

## Extension Education

**M103 Assessing a comprehensive udder health and mastitis control program for practicing dairy veterinarians.** G. M. Schuenemann\*, P. Rajala-Schultz, E. Gordon, S. Bas, and J. D. Workman, *Department of Veterinary Preventive Medicine, The Ohio State University, Columbus.*

The purpose of the study was to assess the effectiveness of a team-based educational program designed to enhance the flow of applied, research-based, information to dairy veterinarians. A comprehensive udder health and mastitis control program was developed and participants from 11 veterinary practices located in 5 states (IN, NY, PA, NM, and OH), serving an estimated 186,150 dairy cattle in 469 herds, attended the program (~2.5 d and ~20 h of learning). Mammary gland and host defenses; epidemiology, treatment and preventive strategies for clinical and subclinical mastitis (i.e., chronic mastitic cows); dry cow therapy; environmental interactions (physical and biological); record-keeping (new infections, SCC, cure rate, and monitoring dry cow therapy); training to dairy personnel; facilities (bedding and ventilation); assessment of milking routines; and milking machine analysis (on-farm evaluation of equipment) were discussed. Educational materials were delivered through in-class lectures followed by case-based learning, group discussions, and an out-of-class assignment. Attendees were assessed using pre- and post-tests of knowledge to determine the level of knowledge gained in the program. Participants evaluated the program and provided feedback at the conclusion of the module. Veterinarians reported that the overall program, presentations and discussions were useful. Attendees found the presented information relevant for their work and of great immediate use to them. The presented materials and the implemented educational delivery methods substantially increased the knowledge level of the attendees (17.9% points increase from pre-test to post-test scores;  $P < 0.05$ ). Interpreting culture and bulk tank results; milking machine assessment; treatment principles; dry cow management and selective dry cow therapy; managing new infections; and cleanliness of dry cow facilities were listed as learned concepts that participants can apply in their practices. Results suggested that the udder health module was relevant and effective; offering management practices with immediate field application.

**Key words:** education, mastitis, veterinary

**M104 The relationships between weight, age, and average daily gain of Georgia 4-H & FFA commercial dairy heifers.** M. L. London, J. K. Bernard, M. A. Froetschel, J. K. Bertrand, and W. M. Graves\*, *University of Georgia, Athens.*

Studies were conducted to evaluate growth of dairy heifers involved in Georgia Extension youth programs where heifers are shown by weight. In the first study, 1,744 heifers were evaluated to determine effects of growth from Georgia 4-H & FFA Commercial Dairy Shows from 2007 to 2010. Birth weights were determined using breed averages (with crossbreeds being the average of the 2 parent breeds). Average daily gains (ADG) were calculated and ranked for age, weight and placing. Data were analyzed using the Spearman correlation calculations in SAS. Age and ADG were inversely correlated ( $r = -0.89$ ,  $P < 0.0001$ ). Mean ADG for all heifers was determined to be 0.65 kg, below NRC recommendations of 0.7–0.8 kg. No strong relationship ( $r = -0.07005$ ,  $P = 0.0034$ ) was observed between ADG and placing. Heavier heifers, within a class, showed a small positive ( $r = 0.10399$ ,  $P < 0.0001$ ) relationship with placing. In Study 2, a total of 238 Holstein heifers shown

at the 2010 Georgia Junior National Livestock Show were evaluated for ADG, body weight, age, wither height, hip height, hip width, jaw width, placing and switch clearance from the ground. Height at withers had a moderate relationship ( $r = 0.42$ ,  $P < 0.0001$ ) with placing, followed by hip height ( $r = 0.32$ ,  $P < 0.0001$ ). A positive relationship ( $r = 0.65$ ,  $P < 0.0001$ ) was observed between wither and hip height. The correlation between weight and placing was determined ( $r = 0.11$ ,  $P = 0.10$ ). Age and ADG had a strong inverse relationship ( $r = -0.87$ ,  $P < 0.0001$ ). Switch clearance from ground positively ( $r = 0.17$ ,  $P < 0.01$ ) correlated with placing. Study 3 evaluated 1,489 Holstein heifers shown from 2007 to 2010. Data were analyzed using the Penn State Growth Spreadsheet. A total of 63.75% did not meet recommendations for body weight gain and indicates these heifers are under-fed. These animals will likely require more time before they enter the milking herd. The Commercial Dairy Heifer Program is vital for youth development in Georgia. However, management practices must be improved, growth monitored and weight requirements increased.

