Findings and Recommendations on the Animal Care and Well-Being at the U.S. Meat Animal Research Center to the Secretary of Agriculture and the REE Under Secretary

Final Report Date: March 26, 2015

Agricultural Research Service – Animal Handling and Welfare Review Panel Members:
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Background

The Agricultural Research Service (ARS) Animal Handling and Welfare Review Panel (ARS-AHWRP) was established under the authority of section 1409A(e) of the National Agricultural Research, Extension, and Teaching Policy Act, as amended (7 U.S.C. 3124a(e)), to review ARS agency-wide research animal care and well-being policies, procedures, and standards for agricultural livestock in ARS research. This review consists of two phases: Phase 1 includes an immediate review of the U.S. Meat Animal Research Center (USMARC) to be completed in 60 days; Phase 2 charges the panel with reviewing an additional 3-5 ARS locations where livestock research is conducted. This report focuses on Phase 1 of the charge.

In regards to the United States Meat Animal Research Center (USMARC) the ARS-AHWRP was charged with the duties to:

1) Review ARS/REE/USDA Policies and Procedures (institutional P&Ps) providing requirements and guidance for care and well-being of livestock animals used in research,
2) Visit USMARC at Clay Center, Nebraska and inspect facilities, pens, fields, etc., where animals are housed or involved in experimentation,
3) Review the composition of the location's Institutional Animal Care and Use Committee (IACUC), records of its meetings, and evidence of compliance with agency P&Ps and the processes used to select topics, and evaluate experimental designs and protocols under the IACUC,
4) Assess care and well-being training needs for staff having responsibility for handling animals, and
5) Prepare a draft report for the Secretary of Agriculture (Secretary) and the REE Under Secretary (Under Secretary) that summarize the findings of the inspection visit, reaches conclusions as to whether the care and handling of animals and the capacity of facilities and staff at USMARC are in compliance with institutional P&Ps and industry standards, taking into account that ARS and USMARC has a research mission, not a production mission, and makes USMARC-specific recommendations to improve compliance, if necessary, with institutional P&Ps and industry standards.

The ARS-AHWRP is made up of 4 members and one ex-officio member appointed by the Secretary of Agriculture: Dr. Aaron Olsen, Chair (Director, Laboratory Animal Research Center; Utah State University); Dr. Lonny Dixon (Director/Attending Veterinarian, Office of Animal Resources, University of Missouri); Dr. Stephen Ford (Endowed Professor, University of Wyoming); Dr. Mo Salman (Professor and Director, Animal Population Health Institute at Colorado State University); and Dr. John Clifford, Ex-Officio Member (Chief Veterinary Officer, USDA, Animal and Plant Health Inspection Service (APHIS)).

In compliance with its charge the ARS-AHWRP members visited (USMARC) in Clay Center, Nebraska, from February 24th through February 26th, 2015. The USMARC leadership presented their duties and operation structure to the Panel during their first day of the visit. During the remainder of the visit panel members observed pens, fields, and other facilities where agricultural animals used to support the research mission of USMARC were held and handled. Panel members had free access to all areas of USMARC. The specific areas visited by panel members were determined on site at the time of the visit, and were selected by the panel members to try and view representative samples of animal handling and research activities at USMARC. The Panel also reviewed processes for research and animal welfare oversight, including ARS policies and procedures, the composition and function of the Institutional Animal Care and Use Committee (IACUC), veterinary medical care, regular review of animal facilities, and training of animal care personnel. Dr. John Clifford, Ex-Officio member, visited the site on February 19, 2015 and provided a summary of his concurrent findings in the attached trip report (Appendix A). This report represents a summary of the panel's findings and its recommendations.

