
EXTENSION EDUCATION

0286 Developing, marketing and branding mobile apps for the horse industry. K. L. Martinson^{*1}, R. J. Coleman², and M. E. McCue¹, ¹*University of Minnesota, Saint Paul*, ²*University of Kentucky, Lexington*.

An app is software that runs on the internet, a computer or phone. There are millions of apps available with about one billion downloads annually. However, relatively few apps have been developed for use in the horse industry. The objective of this abstract is to outline developing, marketing and branding of two mobile apps for use in the horse industry. In 2012, researchers developed a more accurate method for estimating horse body weight, a new equation for estimating ideal horse body weight, and a percentile that resulted in a body weight score to help assess over- and under-weight horses. Since the equations were complex, researchers decided to develop an app, named “Healthy Horse,” to encourage use and adoption of the equations. During the same time period, hay prices around the U.S. were at all-time highs. Horse owners normally purchase hay by the bale, which can result in further exaggeration of prices. To help horse owners convert price per bale to price per ton, representing a more economical hay purchasing strategy, the “Hay Price Calculator” app was also developed. In January 2013, a computer science graduate student was hired to develop both apps in collaboration with the research team. App development took about 4 mo and cost approximately \$8,000. Because grant funds were used to pay for the development of the apps, the University of Minnesota Office of Technology and Commercialization was consulted and decided to brand and market the apps under the University of Minnesota Board of Regents. In May 2013, both apps were released for use with Apple operating systems at a cost of \$1.99 and \$0.99 for the Healthy Horse and Hay Price Calculator apps, respectively. In November 2013 and March 2014, the Android version of Hay Price Calculator and Healthy Horse, respectively, were released. During the summer of 2013, the research team was approached by a nutrition company to co-brand the Healthy Horse app. After consulting with University Relations and the Office of the General Council, a contract was finalized to co-brand the app with the company logo and website address in exchange for a monetary contribution and marketing efforts. Since May 2013, over 1100 apps have been sold. Funds from the sale of the apps will help support future equine research at the University of Minnesota.

Key Words: mobile app, horse, body weight

0287 Calving management education program for dairy and beef workers and producers.

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Stillborn is defined as a calf born dead or death within 24 h after calving. A stillbirth event is costly to a cattle producer because of the calf loss and the effects on the dam. Calving management education programs in English and Spanish were organized and delivered across Kansas with the objective to educate cattle producers and their workers. Furthermore, the program addressed other important areas; participants learned about management of cows during the pre- and postpartum period, and newborn calf care. A tool was designed and built to assist with the hands-on demonstration part of the educational program. Faculty from the Department of Animal Sciences and Industry collaborated with faculty and staff from the Department of Biological and Agricultural Engineering, Kansas State University, to build a tool to simulate a cow giving birth. A pelvic bone was placed inside a stainless steel box with a plexiglass side panel to allow participants to visualize a number of obstetrical procedures. A dead calf was used for the demonstrations and it was discarded at the end of each session. To date, there were 167 attendees in the educational program; it impacted approximately 15,000 dairy and 5000 beef cows in the state. In 2 training sessions, attendees’ perception of the educational program was assessed using a survey, and pre- and post-test questions were used to evaluate participants’ knowledge. Audience response system clickers (Turning Point Technologies) were used to collect answers of the pre- and post-test questions. Among the participants that responded, 72% answered they never participated in any “calving school training” before. The survey found that knowledge of understanding calving management increased from 2.8 to 4.0 (scale 1–5) in the first session and 2.0 to 2.6 (scale 1-3) in the second training session. Eighty-six percent of the attendees answered that the information presented about calf presentation and in the hands-on assistance demonstration was new and useful information. In the training sessions, 16% of respondents reported they were very likely, 70% likely and 14% not likely to make management changes. The mean scores for the pre- and post-tests were 51% and 81%, respectively. The mean difference of 30% indicates that using an interactive slide lecture and hands-on demonstration was effective in teaching producers and workers about calving management.

Key Words: calving management, producers and workers, education

0288 Premium beef semen on dairy calculator. G. Lopes*¹ and V. Cabrera², ¹*Accelerated Genetics, Baraboo, WI*, ²*University of Wisconsin Madison, Madison*.

