Expanding Annie’s Project in New York State

By David Cox., Schoharie & Otsego Counties

Empowering Women in Agriculture

Annie’s Project is an agricultural risk management curriculum designed to empower farm women to manage information systems used in critical decision making processes and to build local networks throughout the state. The target audience is farm women with a passion for business and an involvement in today’s farming industry.

Now in its third year in New York State (NYS), Annie’s Project is a six-week course designed for today’s technology-based information systems used in critical agricultural decision making processes, and will serve to help participants build a network of support regionally and statewide.

The program will run for six consecutive Thursdays, February 6 through March 13, 2014, from 10:00 a.m. – 2:00 p.m., which includes a one-hour lunch period to network among colleagues. Sessions will combine lecture, discussion, individual and small group activities, and software training, and will address risk management in agricultural production, farm business planning, financial statements, recordkeeping, marketing, estate planning, and human resources/labor relations.

Cornell Cooperative Extension (CCE) educators and New York State (NYS) Annie’s Project co-Leaders, David Cox, CCE Schoharie and Otsego, and Bonnie Collins, CCE Oneida, secured a grant from the USDA-NIFA Northeast Risk Management Education program (administered by the University of Delaware) to collaborate with CCE agriculture educators statewide to facilitate the 2014 Annie’s Project (Level I) curriculum.

The following CCE counties – Orange, Ulster, Schoharie/Otsego, Columbia/Green, Essex, St. Lawrence, Lewis, Oneida, Tompkins, Wyoming, Wayne, and Chautauqua, will serve as host sites, allowing for a significant draw of women

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We lived on a pretty tight budget when I was young. So, when my mom would bring home two frozen cream pies for our family of eight, there was some real anticipation, and we knew the exact proportion of 1/4 of a pie. Now, relate that to a business with land, livestock, buildings, and machinery. Proportions become a little unclear. For that reason, in the opening comments of the dairy tour at Landview Farm, LLC, Rody Walker explained how he and his wife Jane spent a substantial amount of time and money working with lawyers and planners to develop a strong partnership agreement for themselves, and partners Randy Walker and Mark Anderson. The result is a strong and clear partnership agreement that holds up to change and the unexpected. Each partner fully supports and appreciates the agreement. It was a wise investment.

As a young man, Rody enjoyed working on his father’s farm, but Rody was not really a partner in the business. He felt that his hard work was not building a foundation for his future. Fortunately, Rody and his wife Jane were able to buy the farm from his parents in 1982. As the farm grew, Rody looked down the road 10 to 15 years, being a forward thinker and planner. Rody wanted to make the farm more hospitable to his son Randy. So, he began investigating how to structure the farm into a partnership. The other advantage of developing a partnership structure, was that when the opportunity came in 1991, Rody also took on Mark Anderson as a partner. Mark is not a family member, but has strong talents in field crops. This was a great asset to the farm. The point here is not that every farm should be structured as a partnership. The point is that each farm should make the time and investment to structure the business so that talented people will be part of, and so that the business can endure and prosper through change, growth, and challenges.

Each of us has our talents. It may be growing crops, managing a partnership, or contracting commodities. Developing a business structure does take talent, but it also requires knowledge and understanding of a lot of man-made laws, regulations, and taxes. Plus, there is a lot of the human element involved when people make binding agreements. For many of us, this work is not intuitive. Sometimes you do not even know what questions to ask. That is why, although expensive, investing in good lawyers and estate planners is essential. But to get you started, there is a great website with many resources to help you develop your understanding of business and management succession. Go to Whole Farm – Transition & Estate Planning http://www.extension.iastate.edu/agdm/wdbusiness.html. If you do not have access to the web, just let me know and I will print any of the articles for you.

“Plans are nothing. Planning is everything.” – Dwight D. Eisenhower
Handling Facilities for Beef Cattle

I have noticed as I travel around the Capital District back roads I see more and more small beef farms appearing on what was formerly vacant land. It is great to see all of these new farms appearing on the landscape and the idle land being brought back into production. The thing I don’t see on many of these farms is a handling facility that will allow these new producers or veterinarians to care for sick or injured animals or to be able to administer vaccines for the prevention of disease.

Fortunately a good functional working facility does not need to be expensive or elaborate. To start putting your working facility together you should begin with a head gate. There are two basic types of headgates you can use: a self-catch which is easy for one person to operate or a stanchion type which is lower in cost but requires an operator. You could buy a basic head gate of either type for as low as $700.00 or you could pay much more.