Without exception, the panel observed healthy and well-cared for animals. There were no visible signs of poor care or neglect, such as overgrown hooves, visible injuries or wounds, or undernourished or excessively thin animals. The animals were calm and appeared used to human interaction. Indeed, all animals observed appeared to be well fed and cared for. As a rule, animals were handled with care and professionalism by dedicated staff members. No instances of animal abuse, misuse, or mistreatment were observed. Areas of the animal care program where improvements can be made centered primarily on processes and documentation associated with the role of the IACUC.

ARS Policies and Procedures

ARS Policies and Procedures number 635.1, *Humane Animal Care and Use,* identifies *The Guide for the Care and Use of Agricultural Animals in Research and Teaching* (the Ag Guide), produced by the Federation of Animal Science Societies, as the primary document guiding the use of agricultural animals at ARS sites. The Ag Guide serves as a vital reference document for the care and oversight of agricultural animals used in research for ARS. The panel, therefore, strongly supports the use of the current iteration of the Ag Guide (Third Edition, 2010) as the guiding document in regards to care and use of animals at USMARC.

USMARC Administrative and Operational Structure

Finding 1

There is a lack of clarity on specific lines of authority and responsibility for oversight in regards to animal care and welfare in the cooperative arrangement between USMARC and the University of Nebraska-Lincoln

The USMARC functions as a unique experimental facility in its ability to evaluate many aspects of livestock production in a manner consistent with current livestock industry practices. To achieve this the facility performs multiple essential supporting operations such as crop production, animal feed storage and preparation, and pasture management.

Administratively, the USMARC is operated in close cooperation with the University of Nebraska- Lincoln (UNL) under a specific cooperative agreement, by which UNL employees provide services for all aspects of facility maintenance and operation while USMARC employees are directly involved in the administration and conduct of research activities. The cooperative agreement does not directly mention oversight of animal care and welfare particularly the responsibilities of IACUCs from USMARC and UNL.

The animal care program consists of two distinct, but closely integrated components: livestock production and active research programs. The livestock production operation supports the research endeavor of the center by providing animals that may be used in research projects and by providing production systems for evaluating aspects of livestock production management, such as construction and orientation of beef cattle feedlots and improved pasture management. Under the specific cooperative agreement UNL employees operate and oversee the livestock production operations while USMARC employees conduct and oversee the research programs, although effective management requires close coordination and communication between UNL and USMARC staff.

Veterinary care is also provided via a cooperative process. The USMARC employs a full-time veterinarian who acts as the attending veterinarian, participates as chair of the IACUC, and is responsible for the direction of veterinary care at USMARC. The Attending Veterinarian receives expanded support for clinical care from the Great Plains Veterinary Education Center (GPVEC), a component of the School of Veterinary Medicine at UNL. The GPVEC uses experienced and licensed

veterinarians working with veterinary students from various US veterinary colleges, who are completing the clinical years of their professional degree, to examine and treat illness and injury to USMARC animals. In this manner USMARC and GPVEC provide an important learning opportunity to the next generation of food animal veterinarians in recognizing and responding to animal health needs in a livestock production environment.

It is the opinion of the panel members that there is strong administrative support for the animal care program. This was evidenced by the strong and constant communication between the Center Director, the USMARC veterinarian, and the UNL animal care staff. Further evidence of the administrative commitment to the animal care program was the strong involvement of the Center Director and other members of the center administrative team in the panel review process.

There appears to be excellent communication between the multiple parties involved in animal care, veterinary care, and animal research. There is, however, the potential for confusion about lines of authority and oversight responsibility. Procedures for animal care and use are also not adequately documented. Clear lines of authority are particularly vital in areas of animal health, well-being and veterinary care. The panel did not identify specific instances of deficiency in animal health or veterinary care due to uncertainty about lines of authority. But the development and implementation of written agreements between USMARC and UNL which define responsibilities and authority for all aspects of animal care can improve clarity for all parties involved and can assist in ensuring appropriate animal care. Topics for consideration to be included in written agreements include: research oversight (via Institutional Animal Care and Use Committees), financial responsibilities, oversight and maintenance of physical facilities, and authority and responsibility to provide veterinary medical care in cases of animal illness or injury.

