

# Kentucky Dairy Notes

## March 2013



### Management of High Milk Production Kentucky Dairy Herds

Alison Smith, Curtis Coombs, and Jeffrey Bewley

One of the best ways to learn is to examine the practices of other successful people. We interviewed managers of the top Kentucky milk production herds to characterize management practices employed by these farmers. Twenty-four dairy producers with a minimum rolling herd average milk production of 22,000 pounds were selected for this project. These farms represented the top DHI milk production herds in Kentucky at the time of the survey. Herd size ranged from 25 to 1590 lactating cows with an average of 191 cows, demonstrating that high milk production can be achieved in both small and large Kentucky herds.

Producers were asked questions to characterize their operation (Table 1). Nine producers (39%) conducted a monthly veterinary check. Nineteen producers (83%) conducted forage tests on every new forage and all surveyed producers analyzed forages at some point. Forage analyses allow dairy producers to maximize use of homegrown forages and maintain a balanced ration as forage nutrient content changes. Seventeen producers (74%) used a freestall barn as their primary housing for the lactating herd. Fifteen producers (35%) used a partial confinement production system as opposed to total-confinement or pasture grazing system. Fourteen producers (61%) milked their cows in a herringbone parlor. Twenty producers (86%) trim hooves at least annually and three (14%) never trim hooves.

Management practices employed by the surveyed producers are reported in Table 2. They are categorized by milking practices, management practices and tools, and feed additives. The top milking practices were drying teats before attaching milker, dry treating all quarters of all cows, pre-dipping, and post-dipping. All producers in the survey dried teats before attaching milking units and dry treated all quarters of all cows. Twenty-two (95.7%) of the producers in the survey used pre-dip and post-dip. Twenty producers (87%) used individual towels to dry the teats.

The top management practices were regular forage testing, use of fans, heat detection aids, and use of artificial insemination on heifers. All producers used regular forage testing. Twenty-one producers in the survey indicated that they have fans or sprinklers in place for cow cooling. Twenty-one (91%) producers also use heat detection aids. Among feed additives, twenty-one (91%) producers used rumen buffers, nineteen (83%) used yeast cultures, fifteen (65%) used organic or chelated minerals, and fifteen (65%) producers used mycotoxin binders. Thirteen (56%) producers in the survey indicated that they use a computer program for record keeping. During each survey, producers were asked to identify the one management practice that contributed the most to their milk production level (Table 3). The most frequently cited reasons were (1) attention to detail, (2) nutrition, (3) cow comfort, and (4) quality forages. The response of "attention to detail" demonstrates the importance of management ability in attaining high milk production. Obviously, this trait is difficult to quantify but demonstrates that an attitude of excellence contributes to high milk yield.

**Table 1. Management characteristics for high milk production herds.**

Production system			Milking frequency		
System	n	Percent	Times per day	n	Percent
Pasture-grazing	0	0%	2X	17	74%
Partial confinement	15	65%	3X	6	26%
Total confinement	8	35%	4X or 6X fresh cows	1	4%
Housing system			Parlor setup		
System	n	Percent	Parlor	n	Percent
New (<10 years) or modern free stall barn(s)	17	74%	Herringbone	14	61%
Compost bedded pack (sawdust) housing	4	17%	Parallel	4	17%
Tie stall or stanchion barn	3	14%	Stanchion	3	14%
Bedded pack (straw) housing	1	4%	Side-opening	1	4%
			Parabone	1	4%
Veterinary check			Forage testing		
System	n	Percent	System	n	Percent
Monthly	9	39%	With new forages	19	83%
< Monthly	7	31%	Harvest	4	17%
> Monthly	6	26%	Monthly	2	9%

Blood test	1	4%	Seldom	2	7%
Hoof trimming			Heifer raising		
System	n	Percent	System	n	Percent
Trim hooves at least annually	20	86%	Heifers raised on farm	20	86%
Never trim hooves	3	14%	Heifers raised off farm	3	14%

