

INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE MEETING
Tuesday, August 4, 2020
12:00pm

Present: S. Allison, L. Arseneau, H. Chen, R. Dilger, J. Fraley, D. French, L. Goodly, S. Gutierrez, N. Herndon, C. Ko, J. Novakofski, M. Ridgway, M. Vitoux, J. Whitson, and J. Gulley presiding.
Absent: C. Hayes, J. Hoover, D. Llano, C. Suski, 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. none

II. Approval of Minutes

A motion was made to approve the minutes from the July 2020 meeting. The motion was seconded and approved unanimously.

III. Response to Annual Review of Protocols

- a. No unresolved questions or concerns arose during the June 2020 Annual Reviews.

IV. Old Business

- a. none

V. New Business

- a. none

VI. Continuing Education

- a. Tracking the use of Vet Med teaching animals

The committee took part in an extensive discussion regarding the animals used by Vet Med for both teaching and research, and about how their use is tracked. Horses were the primary animals discussed, since they do not enter the food chain and remain residents for relatively longer periods of time, therefore making them possibly more prone to overuse. AACUP oversees these efforts, historically using the "Critters" database, although an updated web-based/phone app is currently in development. Until completion, a shared calendar is also being used to help reserve and track animals for student use. The IACUC would like to avoid taking a prescriptive role in the process, instead preferring to allow the standing Vet Med committee to create appropriate guidelines and communicate them to researchers. AACUP will share more updates as they become available.

VII. Full Committee Review of Animal Use Protocols

20138 Analysis of cortical circuits in behaving mice [REDACTED]

Committee Discussion: This is a renewal of a previously approved protocol. The investigator justifies the use of water restriction. DAR staff are aware of animals during restriction.

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

20146 Evaluation of novel nutritional technologies for poultry undergoing immunological stress [REDACTED]

Committee Discussion: The investigator justifies the use of CFA. The effects are relatively transient; birds recover within 8 hours. Monitoring and criteria for intervention are appropriate.

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

20147 Mechanisms of Behavioral Evolution [REDACTED]

Committee Discussion: For some behavioral experiments, animals are deprived of food for 24 hours prior to the experiment in order to standardize hunger levels. Given frogs' low metabolic rate, no adverse effects are expected; however, animal well-being will be monitored and fasting will be terminated if ill effects are observed. The investigator has experience from previous institutions.

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

VII. Protocol Deviations

- a. 17082/20199 [REDACTED] expired protocol

The investigator was slightly tardy in the submission of the renewal of protocol 17082, which resulted in animals being transferred to the IACUC holding protocol for less than a week, during which time mice remained on their same diet, fecal samples were collected, and body weights were recorded. The committee would like the Chair to communicate to the PI that any data collected during this time period should be discarded, or any future publication should acknowledge any data gathered outside an approved protocol.

IX. Report of Unexpected Event or Animal Loss

- a. 19131 [REDACTED] cannulated pig

A pig on experiment #787 died 6 days after surgical implant of a cannula. The necropsy report revealed that death was caused by a rupture of the intestine around the cannula. The investigator believes the pig probably got the exterior part of the cannula caught on some part of the cage and stretched the apparatus inside before it was fully healed. These types of occurrences happen very rarely.

X. AACUP/DAR/OHS Report

AACUP plans to visit [REDACTED] in the coming weeks for a euthanasia training and general inspection.

DAR reported that animal care staff continue to provide care every day but with limited hours.

OHS had nothing to report.

The meeting was adjourned at 1:01 p.m.

INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE MEETING
Tuesday, September 1, 2020
12:00pm

Present: S. Allison, L. Arseneau, H. Chen, R. Dilger, D. French, L. Goodly, S. Gutierrez, C. Hayes, N. Herndon, J. Hoover, C. Ko, J. Novakofski, M. Ridgway, C. Suski, 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, S. Pearson, and J. Van Cleeff.
A legal quorum was met.
Minutes authored by Ben Hayek.

I. Announcements

- a. Sara Pearson – AACUP vet

The new, part-time AACUP veterinarian was introduced to the committee.

- b. Jessica Xu – DAR vet

The new DAR veterinarian was introduced to the committee.

- c. RFI – Flexibilities for Semiannual Inspections

Committee members were encouraged to respond to the RFI on Flexibilities for Conducting Semiannual Animal Facility Inspections.

II. Approval of Minutes

A motion was made to approve the minutes from the Aug 2020 meeting. The motion was seconded and approved unanimously.