Producers are searching for alternatives to increase net income of their operations. Genetic companies are partnering with livestock sales companies and offering premium alternatives for crossbred calves when using beef semen. Our objective was to develop a decision support tool to analyze the net income of switching inseminations from conventional or sexed sorted dairy semen to beef semen. This partial budgeting calculation is performed considering the genetic value of animals to be inseminated and the expected premium to be received for crossbred offspring. The tool was conceived as an aid to help producers in their decision-making regarding the use of beef semen. Inputs from the herd such as herd size and herd structure, culling rate, pregnancy rate, number of virgin heifers inseminated with female sex-sorted semen, percentage stillborn, and calf mortality are used to calculate the number of replacements needed to maintain herd size and to determine the number of eligible animals for the beef program. Different prices of semen (conventional dairy, sex-sorted dairy, and conventional beef), and different prices paid for the offspring (dairy and beef crossbred) are taken into consideration. Animals are grouped according to parity (nulliparous, first, second, and greater than two lactations), and then further sub-divided according to the number of inseminations to receive (one, two, three, and greater than three). The selection of animals could be made in two different ways: (1) by genetic merit or (2) by reproductive performance. After selection, the tool calculates and shows the number of replacements that will remain in the herd to maintain herd size. Further, the tool estimates the profitability of selling crossbred calves at a premium price, presenting the dollar net return for the crossbred animals, and the net return for the herd as a whole. Herds using beef semen strategies enhance their genetic gain by generating future replacements from genetically superior heifers and cows. The tool will soon be freely available from the UW-Dairy Management Website (DairyMGT.info).

Key Words: premium, beef, dairy

0289 A decision support tool to estimate the economic potential of SCC hot sheet data. D. T. Nolan* and J. M. Bewley, *University of Kentucky, Lexington*.

A DHIA hot sheet ranks cows from the highest to lowest percent of bulk tank somatic cell count (BTSCC) based on their SCC and milk yield. The objective of the Southeast Quality Milk Initiative (SQMI) Hot Sheet Dashboard was to develop a farm specific tool that producers could use to make economic decisions from DHIA hot sheet data. Producers enter production information for the top SCC cows from the DHIA hot sheet including: milk production (kg/d), and percentage of the BTSCC, and herd based inputs including: amount of

milk shipped/d, BTSCC, current milk price, and bonus opportunities for milk quality. Producers also determine whether they want to discard or ship milk from a cow with a high percentage of the BTSCC. Results are displayed to show how the current BTSCC and the economic opportunity would change depending on which cows' milk was discarded. An example scenario is presented in Table 0289. The net opportunity for this herd is \$24.05/d. This value represents the difference in economic opportunity when milk from the top 2 cows is being shipped compared to being discarded. The price was higher when the cows' milk was discarded because the producer received the bonus opportunity for having a lower BTSCC. The SQMI Hot Sheet Dashboard can be beneficial to producers by allowing producers to make economic decisions from their DHIA hot sheet data. The Southeast Quality Milk Initiative project is supported by Agriculture and Food Research Initiative Competitive Grant no. 2013-68004-20424 from the USDA National Institute of Food and Agriculture.

Key Words: decision support tool, SQMI, hot sheet

Table 0289. Example herd inputs and results generated from the SQMI Hot Sheet Dashboard for a 100-cow herd, shipping 3402 kg of milk per day, with a BTSCC of 492,000 cells/mL and a current milk price of \$0.41/kg, with a bonus opportunity of \$0.01/kg*

	Cow Information		Decision	BTSCC after decision (cells/mL)	Bonus Opportunity (\$/L)
	Milk Yield (kg)	% BTSCC			
Cow #1	19.1	25.6	Discard	284,376	.005
Cow #2	13.7	15.9	Discard	171,708	.01
Cow #3	37.0	10.1	Milk	171,708	.01
Cow #4	28.4	6.8	Milk	171,708	.01
Cow #5	36.9	5.9	Milk	171,708	.01

Economic Opportunity
\$24.05/d**

*Bonus opportunity will increase with a decrease in BTSCC depending on producer inputs.

