The meat goat industry has become one of the fastest growing agricultural industries in the United States over the last few decades. Between 1987 and 2012, the number of meat goats increased by 395 percent from 415,196 to 2,053,228. Contributing factors to this growth include increased demand from immigrants who consume goat meat, establishment of the American Meat Goat Association and the repeal of 1954 Wool Act. In spite of the significant increase in domestic production, consumer demand continues to outpace production with the shortfall supplied primarily from Australia and New Zealand.

According to the 2012 United States Census of Agriculture, producers in Oklahoma and Texas produced 37 percent of the total U.S. meat goat production. This makes them a major supplier of goat meat in the country. Because of the production size in this region and the overall shortfall in domestic production, we conducted a survey of meat goat producers to gain a better understanding of the makeup of the industry and to help us discover potential benefits and challenges that may exist for those who might be interested in getting into the meat goat business in the region.

Survey responses from 62 meat goat producers operating in the region revealed the average farm size was 369 acres, on which 214 acres were used to produce an average of 75 meat goats per farm. In addition, 74 percent indicated they followed a pasture-based management system. Furthermore, the average age of producers was 54 years, and 81 percent of them have a college degree. Moreover, 37 percent of the respondents reported they consider themselves to be risk-averse, and 54 percent hold an off-farm job. In terms of marketing, producers reported that on average 40 percent of their farm income is derived from selling meat goats. However, only about 15 percent of their total household income is generated from the meat goat sales. In addition, 86 percent of meat goat producers reported selling their goats directly to consumers, while 73 percent market their goats through auctions.

In addition to questions to help us understand general farm and producer characteristics, we also asked questions to better understand the perceived benefits and challenges associated with the meat goat business.
Table 1: Number of Respondents (N), Mean, Minimum and Maximum Responses to Questions Regarding Perceived Benefits and Challenges for Entering the Meat Goat Business in the Southern Great Plains

<table>
<thead>
<tr>
<th>Perceived Benefits: To what extent do you agree or disagree that your selection of a goat enterprise as opposed to other agricultural enterprises is because of the following reasons?</th>
<th>N</th>
<th>Mean</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Producers Enjoy Working with Goats</td>
<td>61</td>
<td>4.5</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Goat Production Fits Well into Land Management Plan</td>
<td>61</td>
<td>4.3</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Goat Grazing Preferences are Different from Other Species</td>
<td>61</td>
<td>4.3</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>I Can Raise Goats on a Relatively Small Acreage</td>
<td>61</td>
<td>4.2</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Goats Have Shorter Production Cycles than Other Livestock Enterprises</td>
<td>61</td>
<td>4.0</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>My Family Can be Involved in the Goat Enterprise</td>
<td>60</td>
<td>3.9</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Sustainable Control of Weeds and Brush</td>
<td>61</td>
<td>3.8</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Strong Market Demand and Prices for Goats</td>
<td>60</td>
<td>3.7</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Goat Production is a Form of Hobby</td>
<td>61</td>
<td>3.6</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Goats Combine Well with Cattle Enterprises</td>
<td>61</td>
<td>3.6</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Goats are Prolific Breeders</td>
<td>61</td>
<td>3.5</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Goat Production is Profitable</td>
<td>60</td>
<td>3.3</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Low Cost to Purchase and Raise Goats</td>
<td>60</td>
<td>3.0</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>A High Level of Skill is Not Mandatory for Producing Goats</td>
<td>61</td>
<td>2.6</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Perceived Challenges: To what extent do you agree or disagree that the following challenges are having significant negative impacts on goat producers in your area?</th>
<th>N</th>
<th>Mean</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Parasites</td>
<td>62</td>
<td>4.3</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>High Cost of Production</td>
<td>61</td>
<td>4.0</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Lack of a Goat Meat Processor Nearby</td>
<td>61</td>
<td>4.0</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Lack of a Clear Marketing System for Goats</td>
<td>59</td>
<td>3.9</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Insufficient Government Support for the Industry</td>
<td>61</td>
<td>3.8</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>No Grading System for Goats</td>
<td>60</td>
<td>3.4</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Pasture Management Problems</td>
<td>61</td>
<td>3.4</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Predators</td>
<td>60</td>
<td>3.4</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Diseases</td>
<td>61</td>
<td>3.3</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Lack of Steady Demand for Goat Meat</td>
<td>60</td>
<td>3.0</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Surplus Supply of Foreign Goat Meat Product</td>
<td>61</td>
<td>2.9</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>