III. Response to Annual Review of Protocols

- a. No unresolved questions or concerns arose during the July 2020 Annual Reviews, with the following exception:

Protocol 18140 has a delinquent annual review. The department head will reach out to the PI and give them 24 hours to respond before the protocol will be terminated.

IV. Old Business

- a. 19222 [REDACTED] epidural PAM

The C-Section with epidural anesthesia went smoothly. The sow remained quiet and calm during the procedure and was euthanized at the end of the surgery. The procedure improved the welfare of the piglets.

V. New Business

- a. none

VI. Continuing Education

- a. none

VII. Full Committee Review of Animal Use Protocols

20032 The Role of 27-Hydroxycholesterol in Pathophysiology [REDACTED]

Committee Discussion: The investigator added a seizure study to the protocol. Monitoring and end points are appropriate.

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

20155 Epilepsy and the HPG Axis [REDACTED]

Committee Discussion: The PI is investigating a model of chronic epilepsy, and justifies the administration of kainic acid that results in brief, spontaneous seizures. The PI is very experienced with seizure models. Criteria for intervention are clearly described and appropriate.

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

20161 Functionalized sugar compounds for metabolic glycolabeling and cancer targeting [REDACTED]

Committee Discussion: Tumor-bearing animals will be monitored for: condition/size of tumor; weight gain/loss; temperature; and other signs of morbidity. This is a renewal of a previously approved protocol.

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

20164 Imaging windows for long-term intravital imaging of mouse embryo development [REDACTED]

Committee Discussion: The PI is developing imaging techniques through the use of embryonic windows. Animals will be monitored daily, and endpoints are appropriate.

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

20165 Spatial Ecology, Habitat Use and Angling Vulnerability in Muskies in Shabbona Lake: Implications for Management of a Recreational Fishery [REDACTED]

Committee Discussion: Forage fish will experience temporary distress from the time they are added to the experimental tanks until they are consumed.

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

20166 Engineering class I MHC molecules to drive enhanced anti-cancer responses [REDACTED]

Committee Discussion: The investigator justifies a 25% baseline body weight loss as a criteria for intervention, which is used by other collaborators on campus. Brain tumors may cause seizure activity; monitoring and end points are appropriate.

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

20169 Regulation and function of reversible acetylation of NF-kappa B [REDACTED]

Committee Discussion: This is a renewal of a previously approved protocol. Justification for unrelieved pain is provided: analgesic drugs are known to reduce inflammation and inflammation-associated pain, therefore interfering with the experimental outcomes. Animals will be monitored for weight and temperature; monitoring will be increased (every 2 to 8 hours) during some study periods. Although approved for gerbil use in the past, the investigator has not begun those studies yet.

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

VII. Protocol Deviations

- a. none

IX. Report of Unexpected Event or Animal Loss

- a. 18259 [REDACTED] piglet

AACUP reported an unexpected death of a piglet while drawing blood. A group of 20 piglets underwent jugular venipuncture at one day of age. These animals did not show any significant signs of stress. A few of the animals appeared pale and had very thin, watery blood. All piglets recovered from the procedure without any adverse effects. The following day, the same venipuncture procedure was performed. Many piglets had hematomas from the previous day which made it more difficult to obtain a sample. About 3-4 piglets showed signs of stress during restraint (started shaking, increased respirations). These piglets were removed from the V trough and given time to recover. Piglet #86 started showing signs of stress during the procedure (shaking) and was immediately removed from the V trough. This piglet was pale. The piglet started having blood come out of his mouth and was held vertically. The mouth was manually evacuated of all fluid with a towel and gentle coupage performed. The piglet was deceased after a minimal amount of time with no evidence of dyspnea. [REDACTED] performed a necropsy - possible injury from prior blood draw is suspected although not definitively located.

- b. 19257 [REDACTED] fish

The PI provided an extensive report regarding a recent mortality event involving approximately 200 adult-sized largemouth bass held in [REDACTED] at the [REDACTED]. A combination of high seasonal temperatures and thick vegetation likely led to low dissolved oxygen overnight. Aquatic vegetation is an important component of the ecology of these natural ponds, but when vegetation densities are high, there is a risk of a summer die off. Such summer mortality events are a known phenomenon in the wild. Water temperature and dissolved oxygen fluctuate seasonally in each pond and therefore it is normal to record high temperatures and relatively low dissolved oxygen rates during summer mornings. As long as aquatic vegetation is routinely removed from the pond, the dissolved oxygen does not typically reach critical levels to cause fish mortality. An added factor that likely contributed to this specific incident was the above average density of adult fish being held in the pond. Ponds are typically drained in the spring and fall which 1) avoids exposing fish to potentially extreme temperature of mid-summer during the draining process, and 2) enables removal of early season vegetation and delays the onset of vegetation regrowth resulting in less dense aquatic vegetation later in the season. However, even when maintained properly (water is recirculated and vegetation is at a minimum) fish kills are a possibility, regardless of fish density. The emergence of COVID-19 and the subsequent closing of UIUC campus research in March 2020 forced the SFEL into a hard stop on a series of pond draining events that were planned at the time. Pond draining and fish recovery requires a team of 3-4 people, which could not occur during the COVID shut down of spring 2020. [REDACTED] was the last pond scheduled to be drained in early April of 2020, and fish were planned to be redistributed among several ponds to reduce the density of fish, but research activities were stopped in response to the COVID-19 pandemic until mid/late June.

