130 Research in the real world: Field studies to support extension programs. V. L. Carney*, B. S. Schneider, D. E. Holm, I. Wenger, and R. A. Renema, 1Alberta Agriculture and Rural Development, Edmonton, AB, Canada. 2University of Alberta, Edmonton, AB, Canada.

An extensive field study and education program was developed to identify on-farm and hatchery practices associated with production success in Alberta. Concurrent with a field study, an education strategy was designed to provide the hatching egg industry with information and tools to support increased chick production. The project identified knowledge gaps and tailored communication strategies to the Alberta industry. Surveys were used to benchmark current production practices. The project team interacted with producers, hatcheries, primary breeder personnel, industry organizations and technical staff to effectively design 4 workshops that were relevant and applicable. A male management workshop was developed to equip producers to effectively manage and evaluate their roosters. Prior to the workshop participants were surveyed and the program material was tailored to address these “real-world” issues. For example, to address questions regarding male behavior the team developed video of breeder males in situ. Males from the videos were brought to the workshop and producers practiced evaluating male condition in relation to behavior. An on-farm fertility testing workshop was developed to equip producers with hands-on experience in evaluating early embryo development. Participants were given table-top incubators to use on their farm. A survey conducted 6 mo post-workshop indicated that 88% of attendees were using the skills from this workshop. A hatchery workshop was developed to share research and initiate the development of communities of practice. The workshop was developed with industry members and tailored to participant survey responses. 100% of participants indicated they would participate in a similar future workshop. A breeder management workshop was developed with industry partners. Participants interacted with experts and other attendees. The workshop included lectures and hands-on activities. Surveys of attendees indicated that 94% intended to implement new practices, and were able to specify what those practices were.

Key Words: travel, leadership, classroom, poultry industry

131 Development of a poultry focused leadership and fellows class. M. E. Persia* and M. S. Retallick, Iowa State University, Ames.

The goal of AnS 480G (Poultry Leadership and Fellows) offered at Iowa State University was to engage students (n = 5) that already have an interest in poultry science with opportunities to further their interest and to refine understanding of leadership in practice. This one credit class was divided into (1) travel to poultry enterprises to expose junior and senior level students to the scope and mission of poultry production; (2) formal and informal interaction of the students with various poultry industry leaders, which allowed students time to interact with individuals in leadership positions and reflect on the various leadership styles employed in the industry; and (3) formal classroom time to define, discuss, reflect and develop awareness of students personal leadership quality and ability. The travel aspect of the class utilized resources within Iowa including a laying hen live production and processing facility, a turkey live production facility, a turkey processing and further processing facility and a research and development-rich facility. Industry leaders were selected based on ability to interact with students and represented a broad cross-sample of leadership within poultry. Leaders included a R

and D director that presented on leadership within a technology-based company, a CEO of an allied industry that discussed environmental leadership, a CEO of an egg producer that talked about leadership from the producer standpoint, a national commodity board leader that focused on leadership of commodity production and a State Representative that visited about leadership in the Capital. Additional classroom time was devoted to self-reflection on leadership and development and understanding individual leadership skills all of which was co-facilitated by a faculty member in agricultural education. Student feedback was unanimously positive (captured by survey on a 5 point scale) and this class increased student interest in poultry production and poultry science (4.5/5) while challenging students to reflect on and improve their own leadership style (5/5).

Key Words: extension, workshop, fertility, management, breeder


Keeping backyard chickens has become increasingly popular in the US, but few studies have attempted to provide information about these flocks. An online survey of backyard chicken owners was conducted, advertised through Master Gardeners’ websites, social platforms (blogs, Facebook, Twitter), and other sites. The survey consisted of 56 questions about flock history, husbandry, health care and owner attitudes and demographics. Preliminary results (from 1,091 surveys) indicate that respondents came almost equally from urban, suburban and rural areas. Most (74%) owned fewer than 10 chickens and had owned chickens for less than 5 years (65%). Major reasons for keeping chickens were as food for home use (96%), gardening partners (66%) and/or pets (56%). Owners thought that eggs/meat from their chickens were more nutritious (64%), safer to consume (62%) and tasted better (80%) than store-bought products, and also that the health and welfare of their chickens was better (84.8%) than on commercial farms. The majority (58%) of respondents indicated that they had not had flock health problems in the last 12 mo. However, backyard owners seem to lack awareness of certain poultry health conditions. Many knew either little or nothing about infectious bronchitis, exotic Newcastle disease, or Marek’s disease, and most (63%) did not vaccinate their chickens against Marek’s. Respondents indicated a desire to learn more about various flock management topics, especially how to detect (64%) and treat (68%) injuries and health problems. The internet was the main source of information (87%) used by backyard flock owners, followed by books/magazines (63%) and feed stores (41%). Minimizing predation was the most cited challenge in chicken-keeping (48%), followed by providing adequate feed at low cost (27%), dealing with soil management (25%), and complying with zoning regulations (24.2%). The evidence obtained from this survey will help to determine what information resources are needed to maintain good biosecurity and improve the health and welfare of backyard flocks.