Next you need a working chute which keeps cattle in single file to enter the head gate. The chute should be long enough to hold at least three cattle at once. The chute should be no wider than 32 inches. A curved chute kelps you to move the cattle easier.

The third component of your facility is a crowding pen. A crowding pen with a swinging gate is needed to push cattle into the working chute. Solid sides prevent the cattle from being distracted. It also makes the cattle think the chute is the only way out so they move in that direction. A chute that will hold 10 cows needs to be 120 square feet to 150 square feet in size. You can build your own chute and crowding pen which keeps the cost low.

This is all you need to start to keep your cattle safe and healthy and your veterinarian happy. Once your income from the sale of cattle starts to increase, you can think about things like scales, squeeze chutes and loading ramps.

If you would like the exact dimensions for all of your working facilities drop me an email at tjg3@cornell.edu and I will send you a chart with all of the dimensions based on animal weight.

Do I Really Need a Contract?

Plenty good relationships between farmers and people that provide crops, machinery, land, or labor have come to an end over simple disputes. In small communities, most everyone knows one another and they feel that there is no need for a contract. Many of the people you deal with may have known all of your life. I am asked all the time, do I really need a contract? I say emphatically “Yes”. Not only
On The Lighter Side

A Humorous Look at
Everyday Farm Life

The Cows Are All A-twitter

It used to be that I just had to fight my wife and my son in order to get time on the computer. Well, now that my cows are all a-twitter about Facebook, I don’t stand a chance. It all started the other day when 1492 wandered into my office by mistake. She noticed me updating my Facebook status and got really excited when she saw the “news feed.” I had to explain to her that it wasn’t the kind of feed she was used to. Well, you know how news travels on a farm; pretty soon I had 106 bovines wanting their own Facebook account.

What could they possibly want an account for, you ask? I wondered, too. So I friended them to find out! At first I tried to resist stalking them. Really, I didn’t want to troll around and spy on them. But it would be helpful to know if they appreciate my efforts. Like what did they think of the new molasses scented sand for their free stall beds? Or is the temperature of the water in the cooling spray too hot, too cold or just right?

I noticed that most of their posts revealed their inner nature of being easily fascinated. They frequently post things like, “Oh Boy, I hope we have silage again today!” And, “Ooh, I just watched a big bug climb the wall of the milking parlor! I wonder if I could climb that wall too.”

Some status updates revealed their preference for routine and structure. Like, “I sure hope we have the same thing for dinner we had yesterday.” Or maybe they will say, “I’m going to go lie in a free stall. Want to come?” or “Meeting #1984 at the water trough in a few minutes. Feel free to drop by.” And, many versions of, “Staring at the wall. It still hasn’t moved.” “Or, “Hey, anybody know what’s in the feed bunk today? I hope it is silage!”

When they accepted my friend request I started getting very interesting posts on my wall. Yes, all kinds of links to products for warming my hands, companies like “Silage R Us” and even a suggestion to read the e-book “A Gentle Touch for Farm Hands” from Amazon.com.

Most of the things my girls have added to their Facebook accounts are silly pictures of themselves, often with their tongues up their nose. Ok, I suppose if I could do that I’d post it, too! Now and then there is a good cow joke, like: Why don’t cows have any money? Because farmers milk them dry!

I was worried that they would get into flaming arguments with cows from other herds. It seems there is quite a rivalry between cows from Vermont and cows in California. My girls were more focused on pressing matters though. Like “Ooh, get a load of the new hoof trimmer. Yummy, he’s a fresh bale of hay if you know what I mean.” And, “Mmm, he can trim my hooves anytime.”

Wanting to be sure they were all happy, I looked into their events. Many were inviting their ‘cowntacts’ to simple gatherings, such as, “Staring at the wall from three - five pm. Feel free to join in.” and “Waiting for the feed wagon.”
4pm. See you at the feed bunk. “

However, as I suspected, some were more targeted, like the event that asked each cow in the herd to poop in the parlor during the Thursday night milking.

Well, I may not get much time on the computer anymore, but at least my friend list has expanded.

Joe Peck, a Saratoga County dairy farmer, storyteller and humorous speaker, is author of “A Tractor in the House & Other Smashing Farm Stories” and “A Cow in the Pool & Udder Humorous Farm Stories” which you may order at www.joepeckonline.com or call (518) 584-4129.