In addition, another group of largemouth bass that were being held in tanks in the hoop house flow-through system in March were stocked into [REDACTED] because it was uncertain when staff would be able to return to caring for those fish, and all other ponds were being used to hold fish belonging to different experimental groups. Fish in holding tanks require regular care, while fish in ponds require no active care other than to monitor pond conditions, which could be continued during the research shut down. In most cases, midsummer die offs are hard to prevent entirely. As a solution, the lab will keep vegetation density from becoming too high through regular spring and fall draining events. This mortality event revealed the need for more consistent dissolved oxygen observations and improved rapid communication of degrading conditions to the lab PI. Two steps are underway: (A) Staff have been retrained to emphasize the limits that trigger the need to report a potential problem with pond conditions. Specifically, all staff are to immediately report when dissolved oxygen level dips below 5.0 mg/L (sub-lethal effects on fish) so that remediation steps can be implemented. Further, when levels drop below 2.0 mg/L (lethal limits for fish if those conditions persist too long), physical removal of vegetation or draining and relocation of the pond need to be implemented to avoid a mortality event. (B) Staff time limit the ability to record DO across 23 ponds any more frequently than a single reading in each pond every 5-6 days, which limits the ability to detect slow long declines in dissolved oxygen that lead to mortality events. To increase the frequency of monitoring of temperature and dissolved oxygen, staff are developing cost estimates to acquire a number of optical loggers to record hourly temperature and oxygen levels. Automation will greatly increase the number of measurements the lab will be able to collect, and provide a more rigorous standardized method so that persistent declines in dissolved oxygen can be detected sooner and remediation can be initiated sooner in the process. Once new equipment is acquired and monitoring procedures are developed, the PI intends to submit an amendment to the protocol to reflect these changes.

X. AACUP/DAR/OHS Report

AACUP reported that the Poultry farm has continued its quarantine; follow-up testing has been negative, and they are waiting for instructions from the state vet. The horses on the horse farms are looking good; staff continue to monitor animals closely, and the windfall of 6 additional donations has provided overall relief to the herd. The Dairy herd monthly information had not been received yet, but the report will be updated and posted to the meeting folder as soon as it has been received.

DAR reported that the inspection of [REDACTED] went very well; the Chair will notify the department head of the farm manager and personnel successes.

OHS had nothing to report.

The meeting was adjourned at 1:00 p.m.

INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE MEETING
Tuesday, October 6, 2020
12:00pm

Present: S. Allison, L. Arseneau, H. Chen, R. Dilger, J. Fraley, L. Goodly, S. Gutierrez, C. Hayes, N. Herndon, J. Hoover, C. Ko, J. Novakofski, M. Ridgway, M. Vitoux, J. Whitson, and J. Gulley presiding.

Absent: D. French, D. Llano, C. Suski, and D. Yocum.

Guests: K. Branson, R. Chafel, S. Dubowsky, B. Hayek, S. Myers, S. Pearson, and J. Van Cleeff.

A legal quorum was met.

Minutes authored by Ben Hayek.

I. Announcements

a. APHIS RFI – free-living wildlife species

Committee members were encouraged to provide feedback for an APHIS draft policy on free-living wild species in their natural habitat.

b. APHIS RFI – changes to AWA

Committee members were encouraged submit their support for APHIS's recently proposed rule to amend the Animal Welfare Act.

c. Fall 2020 Semiannual Program Review

All committee members will be invited to participate in the upcoming semiannual program review and inspection report meeting.

II. Approval of Minutes

A motion was made to approve the minutes from the September 2020 meeting. The motion was seconded and approved unanimously.

III. Response to Annual Review of Protocols

- a. No unresolved questions or concerns arose during the August 2020 Annual Reviews, with the exception of one delinquent protocol: the PI currently has some special circumstances, and one of the committee members will contact them directly to facilitate a resolution.