Recommendation 1

USMARC should develop and implement written agreements with UNL and any other research or teaching partners to ensure optimum lines of responsibility for the oversight of animal care and use in research and teaching activities.

Physical Facilities and Equipment

The USMARC is an approximately 33,000 acre research site. The site houses swine, sheep, and beef cattle. The site includes numerous pasture areas and crop fields. Also on site are located administrative and research buildings, a USDA inspected abattoir, facilities for the GPVEC, and multiple animal barns and associated structures distributed throughout the research site grounds. The panel had free access to any structure or location at the research site, and observed representative examples of animal working and holding areas.

It is the opinion of the panel that the grounds, pastures, and physical facilities are adequate and appropriate to the intended purpose of animal handling and care, and in some instances the facilities are excellent. Animal handling equipment throughout the facility was found to be consistent with current practices in the animal production industry. In the beef cattle areas the animal handling gates, alleys, and chutes have been specifically designed to minimize animal stress during routine animal movement and handling. The swine facilities are consistent with best industry practices including "shower-in and shower out" capabilities. Swine pens are appropriately sized and consistent with the space recommendations in the Ag Guide (Table 11-2) including appropriate ventilation, adequate space, and high level of biosecurity. Sheep facilities contain appropriate equipment and areas for housing and

caring for newborn sheep and their dams, and appropriate facilities for the care of orphaned animals as well.

There is also evidence of strong administrative support for appropriate animal handling facilities. The USMARC has been removing obsolete animal handling structures while also committing significant resources to the construction of new animal handling facilities, in particular the construction of new swine barns to both replace and supplement current swine housing facilities. As appropriate the USMARC has sought outside consultation on design and construction of new facilities to supplement on-site expertise.

Animal Handling and Veterinary Care

Finding 2

At this time there is no evidence for a clearly defined animal handling training program with a corresponding method for documenting the completion of appropriate training.

As part of the panel site visit panel members observed several instances of animal handling by UNL and USMARC staff. Observations were made at the beef cattle feedlot, at beef cattle pasture areas, within the sheep area, within swine facilities, and at the abattoir. Panel members also interviewed the USMARC Attending Veterinarian, the director of the GPVEC, and members of the UNL animal care staff to understand and evaluate the animal handling and care program and the veterinary care program for USMARC animals.

Among all animals observed the panel found no visible signs of neglect or mistreatment. There were no visible signs of poor care or neglect, such as overgrown hooves, visible injuries or wounds, or undernourished or excessively thin animals. The animals were calm and appeared used to human interaction. Indeed, all animals observed appeared to be well fed and cared for. We find these observations to be a good indication of how animals are routinely cared for at USMARC. This may be particularly significant as the Panel visited USMARC towards the end of the winter season. It is not uncommon for livestock in general, and pasture fed animals in particular, to have the potential to lose body weight during winter months due to decreased forage and increased metabolic energy demands associated with cold environments. We believe that to observe well-nourished animals at this time of year is indicative of regular and ongoing high quality animal management and care.

In all instances where panel members directly observed animal handling it was noted that animals were treated with care and professionalism. Animals were observed to be calm, without any obvious signs of stress such as excessive vocalization, visually apparent agitation, or attempts to escape holding pens or chutes. We find these observations of animal behavior during handling to be significant as we believe it is indicative of how animals are routinely handled at the facility and not just during the week of the Panel's visit.

The training of animal care staff appeared to be adequate and appropriate, as demonstrated by the skills observed during animal handling. The panel was also provided with examples where individual technicians demonstrated exceptional animal handling skills. Furthermore, the USMARC has established a three-tiered classification system for its technicians to recognize and promote individuals who display strong animal handling skills within the beef cattle unit. Therefore, no deficiencies or concerns regarding the humane handling and care of livestock were observed, and many of the animal care practices are to be commended.