**Net opportunity does not assume discard milk is used as milk replacer substitute.

0290 The Kentucky Master Stocker Program.

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The upper Mid-South is home to a large number of farms that utilize available forage and feed resources to add weight to lightweight feeder calves. With the change in the market conditions, it was evident that an outreach program was needed to provide this segment of the industry information related to management of feeder calves. An interdisciplinary team was assembled to develop curriculum related to all aspects of the feeder cattle industry. A total of eight sessions comprised the curriculum including: enterprise budgeting, economic risk management, health, nutrition, handling and welfare, forages, marketing and environmental management. The program was

offered twice during 2011 and 2012. Approximately 380 participants from 30 of the 120 counties attended. A random subsample of 150 were mailed a 50 question survey in 2013 to assess post-program impact. A total of 47 questionnaires were returned (31% return rate). The majority (93%) of respondents indicated the program Exceeded or Far Exceeded expectations. Awareness was increased (95%) related to management and marketing and 66% of respondents indicated they implemented changes. The majority (62%) Agreed or Strongly Agreed that their perception of the impact livestock have on water quality and the environment changed with an outcome of agriculture water quality management plans being completed by 79% and 61% indicating they developed streamside buffers or alternative watering sources for cattle. Increases in knowledge for livestock health were noted where 89% Agreed or Strongly Agreed they had a better understanding of how to use various antibiotic products available, 87% had a better understanding of selecting vaccines, 83% an improved understanding of health risk classification and 71% indicated they were better able to diagnose and properly treat feeder calves. Of those surveyed, 53% made changes to their health protocols and 60% indicated they have seen improvements in the health or response from administered products after having attended the session. Cattle handling was altered with only 19% indicating their handling techniques were unchanged and 57% indicated the use of an electric prod was Slightly or Much Lower. The majority (58%) Agreed or Strongly Agreed to have made changes to their feeding program. Economic risk management tools were utilized by 40% of respondents with 88% indicating the strategy limited their risk. The delivery of an educational program for the stocker and backgrounding industry in Kentucky was well received and increased producers' awareness and adoption of management changes.

Key Words: education, feeder cattle, stocker

0291 The North Dakota Beef Industry Survey; Enterprise management, risk factors, and risk management strategies of beef cattle operations.

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In the spring of 2012 a survey was distributed to 2500 randomly selected North Dakota beef producers to evaluate their attitudes concerning risk factors and risk management on their operations. Five hundred twenty-seven surveys were returned

(21.1% response rate), of which, 436 (82.7%) respondents indicated that they were active beef producers. Commercial cow-calf production (94.5%), and backgrounding (37.8%), were the most common enterprises on respondents' operations. Thirteen percent of respondents grazed cattle on federal grasslands, 54.4% grazed crop residue, and 17.7% grazed cover crops. When asked about expansion plans, the majority of respondents indicated they would focus on commercial cow-calf (82.8%) followed by backgrounding (36.6%), feedlot (21.9%), stocker (19.4%), and purebred (15.4%) enterprises, respectively. For recordkeeping, most operations use a paper record book (60.4%), followed by computer spreadsheets (36%), and management software (9.6%), whereas 2.9% do not have a formal recordkeeping method. To determine per-cow cost of production, 23.9% of respondents balanced checkbooks, 22.7% use management software, 22.1% use tax returns, 15.5% do not calculate, 5.1% use a consultant, and 29.3% use other methods not categorized in the survey. On a scale of 1–5 (1 = small negative impact, 5 = large negative impact) respondents identified animal health issues (4.1) and severe weather (4.1) as having a large negative impact on profitability, and labor availability (3.0) was viewed as being a neutral factor. Variability in cattle price (4.3) and input cost (4.3) were factors identified as having the greatest potential negative impact on profitability, whereas variability in soybean price (2.8) had neither a small nor large negative impact on profitability. When asked about the effectiveness of management strategies in reducing risk (scale of 1–5, 1 = not effective, 3 = neutral, 5 = very effective), respondents identified maintaining good animal health (4.6), financial reserves (4.0), and having off farm income (3.7) as being effective strategies, whereas herd management programs (2.8) and hiring ranch management consultants (2.8) were viewed as neither effective nor ineffective strategies to reduce risk. Survey results identify the degree of risk that producers associate with different factors and highlight strategies used to mitigate losses from identified risks.

Key Words: beef industry, profitability, risk management