kg will be given SQ just before surgery. After completing the surgeries on June 18, the lab realized they did not have or administer any Meloxicam, and attempted to place an order through DAR for the Meloxicam. DAR does not stock injectable Meloxicam, so a DAR veterinarian approved the use of Carprofen at 5mg/kg SQ to be given to the animals that had already received surgery. The Carprofen was dispensed to the lab around 4pm on June 18th and administered to the animals. The committee would like the IACUC office to remind the PI that everyone in the lab must be familiar with all aspects of the approved protocol.

b. 17232 [REDACTED] ear punches

Since the PI was unavailable, a DAR technician was training lab personnel on procedures unfamiliar to them. Without checking the approved protocol, the technician was asked to, and performed, ear punches on 30 anesthetized mice. The technician immediately reported the deviation, and the lab submitted an amendment shortly after. The committee would like the IACUC office to remind the PI that everyone in the lab read and understand the entire protocol, and any changes to the protocol must be approved before they are put into practice. Additionally, if DAR personnel will be performing any procedures (not just for training), then they must be added to the protocol.

c. 18273 [REDACTED] unapproved procedure

On Tuesday, June 4th, a lab personnel emailed the IACUC with questions about hamster techniques pertaining to protocol #18273. A DAR veterinarian responded to those questions, and through further discussion, discovered that the lab was surgically implanting a SQ capsule into 11 day old hamsters. In the protocol, they are only approved to implant the SQ capsule via a 12-gauge stainless steel microchip injector. The vet asked the lab to immediately stop any unapproved procedures, which they did, and set up a meeting for June 6.

Approved on Protocol: One hour before capsule implantation animals will receive an IP injection of 0.5mg/kg body weight Carprofen. Hamsters will receive a single subcutaneous implant of a silastic capsule (2mm diameter x 1cm length) in the dorsal area using a stainless steel microchip injector.

Actual procedure performed: Hamsters were given an IP injection of Carprofen one hour before surgery. Utilizing a clean cart in the housing room as a work surface, the skin over the right shoulder was cleaned with betadine, the skin was tented and an incision was made with scissors. Blunt forceps were used to undermine the skin to create a subcutaneous pocket and the capsule was inserted in a caudal direction. The incision was closed with skin glue.

The procedure was performed on 25 hamsters on June 3rd and 4th by another experienced lab member. All hamsters were reported as doing well with only minor swelling at incision site post-op. No anesthesia was used, no additional carprofen was given. At time of surgery, some of the hamsters also received an ear punch to indicate treatment, which is also not currently approved in the protocol.

On June 6th, the vet met with both lab members to discuss the unapproved procedures. The vet emphasized the importance of knowing exactly what is written in the approved protocol, and the need to amend the protocol before changing any procedures. The reason given for using a surgical implantation instead of a microchip injector was that they didn't have the right size injector available. Both lab members assured the vet that they understood, and will make sure to stick to the approved protocol moving forward. One of the lab members was already working on submitting an amendment to address the necessary changes. The vet checked on the hamster pups; they all appeared healthy and active, and the incision sites were very small, closed and no sign of inflammation. The committee would like the IACUC office to remind the PI that all protocol deviations should be reported to the IACUC by the principal investigator.

VIII. Report of Unexpected Animal Loss

a. 18064 [REDACTED] castrated piglets

On June 6, fifteen healthy intact boars on IACUC protocol 18064 were castrated by the University of Illinois FARMS Services at the [REDACTED]. The boars were sedated with 0.3-0.4 mL (dependent on estimated weight of 20-30#) of TKX (Telazol, Ketamine, Xylazine) administered IM in the neck behind the ear. The TKX solution was made from a combination of telazol 5 ml (100 mg/ ml) reconstituted with ketamine 2.5ml (100 mg/ml) and xylazine 2.5 ml (100 mg/ml).

Procedure: Using a curved scalpel blade an incision was made in the scrotum over one testicle, the testicle was manually exteriorized, then clamped and cut with a Serra Emasculator. The same procedure was performed on the second testicle. Iodine solution was drenched over the incision sites. Some individuals were scrubbed with iodine and alcohol before incising. 0.5 ml of Excede (ceftiofur CFA) was given IM behind the ear to all 15 pigs. Both testicles were successfully castrated from all pigs. All pigs post-operatively remained sedated and laterally recumbent; no reversal was given to any of the pigs.

AACUP was made aware that four of the castrated pigs died following this procedure. Unfortunately the farm manager had already disposed of the dead piglets by incinerating them. The PI is engaged in helping to ascertain exactly what transpired on this occasion. He has requested a formal evaluation of the event by the Quality Improvement Committee of the Veterinary Clinical Medicine Department. The Medical Record for this event is MR700012 visit #1927437. The AACUP will launch this investigation and provide further details as they become available. The committee would like the IACUC office to contact the PI for further clarification, including: the age of the pigs when the castration occurred; the level of mortality on the protocol for this type of circumstance; the plan to prevent reoccurrence. Additionally, if an animal dies unexpectedly in the future, AACUP should be contacted before incinerating the carcass, and animals must be monitored at least until they have regained sternal recumbency.