The veterinary medical care program is appropriate to the operation. The USMARC Attending Veterinarian has guided the development of routine animal care standard operation procedures (SOPs) and has developed detailed SOPs to guide veterinary medical care within the various species care teams. The facility has also developed a high quality in-house electronic medical records database for tracking the health and medical care for all swine and beef cattle. The medical database is available to all animal care and veterinary staff and assists in communicating the health and well-being of individual animals as well as animal groups across the entire animal care program at the USMARC. There is also evidence of strong cooperation between the USMARC veterinarian and GPVEC veterinary staff with consultation between the units in response to disease outbreaks and routine veterinary care. The electronic medical records database has not yet been implemented for sheep. Extending this capability to cover the sheep research and production programs will assist in tracking overall flock health and help in identifying potential areas for concern. Efforts to expand the database capabilities to cover sheep should be encouraged.

While the panel found animal handling and veterinary care programs to be adequate to the operation, with specific examples of excellent animal care, there are areas where improvements can be made. The Ag Guide states "It is the responsibility of the institution to ensure that scientists, agricultural animal care staff, students, and other individuals who care for or use agricultural animals are qualified to do so through training or experience." At this time there is no evidence for a clearly defined animal handling training program with a corresponding method for documenting the completion of appropriate training. The Ag Guide further states "Training programs should be tailored to institutional animal user needs but provide information about the humane care and use of agricultural animals, including, if applicable, 1) husbandry needs, proper handling, surgical procedures, and pre- and post-procedural care; 2) methods for minimizing the number of animals used and techniques for minimizing pain and distress, including the proper use of anesthetics, analgesics, tranquilizers, and non-pharmacologic methods; 3) methods for reporting deficiencies in the animal care program; 4) use of information services such as the Animal Welfare Information Center at the National Agricultural Library (NRC, 1991; CFR, 1992); and 5) methods of euthanasia. Records of participation in training programs should be maintained and available for review as needed."

Recommendation 2

USMARC should develop and implement an appropriate training and documentation program for all individuals involved with the handling and use of animals in research. An explicit component of this training should be clear directions on how to report concerns regarding animal welfare. Various available national training components can be used for this purpose. As an important component of training on how to report welfare concerns, individuals should be informed of "whistleblower" policies which protect individuals who choose to report concerns. Copies of the whistleblower policy and contact information for reporting animal welfare concerns should be clearly posted in all animal handling areas.

Recommendation 3

USMARC should extend the electronic medical records database to include all species housed at USMARC. This will assist in monitoring both individual and herd health of all animals, and provide assurance that animals are receiving the appropriate care.

While it is expected that all individuals at USMARC involved in animal care or research (scientists, technicians, animal caretakers, etc.) will participate in the training program it is expected that training will be tailored to the specific needs of USMARC and UNL, and tailored to the work responsibilities of individuals. The panel notes that in addition to on-the job training and directed on-site training there

are multiple existing resources that may be considered for inclusion in the training program, such as the Collaborative Institutional Training Initiative (CITI), the Learning Library from the American Association for Laboratory Animal Science (AALAS) and Ag Learn from the USDA. The University of Nebraska-Lincoln has an established animal care program, and may also be an appropriate resource to consider while developing the training program.

In addition to the development of a well-defined training program the panel suggests that means be developed to recognize individuals with excellent animal care skills across all areas of USMARC by implementing a tiered classification system for animal care technicians comparable to that already in place for beef cattle animal care staff. The panel also suggests that efforts be made to disseminate best practices or innovative methods for improving animal handling and care within ARS and to the livestock industry in general. This may be done by developing means for sharing practices within USMARC and between existing ARS units. This may also be accomplished by encouraging individuals associated with animal care to present their innovative animal handling techniques in a variety of forums such as producers meetings, regional and national scientific conferences, and in trade and peer-reviewed publications.