Using Biodiesel Fuel in Your Engine
Prepared by Daniel Ciolkosz, extension associate, Penn State Biomass Energy Center and Department of Agricultural and Biological Engineering

Introduction

Biodiesel is an engine fuel that is created by chemically reacting fatty acids and alcohol. Practically speaking, this usually means combining vegetable oil with methanol in the presence of a catalyst (usually sodium hydroxide). Biodiesel is much more suitable for use as an engine fuel than straight vegetable oil for a number of reasons, the most notable one being its lower viscosity. Many large and small producers have begun producing biodiesel, and the fuel can now be found in many parts of Pennsylvania and beyond either as “pure biodiesel” or a blended mixture with traditional petroleum diesel (e.g., B5 is 5 percent biodiesel, 95 percent petroleum diesel).

The process of making biodiesel is simple enough that farmers can consider producing biodiesel to meet their own needs by growing and harvesting an oil crop and converting it into biodiesel. In this way, farmers are able to “grow” their own fuel (see the Penn State Cooperative Extension publication Biodiesel Safety and Best Management Practices for Small-Scale Noncommercial Production). There are many possible reasons to grow or use biodiesel, including economics, support of local industry, and environmental considerations.

However, there is also a great deal of concern about the effect of biodiesel on engines. Many stories have been circulating about reduced performance, damage to key components, or even engine failures that are blamed on biodiesel. Some manufacturers are wary about honoring their warranties on engines if biodiesel is used, while others are encouraging the use of biodiesel. Given the wide array of confusing reports, understanding the truth of the matter is not easy.

Fortunately, quite a bit of careful research exists and continues on testing the performance of biodiesel in engines, both in laboratory conditions and in real-world operating conditions. These controlled studies clear up much of the confusion about using biodiesel and can be used as a reliable guide to the real performance of biodiesel fuel in engines.

Engine Performance Using Biodiesel

While we don’t know everything about its performance,
Annie’s Project......... Continued from page 1 in agriculture from surrounding counties as well.

The cost to participate is $50.00 person, which includes lunch, all course materials, and handouts. Pre-registration is required. The registration deadline is Friday, January 17, 2014. Please contact your local Cornell Cooperative Extension educator for more information and for the Annie’s Project host site nearest to you. To register contact Bonnie Collins at 315/736-3394 (x104) or David Cox at 518/234-4303.

Background

Women in agriculture are the backbone of support in the health and sustainability of the agricultural community. While many women are running farms and entering farming in increasing numbers, others currently are significant partners by providing record-keeping services, labor, labor management, and machinery operations while maintaining the family structure and often holding off-farm positions.

The 2007 Census of Agriculture confirms that women have a growing presence in U.S. agriculture. The number of women farmers as principal operators has increased in New York State by 18% from 2002 to 2007, outpacing the 2% decrease in the total number of farmers overall. Even more intriguing is the 29% rise of women as principal operators versus the 4% rise of all principal operators across the nation.

As women take a more active role in production, they also are becoming more involved in day-to-day operations on the farm as well as becoming involved with farming organizations. Helping women contribute more efficiently will create significant gains for both the community and in the family unit.

2013 marks the 10th anniversary of Annie’s Project. Founder Ruth Hambleton, a retired University of Illinois Extension agricultural economist, created Annie’s Project in 2003 in honor of her mother, Annette Fleck. Fleck married a farmer and faced the challenges of managing a multi-generational household and a farm.

“As a child I watched my mother run our farm, handling the bookkeeping and financial decision-making,” Hambleton said. “She later took on the physical labor when my father took an off-farm job to make ends meet. I married a farmer and delivered educational programming to women for more than 25 years as an Extension employee.”

Along the way, Hambleton said she realized that many women were not getting the full benefit of workshops intended to help them. So she set out to create a program that would give women a comfortable place to share experiences and network while learning business, computer and interpersonal skills.

“Women have a unique way of learning,” Hambleton said. “They like to share experiences and need to feel comfortable asking questions. Extension programming provides valuable, research-based information that women need. But if they are embarrassed to ask questions or say they don’t understand the material, they won’t benefit from it.”

Hambleton concludes that the program’s format is the key to its success. Women get to talk about what matters to them, share their ideas and experiences and get training that helps them fulfill their responsibilities as farm women.