d. 18012 [REDACTED]) hose clamp malfunction

Overnight, on June 18th into the morning of June 19th, at the [REDACTED], one of the water hoses in the grower house that connects the building's main water supply to one of the four nipple drinker lines became detached due to a hose clamp malfunction. Possibly, a bird tried to roost on the hose overnight and caused the hose to detach from the water supply line. The issue was discovered around 7:35AM on June 19th by a student who was going to perform routine daily chores in the building. Water supply to the broken water line was shut off immediately and birds were removed from the building to be housed in the cage house for holding, until the grower house can be reinstated for bird use. Bird density in the cage house currently obeys the requirement of the Ag Guide for pullets up to 12 weeks of age. Unfortunately, 74 W36 pullets and 61 Lohmann pullets were lost out of the 2,998 total birds being housed. As the water flooded the bedding, birds moved to the more firm-floored parts of the house, and in one corner began piling on other birds. Unfortunately, the birds at the bottom of the pile were lost. The [REDACTED] is approximately 12 years old and this problem has never occurred in the past with exactly the same water lines and equipment, and the same number

of birds have been raised in this facility for each of the last 12 years, so this is a very unusual occurrence and could not have been predicted or anticipated.

In order to fix the problem and add preventative measures, heavy duty hose clamps were purchased to replace the thinner clamps, one of which came loose to cause the flood. Two more hose clamps were installed to prevent any direct force to the connection between the hose and building's water supply, without being so tight as to cut off the supply of water through the hose. The second thin/circular hose clamp, connecting the hose to the nipple drinker line, was also replaced as a preventative measure. As the water lines are raised, creating more slack in the hose, the two hose clamps at the ceiling will be adjusted so that the water hose hangs straight down, making it impossible for a bird to roost on it. The committee would like the IACUC office to contact the PI or facility manager to inquire about the rest of the clamps through the facility, especially if any are coming off the main (high pressure) water lines.

e. 17140 [REDACTED] llama

An AACUP veterinarian reported the unexpected death of Beyonce, one of their teaching/guard llamas. She was last seen alive on Sunday June 30th in the morning and was found dead around 3pm that same day. She has been submitted for necropsy. She was a 14-year-old female llama that had been part of the teaching herd since 2015, and was concurrently on protocols 17140 (teaching) and 18039 (production). She had been in the clinic on Friday 6/29/19 for shearing, and no health concerns were noted at that time. The necropsy report will be forwarded as soon as it is available.

IX. AACUP/DAR/OHS Report

AACUP had nothing to report.

DAR had nothing to report.

OHS had nothing to report.

X. Other Items from the Floor

a. Online Science article

Two committee members and University Public Affairs spoke with the editor of the online Science publication about another article related to the University that will be likely be released in the near future.

The meeting was adjourned at 1:09 p.m.

INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE MEETING
Tuesday, August 6, 2019
350-B ERML
12:00pm

Present: L. Arseneau, S. Allison, R. Dilger, J. Fraley, D. French, L. Goodly, N. Herndon, D. Llano, J. Novakofski, H. Valentine, M. Vitoux, and J. Gulley presiding.
Absent: H. Chen, M. Dreslik, C. Hayes, J. Hoover, K. Swanson, and J. Whitson.
Guests: K. Branson, R. Chafel, B. Hayek, S. Gutierrez, C. Ko, and J. Van Cleeff.
A legal quorum was met.
Minutes authored by Ben Hayek.

I. Announcements

a. Comings and goings

Two members are finishing their service with the committee, and four new members will begin theirs in September.

b. AAALACi visit/follow-up

The Chair briefly discussed the site visit with AAALAC and a few follow-up items that need to be addressed.

c. AMPLify Advocacy

The outreach efforts of a DAR vet were featured in a monthly Advocacy Highlight section of Americans for Medical Progress.

II. Approval of Minutes

A motion was made to approve the minutes from 7/2/19. The motion was seconded and approved unanimously.

III. Response to Annual Review of Protocols

a. No unresolved questions or concerns arose during the June 2019 Annual Reviews.

IV. Old Business

a. Dairy update

Instances of toxic mastitis occurred in animals located in the south barn; the facility will now be used solely for storage. The Institutional Veterinarian continues to meet regularly with the department head to discuss the Dairy, which showed well during the AAALAC visit. At the next manager's meeting, staff will be encouraged to maintain the same level of cleanliness. The Dairy manager continues to provide monthly statistics to the IACUC in a timely manner. The manager was commended for his use of electronic record-keeping for all resident animals. The herd continues to be down-sized, as planned, and efforts to keep SCC low have been successful.

b. Beyoncé necropsy

The final necropsy report was received. No conclusive diagnosis could be determined, but the findings were consistent with heat stress.

c. 18064 () follow-up

The PI responded to the concerns of the committee. Members agreed with the PI that the pigs likely died of malignant hyperthermia. The PI has communicated to project and farm personnel that an AACUP veterinarian should be contacted before incinerating any carcasses, and appropriate project personnel and/or staff will continue monitoring animals at least until they have regained sternal recumbency.

d. Adoptions

The Institutional Veterinarian shared the details of a conversation with a colleague at another institution that highlighted the importance of the careful planning of the adoption of research animals, particularly dogs and cats.

V. New Business

a. Respirator fit testing – documentation

The committee discussed AAALAC's concerns about the use of N-95's in various facilities throughout campus. It became clear that further investigation would be required in order to come to an appropriate resolution. The OHS Specialist will work with Safety and Compliance to provide further guidance and recommendations to the IACUC at a future meeting.

b. Foot shocks (19122)

There is currently no policy or guideline regarding the use of foot shocks. This is due to the fact that developing criteria is situationally dependent. Ultimately, the committee agreed that it would continue to evaluate each protocol on a case-by-case basis.

c. Environmental Enrichment policy

The IACUC office will draft a new enrichment policy and distribute it to veterinary staff for feedback before presenting the updated policy to the committee for approval.

d. Inspection of personal vehicles

In response to AAALAC's concerns about the use of personal vehicles for transporting animals on campus, IACUC office staff polled other Big10 institutions to discover how they dealt with this issue. A subcommittee will be formed, and recommendations will be offered to the IACUC.