Selection of Research Topics and Research Oversight by the Institutional Animal Care and Use Committee

Finding 3

The Institutional Animal Care and Use Committee at USMARC was not adequately fulfilling its intended role of providing research oversight by reviewing and approving, requiring modifications in or denying proposed research activities. This is not compliant with ARS Policies and Procedures that call for facilities to follow the standards outlined in the Ag Guide.

ARS research is organized into National Programs. These programs are designed to bring coordination and communication across multiple research sites and projects operated by ARS. The National Programs focus on the relevance, impact, and quality of ARS Research. ARS makes extensive efforts to communicate with stakeholders on pressing needs in the animal production industry. This communication helps guide the development of National Programs for ARS research. These National Programs in turn are used as criteria for evaluating proposed research projects at ARS sites. National Programs that provide overall guidance at USMARC include Food Animal Production (NP 101), Animal Health (NP 103), Food Safety (NP 108), and Agricultural and Industrial Byproducts (NP 214). All research projects using animals at USMARC have been evaluated and reviewed by the Center Director for their merit and significance as it aligns with one or more of these National Programs.

The USMARC has an 8 member Institutional Animal Care and Use Committee (IACUC) consisting of the USMARC veterinarian, who acts as committee chair, and other USMARC employees (scientists, animal care technicians and a veterinary technician). Until immediately prior to the panel site inspection an appropriate unaffiliated member was also present. The development of a conflict of interest due to the employment status of an immediate family member required this individual to conclude his term of service on the IACUC.

Based upon interviews with the Center Director, the management team and the USMARC Attending Veterinarian the following process for reviewing and approving research projects was described: The first step consisted of an informal process involving the research scientist proposing a study, the Center Director, the Attending Veterinarian, and any animal unit managers who may be involved by providing animals or other resources. The informal review process provided a valuable vetting process to identify

and address concerns about animal welfare, experimental design, and resource allocation. Following discussions and input from the various parties a description of the proposed research was captured in an Experimental Outline (EO) document. The EO was then circulated for review and final approval by the Center Director, Attending Veterinarian, and any animal unit or facility managers who would be involved in conducting the project. The EO was then provided to IACUC for review and comment. However, there was no evidence of formal review or approval of the proposed research by IACUC members. Furthermore, there was no evidence of regular convened meetings of the IACUC, as recommended by the Ag Guide.

The IACUC members did conduct semi-annual inspections of animal handling areas and facilities, helping to identify issues with physical facilities that would require correction. Written reports summarizing these inspections were provided to the Center Director.

In regards to the responsibilities of the IACUC the Ag Guide states: "The IACUC is authorized to:

- review and approve or disapprove protocols and other proposed activities, or proposed significant changes in activities, related to agricultural animal care and use in research and teaching;
- conduct, at least twice a year, an inspection of agricultural animal facilities and study areas and review of the overall agricultural animal care and use program, and to provide a written report to the responsible institutional official regarding the institution's compliance with this guide;
- investigate concerns, complaints, or reports of noncompliance involving agricultural animals at the facility;
- suspend an activity involving agricultural animals when it is not in compliance with approved protocols or written operating procedures;
- make recommendations regarding the development and implementation of institutional policies and procedures to facilitate, support, and monitor the humane and appropriate use of animals in agricultural research and teaching as well as any other aspect of the agricultural animal care program; and
- perform other functions as may be required by institutional need and by applicable laws, regulations, and policies."

The review of research and teaching activities by an IACUC, with the subsequent approval, request for modifications or denial of the proposed activities, is one of the most important functions of the IACUC. The Ag Guide recommends that when reviewing proposed animal use the following topics should be considered:

- Objectives and significance of the research or teaching activity;
- Avoiding unnecessary duplication of previous studies;
- Availability or appropriateness of alternative procedures or models (e.g., less invasive procedures, cell or tissue culture, or computer simulations) for the proposed research or teaching activity. It should be noted, however, that hands-on training involving animals is a particularly important component of agricultural research and teaching;
- Aspects of the proposed experiment or demonstration having to do directly with animal care and use, including justification for the species and (or) strain of animal used; justification for the number of animals used; and a description of procedures that may cause discomfort, distress, or pain and of methods of alleviation including anesthesia, analgesia, tranquilizers, and nonpharmacologic means, as well as justification for any procedures that involve unalleviated pain, discomfort, or distress;

