NEWS RELEASE
FOR IMMEDIATE RELEASE

Contact: Brittany Morstatter
ARPAS@assochq.org

Water buffalo remain underutilized as livestock
Extensive selection and breeding programs could positively affect food security on a global scale, according to a new review in Applied Animal Science

Philadelphia, PA, April 22, 2019 – The global population of water buffalo is approximately 194 million, an increase of 18 million over the last 10 years. These animals are important sources of milk and milk products, meat and meat products, horns, and skin and serve as an important source of farm power. In a review, researchers from the United States, Egypt, Pakistan, and Indonesia detailed the current knowledge base regarding water buffalo, including phylogenetics, genomics, and economically important traits, in order to improve the state of research.

“The potential of water buffalo for human food and fiber is immense in certain parts of the world. However, the development of the species using known scientific technologies and education efforts lags behind that of some other farmed animals,” Applied Animal Science Editor-in-Chief Dave Beede said. “This review summarizes current knowledge and addresses potential of modern scientific approaches to improve economically important traits. The authors also offer ideas on new research and education frontiers to empower future scientists and the public to capitalize on this animal resource.”

One of the main deficits in water buffalo agriculture is a simple lack of knowledge, which acts as a barrier, preventing advances in fundamental science and technology and resulting in great economic losses globally. “Education is the most relevant factor for advancing livestock science and biotechnology,” lead author Hazem El Debaky of Mississippi State University said. By focusing on important aspects, such as growth and development, milk and meat production and quality, disease resistance, longevity, heat stress tolerance, and fertility, this review can serve as a foundational piece for those studying water buffalo.

Human population growth by the year 2050 will cause demand for animal protein to increase by two-thirds, and water buffalo is an asset described by the Food and Agricultural Organization as “undervalued.” Because of its adaptability to hot and humid climates, the water buffalo can positively address the challenges by increasing rustic livelihood, poverty alleviation, and food security.

“All of these grand challenges are in fact opportunities to develop science-based solutions,” said senior author Erdogan Memili of Mississippi State University. “With the advances in knowledge and techniques in genome biology along with the phenotypic data from ruminant livestock, researchers now have the
opportunity to tackle age-old questions through innovative, multidisciplinary and multidimensional, and collaborative studies for positive outcomes for science and society.”

NOTES FOR EDITORS

Full text of the article is available to credentialed journalists upon request; contact Brittany Morstatter at +1-217-356-3182 ext 143 or arpas@assochq.org to obtain copies. To schedule an interview with the authors please contact Erdogan Memili at 662-325-2802 or em149@ads.msstate.edu.

ABOUT APPLIED ANIMAL SCIENCE
Applied Animal Science (AAS) is an international, peer-reviewed scientific journal and the official publication of the American Registry of Professional Animal Scientists (ARPAS). In continuous publication since 1985, AAS is a leading outlet for animal science research. The journal welcomes novel manuscripts on applied technology, reviews on the use or application of research-based information on animal agriculture, commentaries on contemporary issues, case studies, and technical notes. Topics which will be considered for publication include (but are not limited to): feed science, farm animal management and production, dairy science, meat science, animal nutrition, reproduction, animal physiology and behavior, disease control and prevention, microbiology, agricultural economics, and environmental issues related to agriculture. Themed special issues may also be considered for publication.

ABOUT THE AMERICAN REGISTRY OF PROFESSIONAL ANIMAL SCIENTISTS (ARPAS)
The American Registry of Professional Animal Scientists (ARPAS) is the organization which provides certification of animal scientists through examination, continuing education, and commitment to a code of ethics. Continual improvement of individual members is catalyzed through publications (including the AAS journal) and by providing information on educational opportunities. ARPAS is affiliated with five professional societies: American Dairy Science Association, American Meat Science Association, American Society of Animal Science, Equine Science Society, and Poultry Science Association.

ABOUT ELSEVIER
Elsevier (www.elsevier.com) is a world-leading provider of information solutions that enhance the performance of science, health, and technology professionals, empowering them to make better decisions, deliver better care, and sometimes make groundbreaking discoveries that advance the boundaries of knowledge and human progress. Elsevier provides web-based, digital solutions – among them ScienceDirect (www.sciencedirect.com), Scopus (www.scopus.com), Elsevier Research Intelligence (www.elsevier.com/research-intelligence), and ClinicalKey (www.clinicalkey.com) – and publishes over 2,500 journals, including The Lancet (www.thelancet.com) and Cell (www.cell.com), and more than 35,000 book titles, including a number of iconic reference works. Elsevier is part of RELX Group (www.relx.com), a world-leading provider of information and analytics for professional and business customers across industries. www.elsevier.com