VI. Full Committee Review of Animal Use Protocols

19122 Development of Novel Therapeutic Approaches for the Prevention and Treatment of Age-Related Disabilities [REDACTED]

Committee Discussion: Food and water location will be altered to ensure accessibility. Animals will be monitored daily, and appropriate criteria for euthanasia are outlined. The committee would like the PI to clarify which animals will go through each study/procedure, and whether the animals in the hindlimb immobilization group will take part in the avoidance study.

Action: A motion was made to send the protocol to DMR once the committee's concerns were resolved. The motion was seconded and approved unanimously.

17232 Impact of nuclear and extranuclear actions of estrogens on metabolic health and hormone related cancers [REDACTED]

Committee Discussion: Several issues were still unresolved with this protocol. A DAR veterinarian is planning on meeting with the investigator. The committee would like to discuss the amendment at the next convened meeting.

Action: The protocol was tabled.

19125 Synergizing Radiation-Induced Immunogenic Cell Death and Toll-Like Receptor 9 Agonism to Generate Abscopal Effects in Osteosarcoma ([REDACTED])

Committee Discussion: The investigator learned several techniques to be used in the study at another institution. The lab has a large amount of experience, and has a very positive track record. Post approval monitoring will also be in place to observe the first surgery.

Action: A motion was made to approval the protocol as written. The motion was seconded and approved unanimously.

18264 Examining the physiology and clinical utility of high-frequency QRS signals in different animal species ([REDACTED])

Committee Discussion: The investigator would like to recruit client-owned animals in foreign countries. The committee discussed the limits of its oversight responsibility, ultimately deciding that the PI will need to amend the protocol (and receive approval) to add any new locations before collecting data in a location that is not described in the protocol.

Action: A motion was made to send the protocol to DMR once the appropriate additions are made to the protocol. The motion was seconded and approved unanimously.

VII. Protocol Deviations

- a. none

VIII. Report of Unexpected Animal Loss

- a. 18193 [REDACTED] rabbit

A rabbit died during anesthesia shortly after placing V-gel in the airway for protection. This was the first time the lab was using this particular anesthetic protocol and the V-gel, and it was done under the guidance of a UIUC ZooMed veterinarian that was present at the time. The lab is trying to figure out a procedure to induce anesthesia without inducing cardiovascular changes, which precludes the use of isoflurane because of the decrease in blood pressure. The study has been halted, and the lab has consulted with an adjunct faculty that is double-boarded in zoological medicine and anesthesiology to come up with a new anesthetic protocol. The committee felt the lab was taking the correct steps to prevent reoccurrence.

- b. 19038 [REDACTED] bat

While mist netting in White County, Illinois, a tricolored bat died during morphological measurements. From the time the bat was seen in the net to its death, 11 minutes passed. The investigator believes the animal went into shock, even though it was handled in a typical manner by an experienced bat-biologist. It showed no abnormal or excessive signs of distress before it passed, and the PI does not think that any change in handling procedure would have prevented the death. The US Fish and Wildlife Service and IDNR were notified; USFWS has requested the remains. The committee felt the investigator took the correct actions.

IX. AACUP/DAR/OHS Report

AAACUP reported that it will meet with staff in the Large Animal Clinic to discuss appropriate recordkeeping procedures. Additionally, the decision was made to euthanize a horse with blindness.

DAR had nothing to report.

OHS had nothing to report.

The meeting was adjourned at 2:13 p.m.

INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE MEETING
Tuesday, September 10, 2019
350-B ERML
12:00pm

Present: L. Arseneau, S. Allison, H. Chen, R. Dilger, D. French, L. Goodly, C. Hayes, S. Gutierrez, N. Herndon, J. Hoover, C. Ko, J. Novakofski, M. Ridgway, C. Suski, H. Valentine, M. Vitoux, J. Whitson, and J. Gulley presiding.
Absent: J. Fraley, D. Llano, and D. Yocum.
Guests: K. Branson, R. Chafel, B. Hayek, S. Myers, and J. Van Cleeff.
A legal quorum was met.
Minutes authored by Ben Hayek.

I. Announcements

a. Welcome new members

The committee welcomed 5 new members.

b. SCAW conference in Chicago

Committee members were encouraged to attend the upcoming SCAW conference in Chicago. The OVCR will provide financial support.

c. In the news

Committee members were reminded of the proposed changes to the AVMA guidelines for euthanasia.

II. Approval of Minutes

A motion was made to approve the minutes from 8/6/19. The motion was seconded and approved unanimously.

III. Response to Annual Review of Protocols

a. No unresolved questions or concerns arose during the July 2019 Annual Reviews.

IV. Old Business

a. Dairy update

Herd size and SCC data was presented to the committee; both declining, as intended.

b. Client consent

A draft report of the client consent subcommittee was presented to the entire committee. Other Big 10 Universities were surveyed: only two attach client consent forms to their protocols, but the respective IACUC's do not review the document. After an extensive discussion, the committee concluded that client consent forms should not be required attachments to the protocol; instead, investigators will indicate that they understand that they are responsible for ensuring that enrollment procedures conform to the policies of the College of Veterinary Medicine, and that they must provide the owner a consent form as required by the College of Veterinary Medicine, and that they must obtain the owner's signature prior to conducting research. Additional options on the form will be for: animals owned by students, faculty, or staff that have volunteered for teaching demonstration purposes; animals housed by or at commercial livestock operations, contract research facilities, zoological parks, or similar entities.