- Appropriateness of procedures and post-procedural care;
- Criteria and process for timely intervention, removal of animals from a study, or euthanasia if painful and stressful outcomes are anticipated;
- Unusual husbandry requirements;
- Aspects of animal husbandry not covered under written operating procedures;
- Method of euthanasia or disposition of the animal; and
- Responsibilities, training, and qualifications of the researchers, teachers, students, and animal care personnel involved in the proposed activities.

Based upon the findings of the panel, the USMARC IACUC was not adequately fulfilling its responsibilities, particularly in regards to its duty to "review and approve or disapprove protocols and other proposed activities, or proposed significant changes in activities, related to agricultural animal care and use in research and teaching."

For the IACUC to perform its function as intended committee members must be fully informed and knowledgeable about their duties and expectations. To assist the IACUC in fulfilling its duty, committee members should receive additional training on the appropriate functioning of an IACUC**.** The panel does not intend to prescribe the exact mechanism for obtaining this training, but notes that organizations such as Public Responsibility in Medicine and Research (PRIM&R) have produced seminars and other training information which has been widely used by academia and biomedical research institutions to assist in establishing best practices for research oversight. The University of Nebraska-Lincoln is a regional resource that includes individuals experienced in animal research oversight. The close working relationship between UNL and USMARC can provide opportunities to receive guidance on principles of research oversight.

It is also important to provide training to all individuals associated with animal care or research receive training on the role and importance of the IACUC in animal welfare and oversight. The training may be incorporated into the overall training program as recommended above. On-line training courses and other materials are available that can be recommended to be used by USMARC.

The informal review by Center management and veterinary care members is a valuable tool that can quickly identify and correct or prevent experiments that may have deficiencies in experimental design or animal welfare. Further, the experimental outline document contained some components that should be reviewed by an IACUC. However, other review processes, whether informal or formal, cannot replace the oversight review by an IACUC. USMARC should develop a consistent IACUC review process that will review and evaluate the topics related to animal welfare as indicated by the Ag Guide. While not required, many institutions develop standardized research proposal forms and written IACUC standard operating practices that assist committee members and scientists in developing and reviewing research proposals to ensure appropriate animal welfare. The development of such standardized written procedures and forms may assist the USMARC IACUC in appropriately fulfilling its stated purpose.

The Ag Guide indicates the IACUC should meet at regular intervals, and at least once every six months, to ensure that the use of animals in research is humane, appropriate, and in accordance with the Ag Guide. The meeting must be held with a quorum of members present, actions of the committee should be conducted by vote of a majority of the quorum present, and committee actions should be recorded in meeting minutes. Although review and approval of research proposals may be appropriately conducted outside of convened committee meetings, discussion of research activities generally results

in additional scrutiny and may help identify appropriate safeguards to animal welfare, including identifying criteria for veterinary medical intervention and/or animal euthanasia in animal research projects. As there is currently no evidence that such meetings have occurred with any regularity, compliance with the standards of the Ag Guide will require that properly convened meetings be held at regular intervals, and that criteria be developed for what types of research proposals should receive additional review and discussion at IACUC meetings and those that may be appropriately reviewed by designated IACUC members outside of a convened meeting.

