



Animal Sciences News

Week of May 17, 2015

Belarus Delegation Visits ANSC – Greg Lardy

Today the department hosted a delegation from Belarus, including their Minister of Agriculture. The group met with J.W. Schroeder to discuss the dairy industry, then went out to the BCRC where Trent Gilbery and Marc Bauer discussed some of our beef cattle research.



“Belarus, officially the Republic of Belarus, is a country in eastern Europe bordered by Russia, Ukraine, Poland, Lithuania, and Latvia. The main agricultural products in Belarus are barley, rye, oats, and wheat, as well as potatoes, flax, rapeseed, and sugarbeets. Products of animal origin are mainly pork, beef, and poultry. Belarus has about 1.5 million cows, but the milk yields are relatively low.” (Source: Wikipedia)



(Bing.com/images)



Congratulations to Vet Graduates – Vet Tech Facebook page

On May 13, instructor Jordan Schrupp held a fun day of activities for the graduating class in Veterinary Technology. Activities included a photo booth, root beer floats, pinning of the official “Map of Externship Sites,” bandage scissors for all, and trivia games.



Collegiate Cattlewomen Elects Officers

The 2015-2016 NDSU Collegiate Cattlewomen officers were elected May 29. They are:

President – Paige Craigmile
Vice President – Leah Hawkins
Secretary – Jaden Carlson

Treasurer – Megan Ternquist
Philanthropy – Laime Lundquist
Fundraising – Celena (C.J) Hulst

The purpose of the Collegiate Cattlewomen is to promote the beef industry in a positive way whenever possible. To keep up with Collegiate Cattlewomen activities next fall, visit their Facebook page at <https://www.facebook.com/pages/NDSU-Collegiate-Cattlewomen/165565033463321>. Advisor for the group is Kasey Maddock Carlin.

Hay Sampling Inservice Planned

As part of a pilot program evaluating ditch hay in North Dakota, Carl Dahlen, Miranda Meehan, Kevin Sedivec, and Fara Brummer are planning a hay sampling inservice for county agents on Friday, June 5, from 10:00 a.m. to 3:00 p.m. at the Burleigh County Extension Office. The classroom portion of the inservice will cover forage sampling, project protocol, and interpretation of forage test results. The field session will cover proper use of hay probes, forage identification, and assessing forage quality in the field. The classroom portion of the inservice will also be available via WebX.

Animal Sciences Faculty Help Organize Triennial Symposium – Larry Reynolds

Drs. Kimberly Vonnahme, Associate Professor of Animal Sciences, and Larry Reynolds, University Distinguished Professor of Animal Sciences, recently helped organize the Triennial Symposium on Animal Reproduction to be held on the 12th of July, 2015, at the annual meeting of the American Society of Animal Science in Orlando, Florida. The Triennial Reproduction Symposium has been held since 1953 and through the years has become an important venue for presenting the latest findings related to reproduction in farm animals. This is especially important, as fertility and pregnancy outcomes (e.g., low birth weights) are major limitation in farm animal production, and farm animals are critical to agricultural sustainability and food security (see: [Importance of Animals in Agricultural Sustainability and Food Security](#), Journal of Nutrition, published ahead of print May 13, 2015 as doi: 10.3945/jn.115.212217).

Vonnahme served as Chair of the Organizing Committee, and Reynolds served as a member. Reynolds also will give the Introduction and Summary talks at the symposium. In addition to Reynolds, there will be six other speakers from the U.S. and one speaker from the U.K. The symposium also will include presentation of the L.E. Casida Award for excellence in graduate education, which has been awarded at every Triennial Reproduction Symposium since 1985.

The symposium will emphasize the most current knowledge and state-of-the-art information on topics related to “Developmental Programming of Fertility.” Developmental Programming is the concept that ‘insults,’ such as poor maternal nutrition, affect development of the fetus and infant, and have long-term effects on those individuals as adults. One of the organ systems that is profoundly affected by developmental programming is the reproductive system. The talks will include effects of heifer development systems on lifetime productivity, effects of prenatal and immediate postnatal nutrition on reproductive characteristics in bulls, nutritional programming of reproductive function in heifers, environmental contaminants and developmental programming of reproduction and reproductive behavior in livestock, developmental programming of reproduction in vertebrate models, and epigenetic programming of testicular function.

“This symposium will highlight the profound effects of the pre- and postnatal environment on reproduction in farm animals as adults, and even across generations” said Vonnahme. “If we can understand the basis of those effects, we may be able to improve reproductive performance.”



Reynolds and Colleagues Publish Paper

Dr. Larry Reynolds, University Distinguished Professor of Animal Sciences, and colleagues from around the country, recently published an Issues and Opinions article highlighting the critical importance of farm animals to agricultural sustainability and food security (see: [Importance of Animals in Agricultural Sustainability and Food Security](#), Journal of Nutrition, published ahead of print May 13, 2015 as doi: 10.3945/jn.115.212217).

The world's population is expected to grow to 9.5 billion (a 32% increase) by 2050 and to 11 billion by 2100, compared with its current 7.2 billion. Most arable land worldwide already is in use for agricultural production, and in addition fresh water and energy already are limiting. Thus, production of food will require a continuation of the increase in efficiency of production that has occurred in the last century, sometimes referred to as the 'Green Revolution.'

Although feeding a population exceeding 9 billion will be a daunting challenge, the authors point out that food security (defined by the World Health Organization as 'ready access to sufficient, safe, and nutritious food to maintain a healthy and active life') already is a major problem. Worldwide, nearly a billion people, including 20 million children, suffer from severe malnutrition, which is one of the major causes of death and disability. Food insecurity is not just a problem in developing countries – in the U.S. for example, nearly 15% of households are food insecure. Because of their nutritional needs, food insecurity affects especially children and pregnant women. Improving agriculture may be the most effective means of reducing poverty and improving food security, as three-fourths of the world's poor live in rural areas.

The authors also argue that animal products (meat, milk, eggs, fish and other seafoods, etc.) will play an important role in achieving food security and agricultural sustainability from several standpoints. First, animal products are an important source of high-quality, balanced and highly bioavailable protein as well as micronutrients such as iron, zinc, and vitamins B-12 and A, all of which are deficient in a large portion of the world's population. Second, because they are recognized as high-quality foods, the global demand for animal products will continue to increase as population and affluence increase. Third, farm animals contribute additional resources such as manure for fertilizer, on-farm power, and other by-products; they also provide for economic diversification and risk distribution, especially for smallholders, who comprise most of the world's farmers. Fourth, ruminants, which include buffalo, cattle, goats, and sheep, are able to efficiently convert forages from grasslands into high-quality animal products, and in addition grazing can promote health and biodiversity of grasslands if managed appropriately. This latter is especially important as grasslands cover more than 25% of Earth's land surface but comprise primarily marginally or non-arable lands.

The authors also point out that sustainable farm animal production will require a more complete understanding of their impact on the environment as well as the specific role(s) of animal products in human diets. In this regard, recent reports from the U.S. National Research Council (Critical role of animal science research in food security and sustainability, <http://sites.nationalacademies.org/pga/sustainability/animalscience/index.htm>) and the Office of Disease Prevention and Health Promotion, U.S. Department of Health and Human Services (Scientific Report of the 2015 Dietary Guidelines Advisory Committee, <http://home.wfp.org/stellent/groups/public/documents/newsroom/wfp189715.pdf>) argue strongly for a renewed focus on research concerning these controversial but critical issues.