Exact wording of the language to be included on the protocol form will be shared with the committee before the online protocol form is updated.

c. Genesis subcommittee

The committee reviewed the final report of the Genesis subcommittee. The Subcommittee determined that by and large, the medical records for the reviewed cases were adequate and that the Genesis situation was relatively unique in that it involved somewhat atypical circumstances. However, at least one of the three remaining cases that was reviewed contained one instance of missing documentation. The Subcommittee offered some suggestions:

- There should be a renewed emphasis on detailed record keeping. This includes providing correct dates for each recording, identifying responsible person(s) for procedures, initialing / signing records, and providing written record of the reporting of adverse events to DAR and/or the IACUC.
- If lab procedural records can be incorporated into the VetStar medical records, this would more clearly identify when an animal has been placed on a research protocol. This would provide a consistent location to review records and mitigate the risk of losing any research procedural information.

d. Environmental Enrichment policy

A motion was made to approve the updated Environmental Enrichment policy. The motion was seconded and approved unanimously.

e. N-95

The committee had an extensive discussion of the use of N-95 respirators on campus. DAR reported that all of their staff would be required to change cages under a hood and/or wear an N-95. It was not readily apparent if/how all project personnel could also be required to use N-95s; however, voluntary use of N-95s would not be allowed – anyone using an N-95 must enroll in the Respiratory Program that includes annual fit testing. Other Big 10 institutions were polled: policies varied quite a bit, but several utilized risk-based procedures. Several committee members felt that risks could be evaluated during protocol review, and recommendations given to investigators. Currently, processes are in place to provide education about allergies/allergens and protective equipment to everyone on a protocol. A motion was made to ask the OHS Specialist to create criteria for a risk-based assessment of allergens, which could allow the optional use of N-95s for low risk environments and mandatory use for high risk environments. The motion was seconded and approved unanimously with one person abstaining.

V. New Business

- a. none

VI. Continuing Education

- a. A committee member and an IACUC Specialist attended a recent conference regarding research safety. Several interesting topics were discussed, including: N-95 usage, vehicle inspections, and the preparation/use of MS-222.

VI. Full Committee Review of Animal Use Protocols

16184 Canine contraception: inducing sterility in dogs by a single injection of progesterone or estradiol-benzoate microcapsule [REDACTED]

Committee Discussion: The committee discussed state laws and University policies pertaining to the adoption of research animals. During review of this protocol, the PI was encouraged to have Ridgman Farms perform all of the animal work at their facility. The committee would like additional clarification on the necessity of purchasing animals for this study (via University funding as opposed to private company) and of the PI's understanding of his responsibility to find suitable adopters within the UI system for University owned dogs and cats.

Action: In order to resolve the issues in the most efficient manner, the committee recommends further conversation by the PI with the Institutional Veterinarian regarding other options (i.e. conducting this work with a contract vendor, etc.).

17232 Impact of nuclear and extranuclear actions of estrogens on metabolic health and hormone related cancers ()

Committee Discussion: After the previous meeting, a DAR veterinarian met with the PI and addressed all of the committee's concerns. Additionally, a PAM will be placed on the protocol for DAR staff to train and observe intracardiac or portal vein injections.

Action: A motion was made to approve the protocol. The motion was seconded and approved unanimously.

19148 Establish a pregnant sow model for assessment of influenza vaccine safety and efficacy during pregnancy ()

Committee Discussion: This is a new investigator on campus. The study will take place in , and will include some piglets born from unvaccinated sows. Animals will be adequately monitored, and appropriate criteria for intervention is described in the protocol. Additionally, a PAM will be placed on the protocol to notify DAR with the approximate date of farrowing and again when piglets are farrowed.

Action: A motion was made to approve the protocol. The motion was seconded and approved unanimously.

19160 Small GTPase Immunity-Associated Proteins as Effector Molecules against Toxoplasma gondii in Pigs ()

Committee Discussion: Several unresolved issues were discussed, including: use of an automatic feeding system, use of a metabolic caging system, adequate training of personnel, monitoring criteria, and pain classification.

Action: The protocol was tabled.

19161 Determination of efficacy of NutriTek® during an intestinal barrier challenge in Holstein cows ()

Committee Discussion: Several concerns were discussed by the committee, including: justification of the use of the 16 additional cows; the manner in which the cows on feed restriction will be fed; and how the project is unique and that animals are not being unnecessarily used, including a more expansive search for alternatives.

Action: The protocol was tabled.

19165 Experimental Challenge of Ophidiomyces in Prairie rattlesnakes ()

Committee Discussion: Some snakes will experience unrelieved pain or distress. The investigator provides justification, as well as criteria for intervention.

Action: A motion was made to approve the protocol. The motion was seconded and approved unanimously.

19175 Response of equine gastric and fecal microbiota to husbandry changes [REDACTED]

Committee Discussion: The reviewers were not concerned with the procedures described in the protocol. However, the veterinarian would like the investigator to work with AACUP/VTH to develop a method to ensure that teaching activities will not interfere with the pasture component of the study.

Action: The protocol can be sent to the weekly review list once the reviewer's concerns have been resolved.