In accordance with the Ag Guide an IACUC should consist of no fewer than five members and should be composed of individuals who are qualified by experience or training to evaluate the programs and proposals under review. The committee should include at least one individual from each of the following categories:

- A scientist who has experience in agricultural research or teaching involving agricultural animals;
- An animal, dairy, or poultry scientist who has training and experience in the management of agricultural animals;
- A veterinarian who has training and experience in agricultural animal medicine and who is licensed or eligible to be licensed to practice veterinary medicine;
- A person whose primary concerns are in an area outside of science
- A person who is not affiliated with the institution and who is not a family member of an individual affiliated with the institution. This public member is intended to provide representation for general community interests in the proper care and treatment of animals and should not be a person who uses animals in agricultural or biomedical research or teaching activities at the college or university level; and
- Other members as required by institutional needs and applicable laws, regulations, and policies.

Individuals with appropriate experience and training may fulfill more than a single role on the IACUC. The panel recognizes that the IACUC was properly constituted until the recent, and appropriate, recusal of the non-affiliated member due to potential conflict of interest. However, no formal IACUC review functions should be performed until an appropriate replacement is found. Furthermore, if at any time in the future a properly constituted IACUC is not present at USMARC all research review functions should be suspended until an appropriate committee is reconstituted.

The panel also noted that the USMARC Attending Veterinarian is serving as the IACUC chair. While this arrangement is not prohibited by the Ag Guide or any animal oversight regulations such an arrangement is generally considered to be less than ideal. Situations where the attending veterinarian also serves as the chair sometimes encourages other committee members to not be fully engaged in the review process, assuming the veterinarian will provide adequate oversight. It also has the potential to set up a conflict of interest as veterinarians hold a vital role as advocates for animal welfare. Ideally the IACUC chair will be a senior individual within the institution with the respect of peers and with a strong commitment to animal welfare.

While present, panel members were informed that a small number of research mice are also housed at the facility. While a very minor component of the overall animal research program at USMARC it is best practice that all vertebrate animals used in research receive appropriate oversight protections by the IACUC. When using species other than livestock as research models the IACUC should use the appropriate guiding documents instead of the Ag Guide. In the case of mice, the *Guide for the Care and*

Use of Laboratory Animals (Eighth Edition, 2011) is considered the gold-standard of laboratory animal care.

Recommendation 4

USMARC should develop and implement processes that promote a robustly functioning IACUC that is consistent with the Ag Guide and with current practices in the field of animal research. Important components of complying with this recommendation include:

- ***Appropriate training for IACUC members on processes, requirements, and expectations.***
- ***Properly convened meetings be held regularly, and that criteria be developed for what types of research proposals should receive additional review and discussion at IACUC meetings and those that may be appropriately reviewed by designated IACUC members outside of a convened meeting***
- ***Development of a consistent IACUC review process that will review and evaluate the topics related to animal welfare as indicated by the Ag Guide.***
- ***All individuals associated with animal care or research receive training on the role and importance of the IACUC in animal welfare and oversight.***
- ***IACUC members should inspect all areas where animals are held, handled or used, even if animals are not present at the time of inspection.***

Recommendation 5

No reviews of proposed research or facility inspections be conducted unless a properly constituted IACUC is in place.

Recommendation 6

The Panel suggests that the Attending Veterinarian should not serve as the chair of the USMARC IACUC.

Recommendation 7

Use of all vertebrate animals at USMARC should be reviewed and approved by the IACUC. This includes animals used solely for production and any non-livestock animals such as rodents.

Conclusion

The Agricultural Research Service - Animal Handling and Welfare Panel visited the United States Meat Animal Research Center in Clay Center, Nebraska, to evaluate its animal care and use program. Based upon the observations of the panel members **no evidence** of poor animal handling, animal abuse, or inadequate veterinary care was observed or identified. However, the facility was found to not be in full compliance with ARS policies and procedures in that the facility did not fully comply with the intent or guidance within the Guide for the Care and Use of Agricultural Animal is Research and Teaching, particularly in regards to the conduct and documentation of animal handling training programs and the conduct of the Institutional Animal Care and Use Committee. The panel has provided recommendations specific to assist the Center to become compliant with ARS policies and procedures and with best practices in the field of animal research.