Based on a Low to High (1 to 5) Rating of Importance

with the meat goat business. Producers were asked to rate their responses to questions from a low to high level of importance (i.e., from 1 to 5). The questions and mean responses for these two categories are reported in Table 1. The results indicated that enjoyment from working with goats, being a good fit to the overall land management plan and the ability to raise goats on small acreages were the top three perceived benefits. Although the results show profitability is important, it is not as important as quality-of-life goals, like the enjoyment obtained with working with goats on small a scale.

Challenges most important to producers were closely tied to production and marketing issues. On the production side, mitigation of parasites, predators and diseases were important and would certainly lead to higher production costs. Issues primarily related to marketing would lead to greater price and yield risk, all of which can be an impediment for risk-averse producers.

For those interested in the meat goat business, it is important to understand the potential challenges with having goats and to spend some time investigating the management and marketing practices best suited for your resources before diving head first into the meat goat business.
Come calving season, most producers have compiled all the tools necessary to deliver and care for newborn calves. In almost every stockman’s shirt pocket, wallet or truck dashboard you can find some form of record-keeping: anything from an Integrated Resource Management (IRM) Redbook from the National Cattlemen’s Beef Association (NCBA) to a simple piece of scratch paper full of numbers, notes and dates. Recording information such as calf weight, gender, ear tag number, dam info and other relevant data is crucial so best management decisions can be made further along in the production cycle.

While any method of data collection is better than none, the ability to compile, use and learn something from those raw numbers and notes is the real challenge. NCBA provides a free, digital version of the Redbook in an Excel workbook (download at www.beefusa.org/redbookworksheet.aspx). It is an excellent way to record information on the ranch and is full of useful figures and management tools. However, a key component is absent even with this platform: mobile accessibility.

The ability to input data easily has become more of a requirement than a luxury in today’s world of mobile applications and software. Calf Book is a web-based application with a mobile app for your iPhone or Android smartphone that gives cattle producers a simple way to store calving information about their herds. Both the webpage and mobile component are easy to use, making it widely accessible to users of all skill levels. Since no cell service is required to enter information while using the app, dependence on a strong signal is obsolete. The devices automatically sync when cell signal is obtained, which makes the latest information available on all devices. Multiple users can also share a single account, making it pain-free to share information.

Calf Book offers a free, no-obligation 30-day trial, allowing ranchers the opportunity to try their product before purchase. There are two subscription levels after the trial period expires, both of which are collected annually: a $5 “Basic Plan” or a $15 “Plus Plan.” The Basic Plan allows the operator to input calving, breeding and cow data, and generate basic reports such as calving history, income of a calf crop and overall breeding information. The Plus Plan offers the same features as the Basic Plan as well as the ability to import/export cow and bull data, and export reports in an Excel format. Both subscriptions provide a semen tank inventory function and a basic gestation calendar.

**Likes**
- Multiple platforms (web and mobile)
- Online tutorials and support through Facebook page
- Not reliant on cell service for use in field
- Trial period before purchase
- Simple and easy to use

This application has much to offer cattle producers but a few improvements could be made to make it an even more powerful tool. First, the data entry fields are not customizable. Not every producer will record the same information as another, so having the ability to personalize what types of data are recorded would be beneficial. Second, there are no EPDs associated with bulls used for breeding or in the semen tank inventory. Finally, the trial period only unlocks the Basic Plan level of features. Being able to enter your own production data, generate reports and see how this app could benefit you in its full capacity could possibly secure more subscriptions.