**Table 2. Management practices employed by high milk production herds**

Milking practices	Number of herds	Percent
Dry teats before attaching milker	23	100%
Dry treat all quarters of all cows	23	100%
Pre-dip	22	96%
Post -dip	22	96%
Individual paper or cloth towels	20	87%
Gloves worn by employees	19	83%
Automatic take-offs	19	83%
Analyze milking system at least annually	19	83%
Submit milk samples for bacteriological culturing	13	57%
Written milking routine posted	4	17%
Management practices and tools	Number of herds	Percent
Regular forage testing	23	100%
Use of fans	21	91%
Heat detection aids	21	91%
Use of artificial insemination on heifers	20	87%
Rations balanced at least yearly	20	87%
Sexed semen	17	74%
Separate groups for far off and close up cows	16	70%
Kernel processor	16	70%
Computerized dairy management software program	13	57%
Push up feed regularly	12	52%
Financial benchmarking program	12	52%
Feed Additives	Number of herds	Percent
Rumen buffers	21	91%
Yeast cultures	18	78%
Organic/chelated minerals	15	65%
Mycotoxin binders	15	65%
Bypass fats	13	57%
Ionophores	13	57%
Direct fed microbials	10	43%
Anionic salts	8	35%

**Table 3. "What one management practice has contributed most to your current level of production?"**

Practice	Number of herds	Practice	Number of herds
Attention to detail	8	Good employees	1
Nutrition	5	Modernization	1
Cow comfort	4	Keeping SCC low	1
Quality forages	4	Sand	1
Record keeping	3	Soakers	1
Genetics	3	Total mixed ration	1
Consistency	2	Nutritionist	1

### Di Liang Wins National Mastitis Research Foundation Award

The National Mastitis Research Foundation (NMRF) board of directors selected Peter Down, University of Nottingham; Pamela Fry, University of Missouri-Columbia; Felipe de Freitas Guimarães, São Paulo State University; and [Di Liang, University of Kentucky](#); as the 2013 National Mastitis Council (NMC) Scholars. These four graduate students, who possess a strong interest in mastitis control, udder health and quality milk production, were recognized during the NMC 52nd Annual Meeting, held January 27-29, 2013, in San Diego, California.

Pursuing a master's degree, Liang's research involves developing a mastitis economics model. This model will increase awareness of the economic impact of mastitis, along with revealing relationships of commodity prices, cow factors and mastitis costs. Liang enjoys being involved in dairy extension activities, which have reinforced her desire to work directly with dairy producers in communicating the importance and practices of mastitis management. Born in southern China, she holds a bachelor's degree in animal science from China Agricultural University in Beijing. Her career goal is to return to China and work as a dairy consultant or manager. With advanced management systems and practices adopted from the United States, Liang would like to help build the Chinese dairy industry by addressing mastitis, a serious issue in that country. By adjusting Chinese dairy economic models to include mastitis costs, the dairy industry will better understand the importance of improving mastitis control and milk quality.

The NMC Scholars Program provides travel scholarships for graduate students to attend NMC annual meetings and encourage their involvement in NMC programs and activities. Funding for the program comes from the NMRF, which is financed through contributions from NMC members and supporters. The goal of the program is to support the development of future udder health, milking management and milk quality specialists.



### **USDA's Animal Disease Traceability Begins March 11, 2013** **Michelle Arnold, DVM**

On December 20, 2012, The U.S. Department of Agriculture (USDA) announced a **final rule** establishing general regulations for improving the traceability of U.S. livestock moving interstate. Having a traceability system in place would allow the United States to track animal disease more quickly and efficiently, thereby minimizing not only the spread of disease but also the trade impacts an outbreak may have.

"With the final rule announced today, the United States now has a flexible, effective animal disease traceability system for livestock moving interstate, without undue burdens for ranchers and U.S. livestock businesses," said Agriculture Secretary Tom Vilsack. "The final rule meets the diverse needs of the countryside where states and tribes can develop systems for tracking animals that work best for them and their producers, while addressing any gaps in our overall disease response efforts. Over the past several years, USDA has listened carefully to America's farmers and ranchers, working collaboratively to establish a system of tools and safeguards that will help us target when and where animal diseases occur, and help us respond quickly."

Basically, cattle moving from one state to another state will need to be 1) officially identified and 2) accompanied by an interstate certificate of veterinary inspection (ICVI) or certain other documentation such as owner-shipper statements or brand certificates. Specifically exempted are all cattle moving interstate directly to a custom slaughter facility. For more specific details about the regulation and how it will affect producers, visit [www.aphis.usda.gov/traceability](http://www.aphis.usda.gov/traceability). Federally accredited veterinarians will feel the most impact as they will have to be knowledgeable of and comply with the new regulations or face penalties at the federal level.