Annie’s Project is provided by Cornell Cooperative Extensions across New York State, and is supported by the Annie’s National Network Initiative for Educational Success. Program material is based upon work supported by USDA/NIFA under Subaward Number 32474. For more information about Annie’s Project, visit www.http://www.extension.iastate.edu/annie/.
The Memories of the Saratoga County Fair

By Richard Smith, Saratoga County

Summers bring out the best in farm youth. Many of them besides doing their normal chores around the farm spend time preparing their animals for exhibition at the county fair. The 172nd Saratoga County Fair just finished and the 4-H’ers of Saratoga County took home numerous ribbons and trophies. Perhaps the realization of the overall wonderful experiences have not settled within their youthful and energetic minds just yet but they will for sure become part of their fond memories in time.

Whether it was the youngest of the eligible showman entering the ring with modest self-confidence for the first time, they all experienced the thrill of arriving at a moment in time that they’ve worked and waited for a very long time. When those proud youngsters proceed into the ring with heads held high and smiles that are endless little do they know their moment of pride is mild compared to the warmth and love within each parent or relative on the outside looking and tensely observing from the rings’ edge. Some parents coach by trying to catch their youngster’s eye, giving nonverbal instructions, while others look on with a silent prayer that their youth hasn’t forgotten all they’ve practiced for days on end prior to show day.

Now every youngster doesn’t end up the top showman of the day but all end up far ahead of those youngsters who grow up never realizing the skill, talent, determination, and confidence of character that each and every 4-H’er gains once they enter that ring. In the future they will be the doers and the individuals who will tackle the challenges presented to them and know that they can lead.

Those triumphs of dogged determination within these 4-H’ers may not be apparent to them the day of the show, but the final appreciation of these accomplishments will be exhibited by these youngsters as they mature into upstanding and future leaders of the community.

Saratoga County has no shortage of young people jumping for the chance to participate in the showmanship classes at the fair. This year was a nominally in that we had only one 4-H’er finishing out their tenure in 4-H showing, however the younger groups were jammed packed and a real treat to watch. The judge toiled for a long time determining who processed the better skill of exhibiting their animal while having the presence of ease, smoothness, and show ring etiquette. Ultimately the master showmanship winner was Stephanie McBath and the reserve showmanship winner was Melanie Luke. This year’s showmanship classes were very impressive with small margins separating the line of 4-H’ers. Stephanie McBath showing a Holstein heifer won the coveted trophy given in memory of Woody Arnold, a lifelong breeder of quality Holsteins and an avid fair goer. Annually the Arnold family of Arnoldhaven Farm presents a True Type Model Holstein Cow to the winner of the showmanship class who has never won the award before. The intention of the award is to honor as many 4-H Holstein showmen as possible.

Rounding out the remainder of the Saratoga County 4-H Show saw Jonathon King win Grand Champion of All Breeds. John Luke with his Jersey cow earned Reserve Grand Champion of All Breeds. Jonathon King in addition to the Rosette awarded he also accepted the Grand Champion of All Breeds Trophy presented by William Peck, Welcome Stock Farm, in memory of Willard Peck an esteemed farmer and county legislator.

This year the Peck family of Clear Echo Farm presented a Best of Udder Trophy in memory of Mr. Larry Peck a national
Increase Your Profit With a Piece of Equipment

By: Sandy Buxton, Capital Area Ag & Hort Program

The number of part-time and full-time livestock businesses keeps growing. As marketing, the local foods movement and grass-fed, pasture raised animals all join together, there are more opportunities for the business model to thrive.

One of the crucial features a livestock farm needs, however, is a good handling system. Such a system allows the farm to calmly manage animals enabling records to be kept tracking growth, weight gains, handle their health needs as well as to catch and move them. A proper set-up helps to reduce stress and prevent injuries.

According to the Ohio State University (OSU) fact sheet on facilities, the basic components of a well-designed facility include holding pens, alley from pens to working area, a crowding tub or pen, restraining area or squeeze chute and a loading area.

New, used or home-made, handling systems serve a tremendous role in keeping everyone (people and animals) safe while also preventing injuries and bruising that can reduce the value of the animal at sale or slaughter. Bruising results in unsaleable meat which costs the industry millions of dollars per year (OSU).

There are lots of resources out there that can be used to investigate the possibilities. One of the things to keep in mind is designing with an animal welfare focus. Dr. Temple Grandin of Colorado has numerous designs available that explain some of the reasons behind the architecture.