**Dislikes**
- No way to input bull EPDs
- No receipts for cow/bull sales
- Lack of customization
- Trial period only unlocks Basic Plan features and functionality

Calf Book provides a simple, highly accessible avenue to enter calving information. While there will always be a place for pen and paper, migrating record-keeping to a more systematic and analytical location such as this application will provide cattle producers with more useful information.
Hi, I'm Myriah Johnson, and in June I joined The Samuel Roberts Noble Foundation as an agricultural economics consultant. For the last six and a half years I have been at Texas A&M University where I completed my master’s and doctoral degrees in agricultural economics and animal science, respectively. Don’t be mistaken, though. I am a huge Oklahoma State Cowboys fan as that is where I received my undergraduate education. I grew up in Perry, Oklahoma, on a wheat, cow-calf and stocker operation. So, it is exciting to not only be joining the Noble Foundation but to be back closer to home as well.

While everything feels new, some things feel like old hat. In 2007, I served as a summer intern here at the Noble Foundation. So, in coming back there are some familiar faces but many new faces as well. For me, production agriculture feels a little bit like this too. Having grown up on an agricultural operation, many aspects of it feel quite familiar. However, with the rapid change of pace in the industry, I often feel like I can barely keep up with all of the new technologies and tools available, let alone the newest research in agriculture. Perhaps you feel this way too. If so, you are not the only befuddled one out there!

As a consultant, part of my job is to help you with that. One of my goals is to help agricultural producers and landowners capture data from their operations and turn it into usable information that helps them make management decisions. Hopefully, from this, new insights can be gained and the operation can be improved.

Record-keeping and data entry is never a fun chore. It’s also the last thing many people want to do when they get home from a long, hot day of work. What type of tools would help you better record data on the go? I’d like to know specifically from each of you what would help you do your job easier or start doing things you haven’t done before. When you see me, let me know.

There are software tools available for livestock, but I have never found one that has completely suited me or my family’s operation. Many times, I feel the cutting-edge technologies are developed for crop farms. If those technologies are applicable to livestock, they often take years to transfer into the livestock realm. Two programs I have been looking at lately are Granular (www.granular.ag) and FarmLogs (www.farmlogs.com), which are designed for crop operations. I envision something similar to these platforms for livestock operations. Additionally, within the same platform, I think it would be useful to have various calculators and budgets available for forecasting what things may look like in the upcoming season.

Here at the Noble Foundation, we hope to build a suite of record-keeping tools in an online platform that will be useful for you. My goal is that these tools will help you complete your job more efficiently, saving you time while also helping you identify ways in which you can keep moving forward in your operation. If you have thoughts or ideas on the subject, I would love to hear them. I look forward to working with each of you in this endeavor.
RESEARCH CENTERS

Record-keeping promotes decision-making success

by Devon Ford / drford@noble.org

Keeping records for an agricultural enterprise is often-times looked on as unimportant or unnecessary. Too many times producers would rather fix fence, cut hay or work cattle. These activities are important to maintain, grow and expand any enterprise, but record-keeping is also a vital part of the enterprise.

There are many different methods to keep records, from handwritten notes, computerized spreadsheets, to a data management system. Each system allows individuals to collect data about their specific enterprise. However, just collecting the data is not very useful if it is not analyzed to see where losses or profits have been made.

When choosing a record-keeping method, there are a few key points you need to keep in mind. Items to consider include but are not limited to: what data points need to be collected, how this data will be analyzed and used, and how transferable is the data if another record-keeping method is chosen. Computerized spreadsheets and data management systems can be very helpful in data analysis, but if the user is not comfortable using the new technology, these systems may not be beneficial.

After discussing a few methods of record-keeping, let’s take a look at the “why” to keep and maintain records. If a cow-calf producer finds it necessary to reduce cow numbers due to a drought as happened not too many years ago, the first animals to go are the open cows, old cows and cows with poor dispositions. But, if the producer still needs to reduce cow numbers and is down to the 6- and 7-year-old cows, how does he or she choose which ones to liquidate from the herd?