**Key words:** average daily gain, heifer growth, weight and size, Georgia Commercial Dairy Heifer Program

**M105 Advising and technical support for the formulation and evaluation of diets for dairy cows and goats: The extension experience of Antonio Narro Agricultural University in north Mexico.** P. A. Robles-Trillo\*, F. G. Veliz-Deras<sup>1</sup>, R. Rodriguez-Martinez<sup>1</sup>, M. A. De Santiago-Miramontes<sup>1</sup>, and C. A. Meza-Herrera<sup>2</sup>, <sup>1</sup>*Universidad Autonoma Agraria Antonio Narro, Torreón, Coahuila, México,* <sup>2</sup>*Universidad Autónoma Chapingo, Unidad Regional Universitaria de Zonas Áridas, Bermejillo, Durango, Mexico.*

Production of food of animal origin for human consumption requires adequate animal feeding strategies. The aim of this extension project was to establish a link between the University and the productive sector by providing advice and technical support in the design and evaluation of rations for dairy cows and goats in local farms, while offering technical training to students involved as practitioners and social service providers. The technical support and training was completed by visiting these local farms and performing the following activities: a) formulation and evaluation of rations, b) management of feed and water intake, c) chemical analysis of ration ingredients d) storage and care of ration ingredients, e) evaluation of the physical, reproductive, and productive state of livestock, and f) determination of milk chemical characteristics. The project covered approximately 9,000 animals that produce approximately 250,000 L of milk daily, distributed in 9 dairy farms in the states of Coahuila and Durango (i.e., Comarca Lagunera). Fifteen students participated as social service providers, while 120 students performed as animal nutrition practitioners, generating a total of 200 technical visits. Regarding technical information generated from this project, 2 technical papers were published in a regional journal (Agropecuaria Laguna). The Comarca Lagunera is one of the most important dairy producing areas in Mexico. Therefore, linking both technical and academic activities through projects like this should help to increase the productive efficiency of dairy goats and cows in this region, thus increasing the economic profit of producers while rising milk availability for human consumption.

**Key words:** extension, feeding, ruminant

**M106 An extension tool to assess forage production and utilization on dairy farms.** M.-C. Coulombe\*<sup>1</sup>, D. Pellerin<sup>1</sup>, R. Roy<sup>2</sup>, G. Allard<sup>1</sup>, P. Savoie<sup>3</sup>, D. Parent<sup>1</sup>, and E. Charbonneau<sup>1</sup>, <sup>1</sup>Université Laval, Quebec, Quebec, Canada, <sup>2</sup>Valacta, Dairy production centre of expertise, Ste-Anne-de-Bellevue, Quebec, Canada, <sup>3</sup>Agriculture and Agri-Food Canada, Soils and Crops Research and Development Centre, Quebec, Quebec, Canada.