19176 Dietary natural and synthetic alpha-tocopherol, and their impact on the neurological network ([REDACTED])

Committee Discussion: This is a renewal of a currently approved protocol. The investigator justifies the use of single housing of mice. The committee had no other concerns.

Action: A motion was made to approve the protocol. The motion was seconded and approved unanimously.

19179 Using zebrafish as a research model to study germ cell development, host-microbe interactions, and disease pathogenesis ([REDACTED])

Committee Discussion: The reviewers' concerns were resolved during primary review of the protocol. One reviewer thought it would be an education opportunity for committee members to learn about a fish protocol.

Action: A motion was made to approve the protocol. The motion was seconded and approved unanimously.

VII. Protocol Deviations

a. 18051 [REDACTED] unapproved experiment

The PI provided a report explaining how the incident happened: results of one phase indicated a possible confounding factor, so the group decided to modify the following phase by testing some doses alone, but neglected to amend the protocol to include the additional animals. There were no adverse events associated with the piglets involved in the unapproved experiments. The committee would like the Chair to remind the PI that all experiments must be fully described and approved before work begins. Additionally, the Chair will report the incident to the VMO and possibly the funding agency, if appropriate. Finally, the Chair will remind the PI that data collected from animal experiments performed without IACUC approval should not be used in publications or other public dissemination of research results.

VIII. Report of Unexpected Animal Loss

a. 17149 [REDACTED] mice

Following routine surgery of around 35 mice, 17 mice were found dead the following day. The DAR veterinarian discovered that the mice were given dose of Meloxicam that was much too high. The vet has provided them with a guide for dose dilution to avoid this type of overdose in the future, and recommended that they increase the frequency of post-op monitoring for the next set of experiments. The following experiments went fine, so the vet feels that the problem has been resolved.

b. 17242 [REDACTED] two mice

A DAR veterinarian experienced in retro-orbital injections performed the procedure on 15 mice. All mice were under isoflurane anesthesia and provided proparacaine eye drops for local anesthesia. The first two mice that received injections (PBS control) went smoothly, without complication. The third mouse died shortly after the injection with a test compound plus dye. This was the first mouse that received this particular compound for this session. The mouse was confirmed dead and cervically dislocated for confirmatory measures. For the fourth mouse, the vet adjusted the isoflurane dose to ensure appropriate anesthetic levels. This mouse died almost immediately after injection was complete. This mouse was cervically dislocated for confirmatory measures.

A new batch of test compound plus dye was made at that time. The isoflurane machine was visually inspected and no defects were noted. The remaining mice were anesthetized and underwent retro-orbital injections of test compound(s) plus dye without incident.

The two mice that died after injections were necropsied by the vet. The first mouse had one lobe (middle lobe) of the right lung slightly paler than the remaining lobes, but no other significant findings were noted. The second mouse had two points of hemorrhage noted within the cranial aspect of the left lung, visible on cut surface. The vet's differential diagnosis for these cases is a thromboembolic event due to aggregate in test compound, possibly complicated further with isoflurane anesthesia.

This concentration of test compound plus dye has been used in previous retro-orbital injection sessions without incident. The isoflurane machine appeared functional and no other complications were seen with the last 11 mice. The vet suspects there was some issue with the batch of compound used for the two mice that died.

The committee felt that the veterinarian took the appropriate actions.

c. 18185 [REDACTED] chicks

The investigator reported a high mortality rate with 48 hours of chicks being delivered. After exhaustive discussions and testing various theories about the source of the issue, he is able to confirm that the birds are thrifty and healthy at the hatchery. Moreover, they are typically starting birds on nutritionally-adequate diets when they arrive, and the caging and ambient environment in [REDACTED] have been established to meet or exceed Ag Guide standards. Thus, he has no evidence to suggest that either source or destination are the problem here. Instead, the investigator has strong reason to believe it is the transport between the hatchery and UofI that is the issue. In his experience, the USPS and Urbana office are inconsistent, at best, in how they handle boxes of birds shipped from [REDACTED]. They have previously worked with the hatchery to use a dedicated courier, [REDACTED], and that tends to work well, except during the coldest parts of the year when this courier has been known to leave boxes of chicks in an unheated warehouse prior to transport. Thus, at this point, they have placed pressure on the hatchery manager at [REDACTED] to work out a guarantee that [REDACTED] will change their practices to ensure that they can reliably use their dedicated service year-round. The PI is providing this information in order to document their struggles in this area. Viability of broiler chicks is obviously central to their research program, so they will continue to diagnose the situation and find ways to improve the transport process. The committee felt that the investigator was taking the appropriate steps

IX. AACUP/DAR/OHS Report

AACUP had nothing to report.

DAR had nothing to report.

OHS had nothing to report.

The meeting was adjourned at 2:30 p.m.

INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE MEETING

Tuesday, October 1, 2019

350-B ERML

12:00pm

Present: L. Arseneau, S. Allison, H. Chen, L. Goodly, C. Hayes, N. Herndon, J. Hoover, C. Ko, J. Novakofski, M. Ridgway, H. Valentine, M. Vitoux, J. Whitson, D. Yocum, and J. Gulley presiding.
Absent: R. Dilger, J. Fraley, D. French, S. Gutierrez, D. Llano, and C. Suski.
Guests: R. Chafel, B. Hayek, and J. Van Cleeff.
A legal quorum was met.
Minutes authored by Ben Hayek.