If records were kept on the herd such as calving date, calf weight, weaning weight and how fast the cow rebred, this data would be beneficial in deciding which cows need to be sold and which females are more productive in the enterprise. If financial records were kept concerning supplements and sales, the differences can become even more obvious.

Oftentimes, producers may not actually realize or understand the cost per animal until they begin keeping the records needed to analyze the financial health of a given enterprise. Unfortunately, the realization may come too late when producers have already made decisions that can have a negative impact on the future of the operation. Sound record-keeping will help alleviate these problems. Once records have started to be kept and analyzed over years, decision-making becomes even more successful and profitable. The more years of records a producer has, the more informed his or her decisions will be.

Just as fixing fence, cutting hay and working cattle lead to the success of an operation, record-keeping is equally, if not more, important to managing a successful enterprise. It is valuable to take time to analyze costs associated with each enterprise and asset in the enterprise. This is true for a cow-calf operator, stocker operator, custom hay baler or whatever enterprise an individual may own or manage.

Remember, when it comes to managing agricultural operations, record-keeping translates into decision-making tools. These decision-making tools can make a bad manager good and a good manager great.
Important

concepts in white-tailed deer management are often overlooked by many managers because they focus on superficial aspects of deer management. Much hoopla exists pertaining to products for sale and deer management fads, which cause many managers to lose sight of important concepts. Most goals for free-ranging white-tailed deer can be successfully addressed when managers focus on three important concepts: 1) excellent deer habitat, 2) adequate doe harvest and 3) conservative buck harvest.

Excellent white-tailed deer habitat has both herbaceous areas (dominated by forbs and grasses) and wooded areas (dominated by trees, shrubs and vines), many plant species, various successional stages of plant communities, and predominantly native plants. White-tailed deer exist in a wide range of locales. The optimum amounts of herbaceous and woody areas vary depending upon soils and climate. In many situations, 25 to 75 percent well-distributed woody cover can be optimum. However, I have seen excellent deer habitat on one Oklahoma ranch with as little as 12 percent well-distributed woody cover. Openings completely devoid of woody vegetation generally should be less than 200 yards wide in at least one direction. Productive soils support more deer and larger deer than infertile soils. Plant diversity is important to provide optimum nutrition throughout all seasons and rainfall variations. Management practices such as fire and rest from disturbances should be used to maintain plant diversity and diverse plant community successional stages. Practices such as appropriate livestock grazing and selective herbicide application also can be beneficial for managing deer habitat.

Adequate Doe harvest is important to maintain relatively close adult sex ratio, deer abundance within carrying capacity (optimum number that a habitat supports), optimum deer nutrition and good fawn crops. Males have higher mortality rates than females, so doe harvest is necessary to keep adult sex ratio relatively close. A habitat can provide optimum nutrition for only a certain number of deer. When deer numbers increase beyond carrying capacity without adequate doe harvest, deer nutrition declines, which decreases deer health, deer weight, antler size and fawn survival. Although seemingly counterintuitive, more fawns can be recruited into a healthy population with fewer does than a population with overabundant does that exceeds carrying capacity. When a habitat has too many does, inadequate space for additional bucks exists.

Conservative buck harvest is important for goals emphasizing abundant bucks or large antlers. Age of bucks harvested is less important than total number of bucks harvested. When bucks with large antlers is an important goal, generally less than 15 percent of the buck standing crop should be harvested annually. Depending upon deer density, adult sex ratio and fawn crop, buck harvest rates for this goal are commonly only one buck per 400 to 1,000 acres. Buck harvest rates outside this range may be appropriate in atypical situations such as very productive habitats, distorted sex ratios, etc. Free-ranging bucks tend to grow larger each year they live, and it takes many years for a buck to grow his largest set of antlers.