IV. Old Business

a. Dairy update & personnel injury

Committee members noted that SCC levels were markedly higher for the most recent month of data. A suggestion was made to have farm staff work with the field inspector to help determine if the change is due to an increase in mastitis or the condition of the milking equipment.

An injury to a student employee was reported by the OHS Specialist. A crowd gate had malfunctioned due to a building column being out of plumb, and ultimately struck a student worker, who was not significantly injured, and was taken to a local hospital for treatment. The incident is being investigated by the Division of Safety and Compliance and by the Director of Safety at ACES. Maintenance crews were called out to reset the column, secure it in place, evaluate the rest of the structure, and make preparations for additional repairs. The facility has plans to update procedures, perform retraining, and add audible and visible alarms for when the crowd gate is in operation. They may add limit switches to some manual gates so that the

crowd gate will not operate unless the manual gates are lowered. The Chair and office staff will view the operation of the newly implemented alarms and report back to the committee at the next meeting.

V. New Business

a. USDA inspection 2020 & additional horse farm info

The USDA performed its annual inspection. The report included no citations, but the VMO did raise some general concerns about the condition of the horse farms. Shortly after the inspection, the IACUC office received an update from the department head regarding the horse farm. An F & S electrician was called to the site and subsequently provided a report. In a discussion with the department head, the electrician indicated that multiple events aligned at exactly the same time to create the hazardous condition.

In response, the overhead power line for the entire barn has been removed to prevent accidental restoration of power (i.e., to prevent someone from unwittingly activating the circuit breaker). There are no animals in the lots that shared the waterer and these lots will not be used until the problem is resolved. F & S was asked to provide a comprehensive plan and estimate to fix this electrical problem and any other electrical problems on the entire farm. F & S has been slowed by work restrictions related to COVID-19. The department awaits additional information but will continue internal discussions on how to proceed.

After an extensive discussion, the committee would like the Chair to provide the following requests to the department: 1) Perform risk assessments related to electrical hazards for each structure at the horse farm where animals are housed or kept on a temporary basis, regardless of whether the structure/building is currently being used for this purpose. The assessments should address the level of risk using a minimal to most hazardous ranking. 2) Identify which of these structures have electrical systems that are up to the current national codes and standards, and which structures are not. 3) Perform risk assessments related to electrical hazards for each paddock/pasture at the horse farm regardless of whether the paddock/pasture is currently being used. All pastures, including those bordering 4th Street, should be included in the risk assessments. Again, the assessments should address the level of risk using a minimal to most hazardous ranking. 4) Identify which paddocks/pastures have electrical systems that are up to the current national codes and standards, and which structures are not. If there are no electrical systems associated with the paddock/pasture, please indicate this.

It was also noted to the department that a representative from DRS with expertise in electrical risk assessments such as these was present at the IACUC meeting and offered their assistance in completing this assessment.

VI. Continuing Education

a. none

VII. Full Committee Review of Animal Use Protocols

18163 Investigation of treatment efficacy of different therapeutic approaches for natural Ophidiomyces infection [REDACTED])

Committee Discussion: The PI justifies the use of live fish for feeding purposes: these wild-caught snakes will not eat euthanized prey.

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

20113 Collaborative Research: Bone Adaptation-Driven Design of Scaffolds with Spatially-Varying Architecture for Enhanced Growth [REDACTED]

Committee Discussion: The PI justifies the use of single housing: pigs will be singly housed in adjacent pens upon arrival at the [REDACTED] and immediately after surgery for the first 4-7 days after surgery until their return to the [REDACTED]. This is to prevent trauma, incisional complications, and fighting during acclimation and during recovery from anesthesia and surgery. Additionally, animals will be housed in an agricultural setting for this biomedical study.

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

20171 Development of Smart Coating for Orthopedic Implants with Integrated Long-Term Antimicrobial and Strain-Mapping Functionalities [REDACTED]

Committee Discussion: The PI justifies the use of single housing: because all animals will be implanted with a device, each of them will need to be housed individually to prevent disturbances from cage mates.

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

20172 Clinical detection, treatment, and field monitoring of free-ranging snakes with snake fungal disease (ophidiomycosis) [REDACTED]

Committee Discussion: The PI justifies the use of live mice for feeding purposes: maintaining live prey as a food source is necessary for the continued health of snakes that may ultimately be returned to the wild. During captivity, snakes are fed mice only intermittently, and are normally quick to take prey when offered. Mice not taken within 60 minutes are removed and euthanized. The committee would like the PI to provide a citation that supports this justification, and/or stress the importance of successfully returning the snakes to the wild. Additionally, a description of the osmotic pump surgery needs to be added to the protocol before approval.