Key Words: chicken, backyard, behavior, welfare, disease

133 Surveying small flock owners about why they like to keep chickens using clicker technology. B. N. Lister* and B. A. McCrea, Delaware State University, Dover.

Minimal research has been performed regarding the benefit of small flock ownership, whether it is for the owners or the community. Many owners
have shared anecdotal information regarding the personal benefits they receive from owning small flocks. A previous survey had been developed in 2011–2012 and asked owners about their relationship with their flocks. The survey has been redeveloped to ask more direct questions and also to be used with a clicker system from Turning Point Technologies. The data gathered, using clickers, comes from a small flock conference, CoopTastic!, as well as at meetings of small flock owners. Seventeen small flock owners participated in the clicker survey at CoopTastic! as of the submission of this abstract. Additional survey opportunities in the spring will yield more data that will be presented. Those surveyed to date reflect a cross-section of those who keep chickens and attend extension small flock events within the Mid-Atlantic region. Sixty-five percent of those surveyed were women. When asked as to the primary purpose of keeping chickens, 88% of flock owners stated it was to have the chickens for eggs and 12% stated it was for keeping them as pets. The majority of those surveyed, 59%, described their flock as being entirely composed of pet chickens rather than describing the flock as livestock. When asked about predation, 88% of flock owners had experienced losses. Data also showed that 88% (n = 15) of those surveyed spent less than $100 annually on toys or treats for their chickens. Our preliminary results (n = 17) showed that flock owners did not experience a decrease in stress levels after interacting with their chickens on a daily basis. Stress levels were affected by only the variables of sex and age of the flock owner. Levels of attachment to the flock were influenced by the age of the flock owner and the age of the birds when purchased. There was a trend (P = 0.053) toward greater levels of attachment to the flock if the flock owner considered the flock’s primary purpose to be as a pet rather than for eggs.

Key Words: clicker, survey, backyard, small flock, stress


Rural students from socioeconomically distressed and agriculturally intensive communities frequently have an interest in pursuing higher education and future careers within agriculture fields. However, these students are often unsuccessful in gaining admission to colleges offering B.S. degrees in agricultural and life sciences, due to score deficits in college entrance examinations such as the SAT and ACT. The A.S.P.I.R.E. (ACT Supplemental Preparation In Rural Education) Program is an initiative between the College of Agriculture and Life Sciences at NC State University and NC Cooperative Extension. It was designed to bridge deficits in rural high school students’ performance on the ACT College Entrance Examination, to increase the admission rates of these students’ into traditional agricultural degree programs at land-grant universities. Each student participating receives the following: Princeton Review ACT study manual, Princeton Review 1,296 practice question manual, 4 ACT full-length practice exams with score analysis, Princeton Review selective college admissions booklet, and 30 h of class instruction. The “ASPIRE Agents” hold occupations of 4-H, Livestock, and Area Poultry Agents within NC Cooperative Extension. The ASPIRE Agents are trained through the Princeton Review’s 24 h “Master-Trainer” Course to learn how to adequately and efficiently teach ACT prep. During summer/fall 2012, 60 students participated in the ASPIRE pilot program. These students were from the following 6 NC counties: Warren, Alexander, Union, Wilson, Madison, and Johnston. Students took 4 practice ACT exams throughout the course to statistically analyze score improvements from the pre-test to post-test. The results of this pilot showed that the A.S.P.I.R.E. program helped improve ACT scores significantly by an average of 3.38 points (P < 0.001) on the composite ACT exam which is scored on a 36 point scale. These pilot results indicate that the A.S.P.I.R.E. program may serve as a model for other land-grant institutions who are struggling to admit rural high school students interested in pursuing agricultural studies.

Key Words: ACT, youth

135 A successful 4-H incubation and embryology program. K. W. Koelkebeck*, University of Illinois, Urbana.

The Illinois 4-H incubation and embryology program is designed to provide grade school teachers with information and experiential activities dealing with life science for use in the classroom. The program consists of providing training for teachers to learn the science of incubating chicken eggs in the classroom. Over the past 20 plus years approximately 2500 teachers have been trained and over 200,000 elementary and secondary school children have benefited from this program. During the training sessions, teachers receive educational materials about the poultry industry, learn the principals of incubation, learn how to operate a small classroom incubator, and participate in hands-on activities such as preserving embryos. The teachers may also earn CPDU credit for taking the class. In 2012, 315 teachers took the class and 14,000 school children from grades k through 12 learned about how chicks develop and hatch. Nine Northeastern Illinois counties participated in the project. Of the 315 teachers, 225 of them taught grade K-2 and 90 taught grades 3–12. With respect to life skills, greater than 50% of the teachers reported a perceived increase in their students’ skills in keeping records and teamwork. With respect to science abilities, more than half of the teachers reported a perceived increase in their students’ ability to predict, hypothesize, organize, and compare incubation results. In summary, this 4-H youth program has been very successful in educating school teachers about the art and science of incubating chicken eggs and thousands of Illinois youth have participated in this program.

Key Words: incubation, embryology, 4-H programming