I. Announcements

a. NABR FY2018 FOIA report

Committee members reviewed NABR's analysis of FOIA requests submitted to federal governing bodies during FY2018.

b. EPA decision on animal research

Committee members were encouraged to sign onto ASLAP's open letter denouncing EPA's recent decision on the future of animal research.

II. Approval of Minutes

A motion was made to approve the minutes from 9/10/19. The motion was seconded and approved unanimously.

III. Response to Annual Review of Protocols

a. No unresolved questions or concerns arose during the August 2019 Annual Reviews.

IV. Old Business

a. Dairy update

The Dairy herd has continued to downsize. During the most recent round of inspections, no deficiencies were noted.

b. Client consent checkboxes

The committee discussed the most logical and efficient wording for the client consent checkboxes that will appear in Section 2 of the protocol form.

c. OCR final report

The committee discussed the final report from the OCR investigation.

V. New Business

a. none

VI. Continuing Education

- a. The Chair led a discussion about a recent report by NIH/APHIS/FDA regarding the reduction of administrative burden for researchers. Highlights included: the semiannual inspection process; removing duplicative regulations; and coordination with AAALAC.

VII. Full Committee Review of Animal Use Protocols

18151 Immuno-genetic Markers of Resistance to Toxoplasma gondii in Rats [REDACTED]

Committee Discussion: The committee discussed several critical issues with this amendment, including: separating the protocol for different species; appropriate housing location; and clinical signs, monitoring, and endpoints. The IACUC office will send questions/comments to the PI requesting further revision to the protocol.

Action: The protocol was tabled.

19160 Small GTPase Immunity-Associated Proteins as Effector Molecules against Toxoplasma gondii in Pigs [REDACTED]

Committee Discussion: The committee continued its discussion of this protocol from the previous meeting. The PI will contact another investigator regarding use of their auto-feeding system. Metabolic cages will be used. All of the committee's other concerns were addressed by the PI.

Action: A motion was made to approve the protocol. The motion was seconded and approved unanimously.

19161 Determination of efficacy of NutriTek® during an intestinal barrier challenge in Holstein cows [REDACTED]

Committee Discussion: The PI addressed the committee's concerns from the previous meeting. Cows will be fed multiples times per day. The IACUC office will contact the PI to make sure the funding section of the protocol is accurate.

Action: A motion was made to approve the protocol. The motion was seconded and approved unanimously.

19182 Effects of novel feedstuffs and feed additives on digestibility, ruminal metabolism, nitrogen balance, and greenhouse gas production in ruminally fistulated beef cattle [REDACTED]

Committee Discussion: This is a renewal of a previously approved protocol. The investigator has included the option of conducting multiple major survival surgeries. Food restriction is similar to a typical surgical situation.

Action: A motion was made to approve the protocol. The motion was seconded and approved unanimously.

19187 Effect of temperature on the chronic toxicity of sodium chloride to fathead minnows [REDACTED]

Committee Discussion: The committee discussed the investigator's proposal to use death as an endpoint, a requirement prescribed by EPA guidelines. The committee would like to further investigate available alternatives. The Institutional Veterinarian will contact the investigator for further discussion.

Action: The protocol was tabled.

19198 Circadian-Based Neuronal State Changes [REDACTED]

Committee Discussion: This is a renewal of a previously approved protocol. The investigator has provided justification for the guide exceptions. The lab is very experienced. The committee had no concerns.

Action: A motion was made to approve the protocol. The motion was seconded and approved unanimously.

VIII. **Protocol Deviations**

- a. none

IX. **Report of Unexpected Event or Animal Loss**

- a. 18225 [REDACTED] kestrel

During a training session, a kestrel flew into a door jam, and was acutely neurologic and appeared blind in its existing eye. After being examined serially by faculty, neurologic signs improved, but vision was still absent or greatly diminished. The Wildlife Clinic will be pursuing a consult with ophthalmology service, and will continue to send notices of clinical progress.

- b. 18118 [REDACTED] bass

The lab experienced an equipment malfunction that led to the mortalities of 29 smallmouth bass. The fish and associated holding equipment had been checked at 4 pm earlier in the day and at that time fish were fine and all equipment was running normally. At some point over the night, a manifold that directed aeration for two holding tanks became disconnected from an air compressor. The lab is not entirely sure how this happened, as the manifold is threaded and screws onto the air compressor. They believe the connecting piece somehow broke. This equipment has been in use for many years with no issues. The lab will be replacing any damaged pieces to prevent this from occurring again, and will inspect all fish holding setups to ensure everything is safe and well-functioning. The lab will not use this particular system until its safety is assured. No other tanks are currently running off this aeration system and no other mortalities should occur. The committee was satisfied with the steps taken by the lab.

- c. 18163 [REDACTED] snake escape

The PI reported that a Lake Erie Watersnake escaped from an enclosure with a lid and 2 clips. Although it is highly unlikely that the snake was able to leave the room, the lab has been unable to locate the snake. After speaking with the lab members, the PI learned that a student had observed this animal escaping in the past, but had not reported it; the PI is reviewing protocols and reporting structure with the student, and the student will receive a warning and will not be placed on new protocols. The PI thinks that it is possible that the clips were not securely placed and the animal lifted the lid to escape. Therefore, in the future, all clips need to be verified by a second person after handling, which is similar to the venomous snake handling procedures. The committee felt that the PI has taken the appropriate actions to prevent future occurrence.

X. **AACUP/DAR/OHS Report**

AACUP reported an 18-week-old pig found dead overnight; the necropsy revealed that the cause of death was unrelated to the study. A sheep died during a laparoscopic AI procedure.