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

20188 Influence of Colitis and Butyrate Delivered as Encapsulated Tributyrin on Brain Structure, Behavior and the Gut-Brain-Axis in Pigs [REDACTED]

Committee Discussion: The PI justifies the use of single housing: piglets must be individually housed because the studies require researchers to independently control each animal intake as to record the daily consumption, and closely monitor impact of DSS challenge in each animal since there is a chance of some variability in the inflammatory response among the pigs. The PI justifies the use of unrelieved pain/distress: during the 5 days of DSS colitis induction, animals will not be able to receive any medication that may interfere with the development of inflammation, since inflammation and its mitigation by the test supplement are the primary purposes of the study. However, if piglets exhibit any sign of dehydration with no lethargic behavior, veterinarian staff will be informed, and research staff will begin to provide supplemental solutions to maintain fluid and electrolyte balance in addition to formula. Piglets will be provided ad libitum water via an automatic waterer installed in the cage which will further facilitate maintenance of hydration.

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

20190 Collaborative Research: Endocrine trade-offs in host-parasite recognition systems [REDACTED]

Committee Discussion: This is a renewal of a previously approved protocol. After a lengthy discussion, the committee agreed that the minor surgery performed with only local anesthesia was

similar to many biopsy and implantation procedures. Additionally, the researchers' experience shows that the proper restraint of birds is ultimately less stressful than the use of general anesthesia.

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

20196 Role of Hydrogen Gas in Bile Acid Metabolism by Gut Bacteria ()

Committee Discussion: The committee was made aware that the PI is proposing to administer pathogens in a gnotobiotic facility. DRS will be conducting a lab audit and following its typical review process of the IBC project.

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

20200 Neuromodulation by Diazepam Binding Inhibitor ()

Committee Discussion: This is a renewal of a previously approved protocol. Acute seizure activity induced by systemic kainic acid administration will be terminated via treatment with diazepam after 2 hours. Additional doses of diazepam will be administered 30 and 60 minutes later as necessary. Brief spontaneous seizures that subsequently result several days/weeks after kainic acid administration will not be treated. Signs of infection or failure to thrive following surgery will be reported to veterinary staff for treatment recommendations. The lab is very experienced with this seizure model.

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

20208 Effects of Citrus Flavanones on alleviating signs of inflammation and disease in a murine DSS-induced colitis model ()

Committee Discussion: DSS will be used to induce acute ulcerative colitis; the use of analgesics to relieve the distress will hinder the development of the disease. Following the treatment, mice will be monitored twice daily; moist food in a petri dish will be provided at the bottom of the cage. Endpoint criteria are well described and appropriate.

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

VII. Protocol Deviations

a. 19112 () unapproved room

During the renewal process, the PI combined two protocols into one. At the most recent inspection, it was discovered that a room listed in one of the old protocols was not added to the new protocol, but was being used to euthanize mice. The PI immediately submitted an amendment to add the room.

b. 19120 () unapproved room

The PI reported that two cages of weanling mice were found dehydrated because a lab member failed to provide food and water. A DAR veterinarian was notified, and moist chow and a heating pad were provided. Subcutaneous sterile saline was also being provided every 12 hours until the mice appeared revived. The two students in charge of the mouse colonies later explained that they were training an additional student in the room and became distracted; they were very apologetic for what happened. The PI warned them that they will be relieved of their duties if there is one more report of not weaning on time or mismanagement of the mice.

- c. 20111 [REDACTED] unapproved doxycycline

During the renewal process, the PI's protocol underwent major changes, including the elimination of doxycycline studies because they did not expect that they would do them. Because of the COVID pandemic and the lab's research being mostly shut down for several months, the protocol renewal was done remotely, as well as the activities leading to the ramping up of research, which allowed for an error to occur: a study using doxycycline was started with the lab not remembering that this had not yet been incorporated into the protocol. When the oversight was discovered, the study was stopped immediately, and an amendment was submitted to add it to the protocol.

- d. 20147 [REDACTED] unapproved source

A new PI received a shipment of frogs from a colleague at another university, but institutional transfers was not listed as an approved source on the protocol. The PI was very apologetic, and noted that the frogs were accepted on very short notice to prevent them being culled. The protocol was immediately amended to include the new source.