The OSU resource stresses the need to not build components too large. Working groups of 8-10 cattle through a system beyond the holding area is about ideal. Generally the gates and alleys will be set on a curve to prevent the animals from seeing the end before they get there.

Solid walls also provide a barrier to block vision, noise and cause less bruising when bumped into. However, blocking gates must be see-thru so you don’t create a dead-end for the next animal.

There are lots of points and issues that farmers should research as they create a working handling system but it is important to point out that handling animals, tracking information and having a convenient and safe loading situation will result in higher prices, possibly better growth and less waste.


Other resources:

This was a used system purchased to improve handling animals on the farm. A starting place does not have to be state of the art but should try to meet the needs of the farm and reduce stress on the animals.
Ration Article

What is in the Milk? Energy and Protein Requirements of Calves

Written by Sarah Morrison, Miner Institute
Submitted by Ashley Pierce, Rensselaer

Have you ever taken care of someone’s animals or been to a farm that uses a different scoop for each grain or milk replacer they have? I know that I have and it even happens at my own farm. We use whatever is convenient and we make it work, right? A concern with this is that the scoop used to measure out milk replacer on one farm is not necessarily the same scoop as another farm down the road; they may be feeding different weights of milk replacer when they should be feeding the same. When you look on any milk replacer tag it generally provides instructions for mixing based on weight. We do not often think about milk replacer as the amount of total energy or protein provided in a calf’s daily allotment but rather in the total volume that is given to each calf. Consequently, it is important to make sure we know how much each cup or scoop is measuring out so we are better able to target our calf raising goals.

A common goal in calf raising systems is to support good health and high average daily gains. Calves require energy and protein to support maintenance and growth. Maintenance in the calf includes basic functions of thermal regulation (in hot and cold conditions), immune responses, and stress responses. Requirements for maintenance of a 100 lb calf, less than 21 days old, are 1.75 Mcal/d under thermoneutral conditions (59-77˚F) using Cornell-Illinois modifications of NRC (2001). For example, if a 100 lb calf under thermoneutral conditions was fed either a 20/20 milk replacer or a 24/20, how much would the calf have to consume just to meet maintenance requirements? The amount of milk replacer that is needed might be more than you would expect. For the 20/20 milk replacer there would be 0.27 Mcal/L from protein and 0.12 Mcal/L from fat for a total of 0.39 Mcal/L provided, while the 24/20 milk replacer will provide 0.32 Mcal/L from protein and 0.12 Mcal/L from fat for a total of 0.44 Mcal/L. In order to meet the maintenance requirement on the 20/20 milk replacer the calf would have to consume 4.49 L (4.74 qt) per day. On the other hand, the same calf fed the 24/20 would only have to consume 3.98 L (4.21 qt) per day to meet maintenance requirements under thermoneutral conditions. Once the requirement for maintenance has been met then additional Mcals can be partitioned toward growth. Therefore, a calf eating a similar volume of 24/20 milk replacer to a 20/20 milk replacer has an increased potential for gain because of the increased energy density of the milk replacer offered in a smaller volume of milk.

It is important to keep in mind that not all growth is the same on different milk replacers. Energy requirement is highest for maintenance but is greatly reduced once maintenance has been met. Alternatively, the protein requirement for maintenance is very low but increases for any additional growth. Consideration of feeding level is important when choosing a milk replacer. A typical 20/20 milk replacer for conventional feeding rates is not necessarily going to promote the same type of growth and composition at an accelerated feeding rate. Fat deposition is different with different milk replacers and different feeding levels. As protein levels increase in the milk replacer fat deposition decreases. This is true until about 28% crude protein (CP) which is similar to whole milk. Above this level, protein is wasted. At lower conventional levels (i.e. 8-10% of birth weight) where the goal is to get the calves off of milk and onto starter in the shortest amount of time, it is possible to overfeed protein because

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renowned dairymen and lifelong supporter of the Saratoga County 4-H Dairy Youth programs. The proud exhibitor of the best udder in the Saratoga County 4-H Show went to Jonathon King.

The Saratoga County Fair was an overall resounding success. They arrived all eager and glowing. The week went by all too quickly for the 4-Hers who braved the heat from the skies and the heat of competition. They went home with a true sense of accomplishment and pride.