The optimal utilization of forages on dairy farms is an important factor for their profitability. However, tools to diagnose forage use on farms are rare. The present study aims to develop an evaluation tool to assess the production and utilization of forages on dairy farms. Parameters concerning the optimal usage of forages on dairy farms were identified as forage production (quality and yield), production cost, harvest efficiency and utilization by the herd. Evaluation criteria and methods were defined to measure these parameters and to develop the evaluation tool. This tool was tested on 21 Quebec dairy farms with different forage management. Forage quality was evaluated using a quality index that includes ingestibility, total digestible nutrients and digestible protein. A reference forage (53.8% NDF, 1.14 NEL, 16.3% CP) was given an index of 100. All forage samples (n = 147) had an index of 131 ± 16.7 (mean ± SD). Average annual forage yield per farm was 6.1 ± 1.8 TDM/ha (n = 18). When corrected for nutrient contents, yield was enhanced to 6.5 ± 1.9 eqTDM/ha. Production cost of forages is highly correlated (r = 0.85) to total machinery cost. Thus, to simplify on-farm data collection, forage production cost was estimated as a multiple of machinery cost. The estimated forage production cost was 210 ± 87 \$/TDM (n = 17). To evaluate harvest efficiency, the daily capacity of machinery available was compared with the farm's annual forage needs and the number of days available for harvesting during the optimal cutting periods. Most farm machinery sets (18/25 sets observed on 21 farms) were considered efficient, i.e., able to harvest required forage within the available time. Milk from forage (MF) averaged 2785 ± 1024 kg/cow per year (n = 17) while mean potential MF was 6939 ± 1692 kg/cow per year. Within a herd, efficient forage utilization would be reflected by a small difference between potential and observed MF. The diagnosis included an assessment of actual vs. predicted DM intake, and milk urea N and protein:fat ratio. Using our evaluation tool, producers can identify strengths and weaknesses, and correctly assess actions to improve performance.

**Key words:** dairy cow, forage, on-farm tool

**M107 Fiber production and fiber characteristics of alpacas farmed in United States.** T. Wuliji\*, Lincoln University, Jefferson City, MO.

The alpaca is the most important fiber producing member of the South American camelids. This paper presents the recent analysis of both huacaya (n = 714) and suri (n = 502) alpacas sampled at 18 alpaca ranches located within the west, central and eastern regions in US. There are 2 types of alpacas introduced into the United States, namely, huacaya and suri; however, most alpacas are that of the huacaya breed. Currently, there are 171,316 alpacas registered to the Alpaca Registry Inc. (ARI) from 1986 to 2010 in the US. Alpacas can be found in every state of the United States and are farmed in various geographical environments ranging from hot desert to high mountain ranges. Alpacas were shorn at 10 to 18 mo of fiber growth intervals and produced 2 kg per head fleece per year. Coat color is widely varied in the alpacas, ranging from white to black and various shade combinations in 22 different natural color categories. Body weight, average fiber diameter, fiber diameter variation and fiber bulk characteristics were significantly

( $P < 0.05$ ) different between huacaya and suri alpacas (Table). There was no difference in mean staple length (74.5 mm vs. 75.5 mm) but comfort factor estimate was significantly ( $P < 0.01$ ) higher for huacayas (81.4%) over suris (77%). Although it appeared that suri alpacas were heavier for body weight and about 1.5 micron coarser than huacaya fleeces tested in this study, there was no evidence for any fiber production or fiber characteristic superiority in the one breed over the other except the preference of a breed specialty trait.

**Table 1.**

Traits	Huacaya breed		Suri breed		SE
	N	Mean	N	Mean	P-value
BWT kg	104	61.8	382	65.5	3.5*
AFD $\mu$	713	24.9	471	26.5	1.5*
FDcv%	713	19.4	471	20.7	1.2*
Bulk cm <sup>3</sup> /g	421	20.5	449	16.5	1.0**

BWT: body weight; AFD: average fiber diameter ( $\mu$ ); FDcv%: fiber diameter variation; SE: standard error of mean.

**Key words:** alpaca, coat color, fiber diameter

**M108 Advice from the experts: Processor assessment of planning considerations for an on-farm dairy processing enterprise.** E. A. Chaney\* and J. M. Bewley, University of Kentucky, Lexington.