DAR had nothing to report.

OHS had nothing to report.

The meeting was adjourned at 1:21 p.m.

INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE MEETING
Tuesday, November 5, 2019
350-B ERML
12:00pm

Present: L. Arseneau, S. Allison, H. Chen, R. Dilger, J. Fraley, D. French, L. Goodly, C. Hayes, N. Herndon, J. Hoover, S. Gutierrez, C. Ko, J. Novakofski, M. Ridgway, C. Suski, H. Valentine, D. Yocum, and J. Gulley presiding.
Absent: D. Llano, M. Vitoux, and J. Whitson.
Guests: K. Branson, R. Chafel, B. Hayek, S. Myers, and J. Van Cleeff.
A legal quorum was met.
Minutes authored by Ben Hayek.

I. Announcements

- a. Fall 2019 Semiannual Inspection and Program Review Report to IO
Committee members signed the Semiannual Inspection Report to the IO.
- b. PRIM&R webinar – November 7
Committee members were invited to attend the upcoming PRIM&R webinar.

II. Approval of Minutes

A motion was made to approve the minutes from 10/1/19. The motion was seconded and approved unanimously.

III. Response to Annual Review of Protocols

- a. No unresolved questions or concerns arose during the September 2019 Annual Reviews.

IV. Old Business

- a. Dairy update
The Dairy population continues its planned decrease, and SCC remains in an acceptable range.
- b. 19187 [REDACTED] EPA comments
The data generated under this protocol will potentially be used to update the US EPA water quality criteria for chloride. The completion of these fish experiments will provide regulatory agencies with information needed to properly protect aquatic species from road salt toxicity throughout the year. The PI will need to use death as an endpoint because the criteria is developed according to the "1985 Guidelines" (US EPA 1985) using acute and chronic toxicity data. For both tests, the fish will be monitored three times daily to look for immobility and mortality. Fish that are immobile will be humanely euthanized using MS-222 and will be considered functionally dead.
- c. 18163 [REDACTED] snake
The snake that had previously escaped was found (healthy and happy) in the housing room, and was returned to its enclosure. The lab is now using double cage clips.
- d. Thistle update
Thistle is doing extremely well, and is again visual in her eye.

- e. AAVMC statement on service dogs

Committee members reviewed and discussed the AAVMC guidelines for service animal access to veterinary teaching facilities. The University of Illinois has a policy in place to assess whether service animal may be excluded from a specific location on campus.

V. New Business

- a. Protocols with recurring minor amendments

The committee discussed potential problems that may occur when protocols undergo a large number of minor amendments, as well as when animals move between production, research, and teaching protocols. Overall, committee members were satisfied with the current processes.

VI. Continuing Education

- a. Attendees of the recent AAALAS conference summarized some of the topics that were presented, including: regulatory burden, inspections, reporting, mycobacterium, public perception, transparency, and a dog enrichment study that may be incorporated into our SOPs.

VII. Full Committee Review of Animal Use Protocols

18147 Pharmacokinetics of cytosine arabinoside when administered via repeated subcutaneous injections to dogs with meningoencephalitis of unknown etiology (MUE)

Committee Discussion: A committee member was concerned that the proposed amendment may be duplicating published work. The committee would like the PI to provide an explanation of how the work proposed in the amendment differs from previous experiments, what new information will likely result from the proposed work, and why this new information is necessary.

Action: A motion was made to send the amendment to Designated Member Review if the investigator provides an appropriate response to the requested information. The motion was seconded and approved unanimously.

19199 Evaluating clinical outcomes of interventions in commercial swine and beef farms

Committee Discussion: The committee was concerned that this protocol was too broad, and may include unnecessary information. The IACUC office ~~with~~will work with the investigator to clearly indicate the different studies being proposed, if there is a need for a separate teaching protocol, and ensuring that only the drugs that are part of the planned research protocol are included in the appropriate sections.

Action: The protocol was tabled.

VIII. Protocol Deviations

- a. none

IX. Report of Unexpected Event or Animal Loss

- a. none

X. AACUP/DAR/OHS Report

AAACUP will be hosting a welfare symposium webinar in November.

DAR has been responding to an increased number of FOIA requests recently.

OHS reported that signs about recapping needles have been posted in labs, and is included in the OHS online training. Signs have also been posted near aquatic housing regarding proper PPE related to zoonotic awareness. Finally, guidelines for the safe use of MS-222 have been posted on the DRS website, and has been sent to PI's that use MS-222.

The meeting was adjourned at 1:27 p.m.

INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE MEETING
Tuesday, December 3, 2019
350-B ERML
12:00pm

Present: L. Arseneau, S. Allison, H. Chen, R. Dilger, J. Fraley, D. French, L. Goodly, C. Hayes, N. Herndon, J. Hoover, C. Ko, J. Novakofski, C. Suski, H. Valentine, M. Vitoux, J. Whitson, D. Yocum, and J. Gulley presiding.
Absent: D. Llano, S. Gutierrez, and M. Ridgway.
Guests: K. Branson, R. Chafel, B. Hayek, S. Myers, and J. Van Cleeff.
A legal quorum was met.
Minutes authored by Ben Hayek.

I. Announcements

- a. NABR webinar – January 7, 2020

Committee members were encouraged to attend the NABR webinar just prior to the IACUC monthly meeting on January 7th.

II. Approval of Minutes

A motion was made to approve the minutes from 11/5/19. The motion was seconded and approved unanimously.