Reserve Master Showman Melanie Luke Master Showman
Stephanie McBath

Woody Arnold “True Type Model Holstein Cow” memorial award
Left to Right: Winner Stephanie McBath, Show Judge Mr. Wayne Conard, Janet Hanehan, and Cathy (Arnold) Hanehan presenting for Arnoldhaven Farm
Willard Peck “Grand Champion of All Breeds” memorial Trophy
Left to Right: Presenter William Peck, Welcome Stock Farm, Winner Jonathon King

Larry Peck “Best Udder of Show” memorial Trophy. Presenter Mrs. Larry (Jean) Peck, Clear Echo Farm, Winner Jonathon King
What is in the Milk?  Continued from page 9

the limiting factor for growth becomes energy. Typically, accelerated feeding programs (i.e. 16-20% of body weight) will usually contain 24 to 26 % CP as opposed to the 20% CP in the conventional feeding regimens because of the higher growth potential.

Overall, it is really beneficial to sit down and figure out how much protein and energy is being provided in the milk replacer that is fed to calves. Energy requirements are affected by thermoneutral conditions, immune status, and stress but also vary depending on size of the calf and body weight gain. Rethinking calf feeding in terms of energy density and total amount of energy provided in terms of Mcal and kg of dry matter of milk replacer provided as opposed to liters or quarts will help to target higher gains in calves. With these higher gains we should expect to see more productive animals in the future.

Do I Really Need.... Continued from page 3

do I see issues on farms on a regular basis, I have personally been burned by not having a contract, and I have also been stung by paying for things in cash without some type of receipt. In some cases these people were well known in the community. It took a few times but, I have learned my lesson. I am not saying that anyone is dishonest and we shouldn’t trust our neighbors, yet contracts protect everyone involved and add an element of security for both parties. Agreements have to be profitable for both parties. If a dispute does arise, sometimes months or even years down the road, it can often be alleviated quickly by reviewing the contract.

When I suggest that you develop some type of contract I am not talking about a multipage document with multiple stipulations. If it is a large scale purchase, has excessive value, or is a major business change you should have a lawyer involved and have him/her develop a legal agreement. Again people ask, do I really need a lawyer to muddy the water? “Yes,” if anything goes badly you will be glad to have the law on your side.

What should you put in a basic contract?
1. The names and pertinent information of all parties involved.
2. What product or service will be provided.
3. What each party is responsible for in detail, planting, harvesting, hauling etc.
4. Pricing based on the product parameters such as quality, % dry mater, tonnage, etc.
5. Specific details that are required such as, delivery, packing, preservatives, moisture levels etc.
6. Extraordinary details “if needed” such as, multiple testing, lab requirements, specialized harvesting.
7. An exit strategy, refusal, or contingency plan if requirements cannot be met.
8. Payment Strategy or plan.
9. Signatures and dates of each party involved.

One thing to remember is that the contract is an agreement from the farmer to buy and the seller to sell even if the price changes for the benefit of one or the other later on. The seller has an obligation to make every effort to deliver the products or services under the agreement and the farmer has an obligation to meet the payment terms. For more information on basic contracts feel free to contact me at (518-272-4210) ex 113 kje264@cornell.edu.
Ag. Engineering

New Website offers Dairy Cattle Housing Design Resource

By Richard Smith, Saratoga County

As a result of a grant from Dean Foods Foundation, the Dairyland Initiative is now able to offer free two year subscriptions to dairy producers across the country on dairy cattle housing design resources. This project is to assist producers with pertinent information on building or remodeling barns with welfare-friendly concepts. The Madison—The Dairyland Initiative, a UW School of Veterinary Medicine outreach program, garnered the grant, from the Dean Foods Foundation, operates under the well-established premise that dairy cows produce at the highest levels when they’re immersed in an environment that accommodates their comfort needs,” says Nigel Cook, professor of food animal production medicine. “We intended to create a resource where, in one location, dairy producers can find all the information they need to build welfare-friendly facilities for their cattle. Three years later, we can make this resource available to all U.S. dairy farms, free of charge.”

The Dairyland Initiative delivers building plan assessments and other valuable information based on the latest dairy animal research and years of collective field experience in dairy housing. For example, its experts work closely with farmers to plan new construction and remodels of dairy barns, which includes:

- updating old tie stall or stanchion barns with mattresses and sawdust bedding to safer tie stall designs and sand bedding;
- modifying freestalls for improved comfort; and
- planning entire dairy housing facilities for calves through adult cows.