Across the dairy industry, many producers are considering on-farm processing to add value to the milk produced on their farms. Like any other business venture, proper planning is imperative to establishing a successful business. The primary objective of this research was to survey existing processors to provide a compilation of advice for future on-farm processors. An electronic survey (Key Survey, Braintree, MA) was distributed to 120 on-farm processing businesses across the United States. A total of 31 surveys were completed (26%). Questions focused on cash flow, financing, sources of information used to start a business, and advice given to prospective business owners. The time needed to attain positive cash flow varied tremendously among survey respondents. Cheese (68%), milk (58%), and ice cream (33%) were the most common products manufactured on-farm. Funding needed to start the business was obtained from bank loans (68%), personal savings (58%), family loans or gifts (45%), and grants (35%). Factors influencing the decision to start the business venture included commodity milk prices (61%), desire to work with the public (42%), opportunity to promote the dairy industry (39%), desire to maintain or expand a family business (29%), and desire to differentiate a product (16%). When asked to describe the most difficult part of starting the business, the most frequently cited challenge was dealing with regulations (26%) followed by product marketing (19%), manufacturing technicalities (19%), and securing funding (16%). The most frequently used sources of information used in developing the business were existing processors (87%), books (65%), and the Internet (58%). The majority of respondents indicated they were either extremely satisfied (52%) or satisfied (44%) with their decision to start on-farm processing while 3% of respondents were neutral. When asked for advice to future processors, common themes included market research, business plans, seeking advice from existing processors, and thorough planning. Results of this research may be useful for entrepreneurs considering a value added dairy enterprise.

**Key words:** on-farm processing, survey, value-added

**M109 Using whole farm assessment tools to identify strategies for change to increase dairy farm profitability.** R. A. White\*, L. A. Holden, A. Ishler, G. A. Varga, and M. B. Douglass, *The Pennsylvania State University, University Park.*

The objectives for this project were to use the Profitability Assessment Dairy Tool (PA Dairy Tool) and the Income Over Feed Cost (IOFC) Tool to 1) identify bottlenecks that limited dairy farm profitability on Pennsylvania dairy farms and 2) to show dairy producers how to make improvements to both overall profitability and IOFC. The PA Dairy Tool calculates key financial ratios, capital efficiency, operational efficiency as well as economic losses in 5 areas of dairy production management that directly impact profitability: milk yield (MY) and components, reproduction, milk quality and udder health, culling, and replacements. Farms were invited to participate in the project by farm advisors and 38 farms completed both tools in year one. The PA Dairy Tool data utilized year-end numbers for 2009. Herd size averaged 184 with a range 31 to 1,582 cows; average milk production was 29 kg per cow per day (15–41); return on assets averaged –0.7% with a range of –10.2 to 8.7%. The PA Dairy Tool showed the greatest economic losses were due to milk yield (\$296 per cow per year) but the majority of farms had economic losses with replacements (age at first calving; 31 of 38 farms), udder health (somatic cell linear score >4.0; 29 of 38 farms), and reproduction (pregnancy rate; 25 of 38 farms). From January through October 2010, IOFC ranged from \$3.08 to \$10.61 per lactating cow per day. Quarterly reports are sent to participants throughout the project that include summarization of data and educational materials. In year 2 of the project, monthly IOFC will be continuously collected and year-end numbers will be collected for the PA Dairy Tool. Follow up work will be completed on farms that have economic losses in production areas that will enable the producer to focus on specific management improvements to decrease these economic losses. Effective use of evaluation assessments like the PA Dairy Tool and IOFC Tool are effective strategies in helping producers to target the most economically beneficial areas for changes to improve their bottom line.

**Key words:** benchmarking, feed costs, profitability

**M110 Evaluation of the use of pasture pork demonstration sites for on-farm educational programming.** N. C. Whitley\* and M. L. Eley, *North Carolina A&T State University, Greensboro.*

Farms with pasture-based swine production systems were identified and developed as demonstration sites for selected best management practices that are environmentally and animal welfare friendly. The objective of this project was to evaluate the use of those demonstration sites for educational farm tours. Two eastern region farms were toured in Year 1, 3 in Year 2. Topics discussed included nutrient management and animal feeding, riparian buffers, ground cover and soil testing among others. Farmers discussed their farm and production practices. A multiple question survey was developed and provided to participants after each tour. The second year, a follow-up survey was used to determine first year tour impact. There were 19 surveys distributed and 11 returned (58% response rate) for Year 1; 82% raised hogs outdoors. The producers (100%) indicated they would make changes on their farm based on things they learned during the tour. After the tour, 91% agreed they had a better understanding of environmental issues/planning related to raising hogs on pasture; 100% had a better understanding of (and 91% would apply for) USDA/State programs and/or other grant or certification programs. For Year 2, approximately 30 surveys were distributed and 24 were returned (80% response rate), however,