III. Response to Annual Review of Protocols

- a. No unresolved questions or concerns arose during the October 2019 Annual Reviews.

IV. Old Business

- a. Dairy update

The Dairy population decreased slightly, and SCC continues to remain at an acceptable level.

- b. N95 update

The OHS Specialist presented information gathered by the OHS Leadership group. The committee discussed several complex issues related to exposure to allergens, including: species of highest concern (mice/rats); open top caging systems; and creating a threshold for “critical” exposure. Currently, DAR requires all animal care staff to use an N95 during bedding changes and other high risk activities. Before the committee will make a requirement for all protocol personnel to wear N95’s, the leadership group will consult with investigators that use rodents.

V. New Business

- a. none

V. Policies

- a. Reporting Adverse Events (new) and Survival Surgery (update) policies were approved.

VI. Continuing Education

- a. The Chair gave a presentation centered around completing primary reviews, which led to several in-depth discussions of various compliance topics by the rest of the committee.

VII. Full Committee Review of Animal Use Protocols

17186 Use of ashwagandha to reduce ovarian cancer in the domestic hen [REDACTED]

Committee Discussion: The PI provided justification for individual housing. Wire cages are adjacent to each other, so hens have close contact with each other.

Action: A motion was made to approve the protocol as written. The motion was seconded and approved unanimously.

19217 Dynamics of stem cell migration in mouse model of brain tumor. [REDACTED]

Committee Discussion: The committee discussed this renewal, which does not contain any guide exceptions, but does include a new procedure: intracardiac injections under anesthesia. PAM was requested to observe lab personnel performing these injections on practice animals prior to the start of that study, as well as reporting any mortality during the study.

Action: A motion was made to approve the protocol as written with the addition of PAM. The motion was seconded and approved unanimously.

19220 Animal Use in Gross Anatomy for [REDACTED]

Committee Discussion: Each animal will be fasted for 48 hours prior to being euthanized and embalmed. This is necessary because the weight of a full rumen prevents the proper fixation of several body parts and provides extra weight for personnel handling later on. A full rumen also would prevent the proper latexing of vessels. This is standard procedure for the embalming process.

Action: A motion was made to approve the protocol as written. The motion was seconded and approved unanimously.

19222 Utilization of the gnotobiotic porcine model to settle an endocrine controversy: Are gut bugs a major source of 11- oxy-androgens? [REDACTED]

Committee Discussion: The investigator provides justification for individual housing and reduced space allowance for this gnotobiotic study. Piglets will be able to smell and hear each other. The committee did not have any concerns, but would like the PI to send pictures of the isolators to the IACUC office.

Action: A motion was made to approve the protocol as written. The motion was seconded and approved unanimously. The IACUC office will ask the PI to provide the requested pictures of the isolators.

19223 Examination of post-capture physiological disturbance in ice-angled sportfish [REDACTED]

Committee Discussion: The PI provides justification for using air exposure in order to achieve the overall goals of the study: to obtain data indicating stress levels and rates of recovery for captured fish during the winter, information on how captured fish move following capture and how long it takes them to resume normal activities, as well as predictions for mortality based on post-capture reflex assessments. Comparing this data with the many prior studies on post-capture stress in gamefish species will allow managers to advise anglers as to the best handling practices for fish, and to determine if the need for swift handling techniques (i.e. quick hook removal with limited air exposure) is more or less pronounced during the winter months.

Action: A motion was made to approve the protocol as written. The motion was seconded and approved unanimously.

19246 Progressive limit feeding to increase long-term growth efficiency of feedlot cattle

Committee Discussion: The committee discussed several elements of the design of the study, including: clarification how realimentation will work following feed restriction; using a smaller cohort; and possible aggression or other behavioral changes during times of feeding.

Action: The protocol was tabled. Questions will be sent to the PI by the IACUC office.

VIII. Protocol Deviations

- a. none

IX. Report of Unexpected Event or Animal Loss

- a. 17176

The lab experienced an unexpected death in one of their rat subjects approximately 90 minutes after it was given a dose of 10 mg/kg THC via cracker. The student that placed the rat into the open-field arena did not note any abnormal signs; however, at the end of the rat's 20 minute session, the rat was found motionless in the chamber and in clear distress. The student retrieved another graduate student in the lab to assist her in determining what was wrong, but within the next few minutes the rat ceased respiration and died. The student noted what seemed like a significant amount of food in the rat's mouth, along with some evidence of foaming. The DAR animal caretaker was contacted immediately, who in turn got in touch with the veterinary staff. A DAR vet came to Psychology within two hours and performed a necropsy on the rat; the vet determined the rat likely died by asphyxiation, but the reason for this was not readily apparent. The lab has tested approximately 100 rats using this same procedure and has never encountered a reaction like this. The LD50 for oral THC in healthy female rats has been reported to be 730 mg/kg, with a time of death 48-56 hours after intragastric administration. The lab's dose is far below this LD50, and time of death was much shorter, so it is unclear what role the rat's ingestion of THC played in this fatality. The lab will carefully monitor the additional rats used in this study and consult with the veterinary staff if additional problems are encountered. The committee felt that the lab took the appropriate steps.

X. AACUP/DAR/OHS Report

AACUP reported that an investigator would soon be reporting some mortalities related to a study of different flooring conditions that took place at the beef barn.

DAR reported that it submitted the USDA animal usage annual report, and announced continued AAALAC accreditation for the campus.

OHS had nothing to report.

The meeting was adjourned at 2:04 p.m.