Changes like these help reduce injury, disease, and lameness, often leading to an increase in milk production.

The grant has enabled the website to be available at no cost to farmers and university extension programs nationwide for two years.

One interesting presentation was a series of resource discussions concerning calf barns and air flow ventilation more specifically, air tubes. For a long time it was felt that there was nothing like individual calf hutch for proper air flow and healthy growth of calves. University of Wisconsin over 20 years of research concluded that calf barns can equal hutchs provided proper specifications are incorporated.

Space per calf is a key element in success of calf housing. Based upon studies of airborne bacterial density, space per calf is the single most important determinant of air quality in a calf barn.

We all know the benefits of natural ventilation but that is not enough. Nature’s airflow is not always present and able enough to turn over the air 4 times in an hour. The incorporation of supplemental positive pressure tube ventilation plays a crucial role in bringing in fresh outside air without creating draft.

A good performing ventilation tube system is relatively complex design process. It is worthwhile to have the tube systems designed by knowledgeable people. This new resource website can provide producers, dairy industry engineers, and veterinarians with additional information to utilize in construction or remodeling.

Go to http://thedairylandinitiative.vetmed.wisc.edu to register and take advantage of the resources available.
Using Biodiesel Fuel  continued from page 5

- Engine power: engine power and torque tend to be 3 to 5 percent lower when using biodiesel. This is due to the fact that biodiesel fuel has less energy per unit volume than traditional diesel fuel.
- Fuel efficiency: fuel efficiency tends to be slightly lower when using biodiesel due to the lower energy content of the fuel. Typically, the drop-off is in the same range as the reduction in peak engine power (3–5 percent).
- Engine wear: short-term engine wear when using biodiesel has been measured to be less than that of petroleum diesel. While long-term tests have not been published, engines are expected to experience less wear in the long run when using biodiesel.
- Deposits and clogging: deposits and clogging due to biodiesel have been widely reported but are generally traceable to biodiesel that is either of low quality or has become oxidized. If fuel quality is high, deposits in the engine should not normally be a problem.
- Pollution from engine exhaust: biodiesel results in much less air pollution due to its higher oxygen content and lack of both “aromatic compounds” and sulfur. The one exception to this is nitrogen oxide (NOx) emissions, which tend to be slightly higher when using biodiesel. Proper tuning of the engine can minimize this problem, however.
- Cold weather performance: similar to petroleum diesel, engines tested in cold weather typically experience significant problems with operation caused primarily by clogging of the filters and/or coking of the injectors. The use of flowimproving additives and “winter blends” of biodiesel and kerosene has proved effective at extending the range of operating temperatures for biodiesel fuel. Pure biodiesel tends to operate well at temperatures down to about 5°C (this varies noticeably depending on the type of oil used). Additives typically reduce that range by about 5 to 8 degrees, while winter blends have proved effective at temperatures as low as -20°C and below.

Biodiesel Quality Is Vital

It is important not to confuse the performance of high-quality biodiesel with the performance of low-quality biodiesel. The difference can be tremendous, and producers that do not pay careful attention to their process are almost guaranteed to end up with poor-quality biodiesel. Proper fuel quality and care are vital for all engine fuels, and this is certainly true for biodiesel.

The most common problems with fuel quality are (1) the biodiesel may contain some “unconverted” vegetable oil (incomplete processing), (2) traces of chemicals from the making of the biodiesel (e.g., methanol, lye) can remain in the biodiesel, (3) products of the reaction (e.g., glycerin, soaps) may not be completely removed from the biodiesel, (4) excess water that is used to “wash” the fuel may be left in the biodiesel fuel, and (5) the fuel can polymerize/oxidize due to long-term storage or exposure to moderate to high temperatures.

The impact of poor-quality biodiesel will probably not be immediately noticeable in the operation of your engine, but over time deposits, corrosion, and damage can accumulate until your engine catastrophically fails. It is not easy to detect the difference between good- and poor-quality biodiesel, and the laboratory tests that are required are quite expensive. Some low-cost test kits are commercially available, and while they are not as accurate as a test from a qualified laboratory, they show promise for providing a low-cost alternative. The primary standard for biodiesel fuel quality in the United States is ASTM standard D6751, which requires that the fuel pass a wide array of tests before it is deemed to be satisfactory. If you purchase biodiesel commercially, you should insist that the fuel be certified to meet the standard. Small-scale producers should at least consider investing in a test kit.
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