at least half of the respondents were NRCS staff and other agricultural professionals attending to learn more so they could, in turn, train farmers. Participants agreed they learned more about: water sources and location (96%), buffers to filter nutrient run-off (96%), crops to remove nutrients (92%), managing woodlots containing hogs (87%), pasture rotating and stocking rates (80%) and soil testing (76%). Only 60% indicated they would make changes on their farm. Of participants responding to the first year follow-up survey, 71.4% had made changes to create a more environmentally- and animal-friendly farm. The types of changes made included planting more forages and rotating animals, adding new pastures and shelters, giving pigs more space and moving pigs away from streams. Due to the success of these tours, more are being planned.

**Key words:** environment, outdoor pork, pasture based swine

**M111 Summary of Texas Panhandle dairy producer forage use.** K. J. Lager\* and E. R. Jordan, *Texas AgriLife Extension Service, Texas A&M System, College Station.*

To calculate the mix of forages used on Texas Panhandle dairies, dairy producers in the region from Select Milk Producers, a milk marketing cooperative, were sent a one page questionnaire regarding the forages raised and purchased to feed the dairy cows and heifers in their herd. Surveys from 14 milking herds were returned. Two herds had heifer operations associated with them that raised heifers for other individuals. One heifer operation had separate feed inventories. In the second operation, heifers from 6 to 12 mo were fed from the combined feed inventory. Heifer roughage consumption in this operation was estimated and removed from the remaining calculations. Weighted estimates were calculated after these adjustments. The mean ( $\pm$ SD) of animals was 7643  $\pm$  2961 with total owned ha ranging from 0 to 2274 ha and an average ( $\pm$ SD) of 857  $\pm$  632 ha. Herds averaged 86.4% of the cows in milk; comparable to industry standards. No adjustment for the bulls/steers in herds was made since many herds use bulls in various reproductive roles. Total forage dry matter per milking cow was 19.3 kg/d (16.7 kg/d if total cows) and includes the dry land small grains produced and forages from outside the area. Total irrigated ha within Texas averaged 0.37 ha per milking cow or 0.32 ha per cow (milking and dry). Approximately 10% of total ha or roughly 39% of double cropped ha required per cow was irrigated using water captured in retention control structures. Table 1 displays the weighted average number of ha of forages raised by the producer or purchased locally needed to feed either one milking cow or one adult cow with the associated young stock and bulls/steers in Texas Panhandle herds for one year.



**Table 1.** Hectare per milking cow or per total cows required to raise forages being fed (CS = corn silage; SS = sorghum silage; SGS = small grain silage)

	Mean	SE	Per Milking Cow and Replacement	Per Total Cows and Replacement
<b>Irrigated Raised Forages, ha</b>				
CS	468	105	0.13	0.11
SS	143	40	0.04	0.03
SGS	402	69	0.11	0.09
Alfalfa	145	50	0.04	0.03
<b>Of the Raised Forage Land, ha</b>				
Double Cropped				
Owned	373	90	0.09	0.08
Double Cropped, RCS Water	158	47	0.04	0.03
<b>Irrigated Purchased Forage from Panhandle, ha</b>				
CS	172	78	0.04	0.03
SS	16	16	0.004	0.003
SGS	28	15	0.01	0.01

**Key words:** dairy management, forages, land use

**M112 An overview of compost bedded pack management in Kentucky.** R. A. Black\*, J. L. Taraba, G. B. Day, F. A. Damasceno, and J. M. Bewley, *University of Kentucky, Lexington, KY, United States.*