Appendix A – Dr. John Clifford's Trip Report

From: Christensen, Laura C - APHIS on behalf of Clifford, John R - APHIS
To: Esch, Michele
Subject: Clifford Trip Report
Date: Friday, February 27, 2015 10:21:02 AM

Clifford Trip Report

On February 19, 2015 I met with members of ARS and UNL at the USMARC facility in Clay Center, Nebraska. The day started with an overview of the entire campus that included the number of acres, animals and personnel at the facility. It also included the relationship between UNL and ARS. They went through a number of topics that included research projects and the topics that were raised in the New York Times article. They also explained how research projects were approved.

I then toured the facilities and observed a number of the livestock. It included cattle and sheep. I did not go into the swine facilities due to my limited time. The swine facility is a shower in and shower out facility. I also did not go into the necropsy areas.

In the afternoon I met with more of the staff for general discussion.

Observations:

The staff was very helpful and professional. They provided a great deal of material for my review. They offered to take me to any part of the facility. The animals that I saw were well cared for and in good body condition. Employees appear to have a very caring attitude of their work and care of the animals.

Recommendations:

There appears to be a formal and informal process for research project approvals. There needs to be one process that is followed. There also needs to be notes taken of the discussions that indicate any concerns raised and include approval or disapproval of any project. I believe they do take personal interest and care of animals but need to keep better records of formal process.

There is a health database that is used for the cattle and swine. There are plans to expand to the sheep. I would make this a priority and speed up that process.

Laura C. Christensen
Chief of Staff
APHIS-VS

Appendix B – Summary of Public Comment

The open comment period was held between March 9, 2015, and March 18, 2015. Written comments were submitted to a specific email box or the REE Advisory Board Office. A total of 59,660 written comments were received during this time frame. At the public meeting on March 18, 2015, 8 verbal comments were received. Below is a summary of the public comments received:

Written Comments

37,389 comments	Secretary Vilsack should immediately require that all animals used in research at USMARC and other USDA facilities be protected under the Animal Welfare Act standards. The USDA should also appoint outside experts in order to assure that all recommendations are properly implemented.
20,678 comments	The USDA must: Shut down all research at the USMARC facility; Require all USDA funded agricultural animal research to comply with the Animal Welfare Act (AWA), including the AWA requirements for reporting and transparency; Conduct a thorough investigation to ensure that similar animal welfare abuses are not occurring at other USDA research facilities or as a part of any USDA-funded research conducted elsewhere.
1,474 comments	Requested an unbiased investigation by the USDA Office of the Inspector General and an end to the use of U.S. taxpayer funds for the research.

An additional 118 unique comments were received.

- 20 comments were received in support of the US MARC Facility and its research.
- 98 in general, encouraged USDA to: close the facility; provide more robust site reviews, including the pending review by the Office of the Inspector General; and end the use of tax payer funds for the private meat industry.
- One commenter requested clarification on industry standards for swine pens.
- One commenter identified a discrepancy in the report related to the date of Dr. John Clifford's site visit.

Verbal Comments

- A total of 8 verbal comments were received.
- 1 commenter asked for clarification on a statement in the report on industry standards for swine pens (page 4).
- Three commenters supported the US MARC facility and identified the benefits of the research that has been completed at the facility.
- Four commenters asked for additional review and oversight:
    - For the ongoing research at US MARC to be reviewed by a second IACUC committee;
    - For USDA to apply the Animal Welfare Act to all research at US MARC and other USDA Facilities;
    - For the Animal and Plant Health Inspection Service (APHIS) to implement and perform rigorous inspections;
    - Additional accountability on the research within ARS; and
    - Additional unannounced site visits.

In conclusion, the independent panel made four general edits to the report based on the comments received.

- Corrected the date of Dr. John Clifford's site visit.
- Identified the Ag Guide as their only reference for identifying the appropriate size of swine pens.
- Added additional information on the visual cues used to identify animal health and well-being.
- Added additional information on the details of the site visit.