IX. Report of Unexpected Event or Animal Loss

- a. 19232 [REDACTED] treadmill

The PI reported an incident involving a mouse running on a treadmill. At specific intervals of time, the treadmill speed is increased by 1 meter/minute, and the mouse is run to exhaustion. There is a sponge before the end of the treadmill belt, as a soft, physical indicator that is near the end of the belt. Researchers also use their hands as another safeguard to physically assure the mouse's continued ability to run. The mouse was nearing exhaustion but was judged to still be able to run, and was running near the end of the treadmill belt. The speed was increased by 1 meter/minute, and in that split second, the researcher lost physical contact with the mouse, and the mouse was no longer visible in the treadmill lane. As soon as the researcher realized that the mouse was no longer visible in the lane, the treadmill was immediately turned off. The sponge was removed (and noted to be looser than it should have, and had been moved from its original position), and it was observed the mouse was still not visible in the lane. Using phone flashlights, the area underneath the treadmill was searched, where the mouse was found dead.

Because it was noted that the sponge, when removed, was looser than it should have been, and had moved from its original position, and that the mouse was located beneath the treadmill belt, it was proposed that most likely the mouse was sucked into the crack between the end of the treadmill belt and the plastic platform behind it, and that the sponge was too loose to physically block the mouse from falling into the crack.

The researchers' proposed solution is to tape the sponge into place in the treadmill, to prevent the sponge from moving from its original position, so that it can physically prevent the mouse from falling into the crack, while also providing a soft surface. In addition, the researchers have added paper towels underneath the sponge, which covers the crack, while simultaneously providing a small, but safe area of the treadmill lane where the mouse, if exhausted, is not forced to run, providing the researchers with additional time to react and remove the mouse from the treadmill. Last of all, the researchers have proposed to reduce the "active area" of the lane (the area that which the mouse runs in) such that the mouse is physically farther away from the end of the treadmill belt, such that there is more room and time to catch the mouse before it reaches the end of the treadmill belt.

The committee would like the Chair to contact the PI with two requests: investigate whether other (perhaps non-temporary) modifications could improve the safety of the design; and reevaluate the lab's training procedures and develop a written SOP that can also be uploaded to the protocol.

- b. 20016 [REDACTED] starlings

After acquiring starlings using potter-traps and housing them in custom built wire cages within a DAR facility, many birds were found deceased over the course of the next ten days. The investigators suspected that these deaths may have been associated with the stress of capture but could not rule out difficulties adjusting to the cage or densities within the enclosures. Several changes were implemented to attempt to slow the mortality rate: while feed was originally offered in small dishes that hang on the side of the cage, larger dishes were filled with feed and placed on the bottom of the cage; additional water sources were also being offered in the same location; cages were covered to reduce stress; larger seed with corn & sunflower was added to the diet to increase the caloric density; soaked dog food was also added to the diet to increase the protein of the diet and to supplement calories; nest boxes were added as an additional hiding place and form of enrichment; perches were replaced with larger diameter perches more appropriate for their foot size.

After an extensive discussion, the committee decided that it would like the PI to euthanize the remaining starlings and request termination for the current protocol, then submit a new protocol that addresses several categories of problems: adequate housing and husbandry, including stocking density of starlings and the appropriateness of housing starlings in a DAR facility; appropriate transitioning of wild-caught starlings into research facility housing; and adequate number of appropriately trained project personnel to perform husbandry, daily monitoring and health assessments.

c. 20203 [REDACTED] foal

During an animal handling class, one of this year's foals, who had been haltered several times previously, spooked during a haltering exercise, took off at a high rate of speed and ran into the fence head first. This impact resulted in severe trauma to the foal, who was immediately transported to the [REDACTED]. Upon arrival, while being unloaded from the trailer, the foal immediately collapsed and was brought inside. After examination, which included endoscopy, the client was contacted and the decision made to euthanize. In lieu of a necropsy, x-rays and a CT scan were performed. A full medical report will be sent to the IACUC when complete.

The IACUC understood that accidents can happen with horses that are relatively unaccustomed to handling, but remained concerned that there may not have been sufficient attention paid to minimizing risks associated with the combination of young untrained horses and inexperienced handlers. The committee would like to request the PI to make an assessment of the circumstances under which this accident occurred, and address whether changes in procedures might be implemented to reduce chances of recurrence, including: was the location crowded for the number of horses and handlers, and might a different one be used for the activity; might older and/or more well-trained horse be used for teaching inexperienced students; is there an imposed limit in the number of students per horse to maximize horse comfort and student safety, and are these ratios determined with the age and training of the horse in mind; are students given thorough instruction, ahead of actual handling, how to act in various situations, including adverse reactions to handling?