Unfortunately, many managers of free-ranging deer populations focus on and are distracted by superficial management practices such as food plots, mineral supplementation, buck culling, breeder bucks, stocking better genetics, harvesting certain age-classes of bucks, etc. Many of these practices are appropriate in penned-deer situations, but inefficiencies exist and limited progress occurs when managers of free-ranging deer focus on superficial issues rather than developing and maintaining excellent deer habitat, adequate doe harvest and conservative buck harvest.
There is an opportunity to use cover crops in warm-season perennial grass (WSPG) pastures during winter dormancy. Unfortunately, there is little information on how some of the newer, more novel or exotic cover crop species can be adapted to the Southern Great Plains or if they can work in this system.

In fall 2014, we began working on demonstration plots of various cover crops overseeded into WSPG. Plot locations were southwest of Gainesville, north of St. Jo, southeast of Rosston and south of Forestburg, which are all in north Texas.

Entries in fall 2014 and spring 2015 included barley, oat, black oat, triticale, rye, wheat, ryegrass, corn, sorghum, sorghum sudan, sudan, pearl millet, foxtail millet, browntop millet, proso millet, chickpea, spring pea, winter pea, chickling vetch, common vetch, hairy vetch, lentil, sainfoin, alfalfa, cowpea, soybean, mung bean, guar, sunn hemp, radish, collard, turnip, mustard, rape, flax, buckwheat, phacelia, plantain, safflower, chicory, sunflower, sugar beet and clovers (crimson, berseem, Persian, rose, red, white, sweet, subterranean, alsike, arrowleaf and alyce). Additional entries of Japanese millet, teff, balansa clover, faba bean, okra, medics (burr, rigid and button), and a comprehensive mixture were added in fall 2015 and spring 2016.

In spite of dry weather and insect damage in fall 2014, we observed that the sorghum species entries were able to establish and grow in the fall prior to frost even with competition from the WSPG. Sorghum species entries were also some of the few plots that had good growth after the spring 2015 planting, when abnormally wet weather hurt the growth of most other plots.

While most entries did not perform well in fall 2014, many of them made significant growth in late winter and early spring 2015. Perhaps much of the seed lay dormant in the ground until winter, when enough moisture was finally available for germination. Entries that made significant late winter and early spring growth included the small grains, ryegrass, vetches, peas, crimson clover, flax and chicory. We were surprised none of the brassicas performed well.

In fall 2015, cowpea, sunflower and grazing corn made significant growth even though they were terminated by frost a few weeks after planting. Others that made good fall growth were the small grains, ryegrass, vetches, peas, crimson clover, flax and chicory. We were surprised none of the brassicas performed well.

In the coming year, we plan to continue to evaluate species that have performed well in the plots so far. Since it is difficult for the cover crops to establish and compete with the WSPG while it is growing, we will concentrate on cool-season entries that grow during the WSPG dormant season. We will plant near the time of first frost but will shift the spring planting to a late winter planting. The species we will continue to evaluate in this system include triticale, oat, rye, wheat, barley, ryegrass, pea, vetch, lentil, faba bean, radish, mustard, flax, chicory, plantain, button medic and the clovers (crimson, Persian, rose, red, sweet and white). In the future, we also hope to evaluate mixtures of these.
UPCOMING EVENTS
For more information and to register, please visit www.noble.org/events or call 580-224-6376 or 580-224-6375. Preregistration is requested.

Fall Grazing Workshop
9 a.m.-3 p.m., Sept. 13, 2016
Dixon Water Foundation
Registration Fee: $20, includes lunch

Pecan 101 Workshop
9 a.m.-4 p.m., Sept. 29, 2016
Southern Oklahoma Technology Center
Registration Fee: $20, includes lunch

Fence Construction Workshop
9 a.m.-3 p.m., Oct. 4, 2016
Noble Foundation Red River Research and Demonstration Farm
No Registration Fee

Basic Beekeeping Course
Part 1: Beekeeping Basics
9 a.m.-5 p.m., Nov. 5, 2016
Registration Fee: $20, includes lunch

Basic Beekeeping Course
Part 2: Honey Bee Production
9 a.m.-5 p.m., Nov. 12, 2016
Registration Fee: $20, includes lunch

Managing Taxes for Agricultural Producers
1:30-4:30 p.m., Dec. 2, 2016
No Registration Fee