Compost bedded pack (CBP) barn design and pack maintenance procedures vary considerably, making advising and problem-solving challenging. The objectives of this research were to characterize herd performance and management practices employed by CBP managers in Kentucky (45 farms and 54 CBP facilities). Mean ( $\pm$ SD) producer-reported bulk tank SCC and daily milk yield per cow were 238,162.2  $\pm$  81,702.5 cells per mL (n = 37) and 27.3  $\pm$  4.8 kg, respectively (n = 46). The TTEST procedure of SAS (Cary, NC) was used to compare herd performance metrics for the year before and year after transitioning to a CBP for farms using DHIA (n = 9). No significant differences ( $P > 0.10$ ) were observed for changes in SCC (325,222.2  $\pm$  197,188.9 to 274,888.9  $\pm$  135,102.2 cells per mL), rolling herd average milk yield (9,476  $\pm$  601.7 kg to 9,363.1  $\pm$  586.4 kg), heat detection rates (21.6  $\pm$  20.7% to 24.3  $\pm$  23.1%), or culling rates (32.2  $\pm$  8.9% to 28.6  $\pm$  5.7%). Kiln-dried sawdust was used by 25 producers (53.2%) with green sawdust used by 15 producers (31.9%) and 7 using a mix of green and kiln-dried sawdust (14.9%). Mean ( $\pm$ SD) time between additions of new bedding to the pack in summer was 15.3  $\pm$  12.7 d and 11.7  $\pm$  10.4 d in winter. With regard to pack stirring, 38 producers (80.8%) used a field cultivator while 6 used a rototiller (12.8%) and 3 alternated between using a cultivator and rototiller (6.4%). Mean ( $\pm$ SD) daily stirring frequency was 1.6  $\pm$  0.5 d in summer and 1.7  $\pm$  0.5 d in winter. The mean pack area was 9.5  $\pm$  3.8 m<sup>2</sup> per cow. Mean ( $\pm$ SD) herd average locomotion and hygiene scores were 1.51  $\pm$  0.30 (n = 35) and 2.20  $\pm$  0.28 (n = 38), respectively. Most frequently cited benefits of CBP included cow comfort (n = 28), cow cleanliness (n = 15), and improved health and longevity (n = 14). Recommendations to other producers included securing an adequate bedding supply (n = 8), stirring twice daily (n = 8), and using kiln-dried shavings (n = 5). Criteria for adding new bed-

ding included pack moisture (n = 30), compost sticking to cows (n = 12), and cow cleanliness (n = 7).

**Key words:** compost bedded pack barn, facilities

**M113 Weighted cost of capital on dairy farms in Florida.** K. Kaniyamattam\*<sup>1</sup>, A. De Vries<sup>1</sup>, and D. T. Galligan<sup>2</sup>, <sup>1</sup>*University of Florida, Gainesville,* <sup>2</sup>*University of Pennsylvania, Kennett Square.*

The objective of this study was to describe the weighted cost of capital (WACC) for dairy farms in Florida. Proper analysis of investment opportunities on dairy farms requires that the expected changes in cash flow need to be discounted by the cost of capital. The preferred discount rate is the WACC which is calculated as  $rd * (1 - \text{tax rate}) * D / (E + D) + \text{DER} * E / (E + D)$  where rd is debt rate, D is debt/cow, E is equity/cow and DER is the desired equity rate. Hence the WACC is farm specific. Financial farm-year records from 2000 to 2008 (n = 80) were obtained from the Florida Georgia Dairy Business Analysis Project database. Equity rates were calculated from the relative differences of farm equity on January 1 of each year. Debt rates were calculated as interest expenses divided by average outstanding loan amounts. Tax rate was set at 33%. Average  $\pm$  SD for assets/cow, debt/cow, and equity/cow were \$5,008  $\pm$  2,226, \$1,389  $\pm$  777, \$3,620  $\pm$  2,264 respectively. Average debt rate and equity rate were 6.3  $\pm$  3.9% and 6.3  $\pm$  8.6% respectively. The Pearson correlation coefficient between assets/cow and equity/cow was 0.94. The correlations between equity rate, and assets/cow and equity/cow were -0.29 and -0.29 respectively. Other correlations were not significant. At 5% DER, WACC was 4.7  $\pm$  0.6% (range 3.0% to 6.3%) and at 10% DER, WACC was 8.2  $\pm$  1.2% (range 5.3% to 10.7%). At 5% DER, the correlation between WACC and debt rate was 0.82. Other correlations were not significant. At 10% DER the correlation between WACC, and debt rate, assets/cow, debt/cow, equity/cow were 0.45, 0.29, -0.70, and 0.52 respectively. The regression analysis of WACC (5% DER) with year, assets/cow, debt/cow, milk sold/cow, average number of cows showed significant effects of year and average number of cows ( $R^2 = 0.37$ ). At 10% DER, greater assets/cow and greater milk sold/cow were associated with greater WACC ( $R^2 = 0.72$ ). In conclusion, WACC for dairy farms in Florida for DER varying from 5% and 10% ranged from 3.0% and 10.7% and were on average similar to textbook cost of capital of 5% to 10% per year.