The IACUC office will provide the response at the next meeting.

X. AACUP/DAR/OHS Report

AACUP discussed an amendment submitted to a protocol conducting growth and metabolism experiments with pigs. While most amendments to the protocol have introduced only different types of diet, the most recent amendment sought to introduce a challenge-type study. The committee agreed that the investigator would have to submit an entirely separate protocol if they wished to conduct these types of experiments.

DAR had nothing to report.

OHS had nothing to report.

The meeting was adjourned at 2:44 p.m.

INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE MEETING
Tuesday, November 10, 2020
12:00pm

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

I. Announcements

- a. Semiannual Inspection Report & Memo to the IO (link to digital signatures)

The Fall 2020 semiannual inspection report and memo to the IO were presented to the committee. Immediately following the meeting, an email will be sent with a link to a form that will collect digital signatures.

II. Approval of Minutes

A motion was made to approve the minutes from the October 2020 meeting. The motion was seconded and approved unanimously.

III. Response to Annual Review of Protocols

- a. No unresolved questions or concerns arose during the September 2020 Annual Reviews.

IV. Old Business

- a. Dairy update

Both herd size and SCC levels dropped slightly since the last meeting. The Chair and office staff observed the crowd gate (with newly installed visual and audio alarms) in action, as well as the use of at least two individuals to operate the gate.

- b. [REDACTED] treadmill follow-up

The PI provided further clarification and justification for its case against the use of an immovable barrier on the treadmill. Additionally, the lab created an SOP to facilitate staff training, and also attached it to the protocol.

- c. [REDACTED] update

The PI provided an in-depth description of the procedures used for the class. The committee appreciated this response, and will encourage the PI's efforts, especially: using older horses when available for handling by very inexperienced students at the beginning of the class; using smaller groups of horses; and using much smaller pens (or even stalls) during the first few weeks of the class (or all the time) to lessen the amount of room to run, thereby limiting running-related injuries to animals, personnel and students.

- d. Overview of Ag vet care documentation

The AACUP Director gave a presentation which described the tracking and documentation of the CVM teaching animals. A shared calendar is used to request and track the use of horses for various classes. Daily Observation Forms are used for every animal, stalled or outside, and

covers a two-week period. Additionally, SOAP's that are done every Tuesday will now be handwritten, and then later uploaded to VetStar. The Director also gave a tutorial of a highly efficient and effective electronic records system that they hope to begin using in the near future.

V. New Business

- a. none

VI. Continuing Education

- a. Updated FAQ – quorum

The Chair reported that OLAW has updated its FAQ B.5. What is a quorum and when is a quorum required? A quorum is a majority of the total number of voting members of the IACUC. A majority vote of the quorum present at a convened meeting is required for the IACUC to: conduct full committee review and approval of a proposed project or of a significant change to a project; and suspend an activity. If a recusal results in the loss of a quorum, the business associated with the conflict of interest must be tabled until a quorum is present.

VII. Full Committee Review of Animal Use Protocols

18236 Auditory corticofugal processing in the rodent. [REDACTED]

Committee Discussion: The investigator proposes to train mice on a Go/NoGo sound detection task while they are head-fixed and imaged using optical approaches, which will involve water deprivation to motivate the animals to learn this task. The proposed monitoring is appropriate, and the investigator included a citation to justify the weight loss criterion.

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

20221 Immunity and Immunopathogenesis during infections [REDACTED]

Committee Discussion: This is a renewal of a previously approved protocol. The PI justifies the use of unrelieved pain, and clearly defines humane endpoints. The lab has improved their study design over time.

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

VII. Protocol Deviations

- a. none

IX. Report of Unexpected Event or Animal Loss

- a. 18149 [REDACTED] challenged mice

The PI reported that 17 animals were found dead from 6 cages of 28 total animals; all were challenged with Toxoplasma. The lab was running these experiments with STS-background KO mice for first time along with WT controls, and mortality of this level was unexpected. A DAR vet spoke with the PI, and stressed the importance of monitoring the infected mice twice a day, especially since this particular strain would likely increase mortality. The PI reminded lab members that mice should be euthanized when they reach the criteria described in the protocol. The DAR vet also suggested to the PI that they might consider modifying the dosage.

X. AACUP/DAR/OHS Report

AACUP had nothing to report.

DAR had nothing to report.

OHS had nothing to report.

The meeting was adjourned at 12:54 p.m.

INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE MEETING
Tuesday, December 1, 2020
12:00pm

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

I. Announcements

a. Holiday Office Hours

The IACUC office will be closed during all campus holiday, and committee members were encouraged to inform staff members if they would be unavailable to perform reviews.

II. Approval of Minutes

A motion was made to approve the minutes from the November 2020 meeting. The motion was seconded and approved unanimously.

III. Response to Annual Review of Protocols

a. No unresolved questions or concerns arose during the October 2020 Annual Reviews.

IV. Old Business

a. Dairy update

Milking herd size and SCC have remained consistent and within desired levels.

b. Horse farm update

The department head provided a risk assessment of the electrical infrastructure at the Horse Farm in an extensive report that was prepared by several campus members, including: a representative of the Division of Research Safety, the ACES Director of Safety, the Director of the Animal Sciences Farms and Research Centers, and the manager of the Horse Farm. The report mentions that while there is little doubt that improvements to electrical power distribution should be made on the Horse Farm, it will require significant monetary investment, and in order to allow the Horse Farm to continue functioning and return to its original intended goals (e.g., housing multiple stallions), the project will have the most success when done in stages. Furthermore, there appears to be a question about ownership of and responsibilities for the various buildings and barns on the Horse Farm property; if changes or upgrades are to be made successfully and efficiently, building ownership and use should be reviewed and documented by Horse Farm staff and F&S staff. In order to facilitate timely and appropriate repairs, the IACUC would like the Chair to ask the department head to identify the portions of the facility that are F&S's responsibility for maintenance and repair, and to inquire if F&S has been made aware of the report and its recommendations; secondly, provide a timeline for addressing the recommendations within the report. The IACUC member serving as the F&S liaison offered to provide internal support.

V. New Business

a. none

VI. Continuing Education

- a. none

VII. Full Committee Review of Animal Use Protocols

20226 Comparative pharmacokinetics of ponazuril in passerines. [REDACTED]

Committee Discussion: The PI submitted a cloned protocol with a new acclimation process and only ten animals. Birds will be held in flight cages for two weeks, then spend only 96 hours in the animal facility. The PI will give weekly morbidity/mortality updates.

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

20241 The effects of psychological stress on the gut microbiome and the immune system [REDACTED]

Committee Discussion: The PI provided justification for unrelieved pain/distress as part of a social disruption model. Monitoring, body scoring, and endpoint criteria are thoroughly described, and are standards established by colleagues in the field. The PI has experience with this model, which is used by other researchers on campus, and a PAM will be placed on the protocol to notify when the PI plans to begin work so that DAR/IACUC staff can provide further oversight. Although the committee did not have any specific concerns with this particular protocol, an extensive discussion took place regarding the use of the social distress model in general, mostly concerning a more exhaustive review of alternative models that can achieve research goals. The Chair is planning to ask the PI to give a presentation to the IACUC at the following monthly meeting, which will also give committee members an opportunity to ask questions directly to the investigator.

Action: A motion was made to ask the PI to provide more clarification regarding the use of the social disruption model, including more recent examples in the literature; if acceptable to the primary and veterinary reviewers, then the protocol can be moved to the subsequent weekly list. The motion was seconded and approved unanimously.

20242 Pharmacokinetic study of nitrofurantoin in canine urine [REDACTED]

Committee Discussion: Dogs will be singly housed in their home runs during the treatment course, and may be contained in a metabolic cage for less than eight hours to facilitate urine collection.

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

VII. Protocol Deviations

- a. 20138 [REDACTED] IP injection

The PI reported that a student administered carprofen to several subjects using IP injection rather than SC injection as it is approved in the protocol. The postdoc who was previously in charge of all the aspects of lab operations recently left the University. The technician who was trained on surgery procedures started doing surgeries 6 months later due to quarantine restrictions. A new graduate student joined the lab in September, and although they went through extensive rodent surgery training at another institution, the procedures differed slightly from those here. A DAR veterinarian helped discover the inconsistency early, and kindly agreed to train the students on correct operational procedures. Also, the PI walked through all other details of the protocol with all of the students to ensure that they understood all the procedures and the importance of strict observation.

- b. 19095/20162 [REDACTED] daily log sheet

DAR staff noted that several log sheets were incomplete, missing, or incorrect, and several tanks did not have protocol numbers listed. The PI indicated that new students were being trained; a new log sheet was started and protocol numbers have been added to the tanks.

IX. Report of Unexpected Event or Animal Loss

- a. none

X. AACUP/DAR/OHS Report

AACUP had nothing to report.

DAR had nothing to report.

OHS had nothing to report.

The meeting was adjourned at 1:40 p.m.