**Key words:** interest, investment, profit

**M114 Current situation and further training needs: A case of Master Goat Producers.** U. Karki\*<sup>1</sup>, N. K. Gurung<sup>1</sup>, O. Bolden-Tiller<sup>1</sup>, and L. B. Karki<sup>2</sup>, <sup>1</sup>*Tuskegee University, Tuskegee, AL,* <sup>2</sup>*PadmaDal Memorial Foundation, Auburn, AL.*

Master goat producer's certification training program (MGPCTP) is being conducted by Tuskegee University annually to train goat producers, basically from Alabama and neighboring states. Finding out whether trainees have improved their enterprises after the training, and if they still have problems and training needs is important to improve the existing training program and/or organize further training. Objectives of this study were 1) to evaluate the current situation of goat farms belonging to master goat producers, 2) to assess the impact of master goat producer's certification training program, and 3) to identify further training needs of master goat producers. A set of structured questionnaire was developed and all master goat producers were requested to fill it. Also, goat farms of all producers who agreed to participate in this study were inspected. Almost all producers were rais-

ing meat goats, and more than 70 percent producers had Boer goats. The most common marketing was to sell directly to the consumers followed by bringing to stockyards. Average herd size was 24, and average pasture and woodland acreage were around 10 and 11 respectively. Almost all farms were pasture-based and supplementing with hay and concentrate was a common practice when forage production was low. Seventy-three percent of the producers were found to provide mineral mix regularly. Majority of the producers mentioned that they improved different aspects of their farms after attending MGPCTP: 85 percent improved farm structures and pastures, 70 percent improved health care, and 67 percent improved record keeping. More than 70 percent of the producers expressed that parasite was the major problem. Most of the producers stated that they need more training on various aspects of goat enterprises, such as marketing, parasite and disease control, record keeping, and pasture management. Results indicate that 1) majority of the producers are small-scale, pasture-based, meat-goat producers, 2) these producers improved their farm and production practices after attending MGPCTP, and 3) there are still many problems producers are facing, and they need further training to solve these problems.

**Key words:** Alabama, Boer, meat goats

**M115 Judging Pro: A dynamic software program for scoring judging contests.** M. L. Eastridge\*, B. Cobanov, A. Moffett, L. A. Winkelman, and A. E. Radunz, *The Ohio State University, Columbus.*

Judging contests continue to be valuable educational programs for teaching youth about selection of high merit animals, animal product quality, and life skills, especially in communication and working together as a team. Scoring of these contests can be quite laborious and a limited number of computer programs are available and those available are not very dynamic in presentation of the results. In addition, other computer programs will typically score only one type of contest. Judging Pro was developed for scoring judging contests with dairy cattle, livestock, equine, and poultry. The contest setup allows the user to define placing classes, questions for classes, and classes with reasons. Optional events in the contest setup include written questions, keep/cull, grading, retail cuts, specified stations, team problems, and linear evaluation. After the contest setup is completed, the animal and breed divisions are then defined and the proper placing and assigned cuts entered. Age category and designations of open, FFA, or 4-H are provided for each team and individual entered. Contestant placings and special event scores are entered, along with any specified event team scores. The program calculates placing scores based on the entered official placing and cuts. Reports can be designed by the user to provide the results of interest. Scores can be tallied by age division, youth membership category, and animal division (e.g., breed). Total scores can be summed for individuals and teams. Individuals and scores can be sorted in ascending or descending order. Results can either be printed or copied into a spreadsheet. Additional information about the program and ordering details are available at <http://barnyardsoft.com>.

**Key words:** computer software, judging contests, youth education