#### **Who needs "official identification" when moving interstate?**

Beginning March 11, 2013, all cattle and bison listed below are subject to official identification requirements when moving interstate:

- All sexually intact cattle and bison 18 months of age or over;
- **All female dairy cattle of any age and all dairy males born after March 11, 2013**; Specifically, dairy cattle are defined as all cattle, regardless of age or sex or current use, that are of a breed(s) used to produce milk or other dairy products for human consumption, including, but not limited to, Ayrshire, Brown Swiss, Holstein, Jersey, Guernsey, Milking Shorthorn, and Red and Whites.
- Cattle and bison of any age used for rodeo or recreational events; and
- Cattle and bison of any age used for shows or exhibitions.

#### **Cattle moving interstate would be exempt from the official identification requirement when:**

- The cattle are beef cattle under 18 months of age unless they are moved interstate for shows, exhibitions, rodeos, or recreational events.

- The cattle are moved as a commuter herd (a herd of cattle moved interstate directly between two premises without change of ownership) with a copy of the commuter herd agreement.
- The cattle are moved directly from a location in one State through another State to a second location in the original State.
- The cattle are moved directly to an “approved tagging site” if they are officially identified before commingling with cattle and bison from other premises. Commingling can occur if other practices are used such as back tags that will ensure the identity of the animal’s consignor is accurately maintained until tagging takes place. An “approved tagging site”, authorized by APHIS, State, or Tribal animal health officials, is a place where livestock may be officially identified on behalf of their owner (or the person in possession, care, or control of the animals) when they are brought to the premises. Approved livestock facilities are not required to be tagging sites-If they elect not to be an approved tagging site, they cannot accept cattle that are not officially identified.
- Back tags may be used as an alternative to official eartags for cattle and bison moved directly to slaughter but the animals must be slaughtered within 3 days of their movement to a slaughter plant.

**What is considered “official identification”?**

1. An official USDA eartag (pictures and brief descriptions are below);
2. An alternate form of individual identification, including but not limited to brands, tattoos, and breed registry certificates. These may be used but only if agreed on by animal health officials in the States or Tribes involved in the movement.
3. Group/lot identification when a group/lot identification number (GIN) is applicable. The group/lot identification number (GIN) provides a means of identifying groups of animals when individual animal identification is not required. In this final rule, the GIN is the identification number used to uniquely identify a “unit of animals” of the same species that is managed together as one group throughout the preharvest production chain. When a GIN is used, it must be recorded on documents accompanying the animals; it would not, however, be necessary to have the GIN attached to each animal.

**USDA Official Eartags:**

**Official Vaccination Eartag (Brucellosis)**-Restricted for use with bovine and bison calfhood brucellosis vaccination. These are only available to federally accredited veterinarians.



**National Uniform Eartagging System (NUES) Tags**

- Commonly referred to as “Silver” or “Brite” tags.
- These have historically been used for disease testing and interstate movement by veterinarians but VS Memorandum 578.12 revised March 15, 2011 now allows distribution to producers through State and Tribal authorities.
- New to the final rule is the addition of a new definition of “Official Eartag Shield”. States are now allowed to use their postal abbreviation within the US Route shield in lieu of “US”.



**Animal identification number (AIN) “840” Tags**

- Provided directly to producers from manufacturers (or their distributors), or to producers through an accredited veterinarian or an animal health official.
- Various sizes, shapes, colors are available; some are visual only or with variable frequency RFID technology. AIN tags may be imprinted with additional information for program identity, e.g., age, source programs. However, manufacturer coded AINs (those with numbers that do not begin with 840) are to be phased out over the next 2 years but are still considered official if applied before March 11, 2015.

AIN Panel Tag (Visual Only)	AIN RF Button Tags	AIN RF Panel Tags
		
Example of "Logo" AIN Tag	Paired AIN Visual/RFID Tag Set	
		

### The Interstate Certificate of Veterinary Inspection (ICVI)

An ICVI is intended to provide a standardized, official document issued by a Federal, State, Tribal, or accredited veterinarian at the location from which the animals are shipped. The person directly responsible for animals leaving a premise is responsible for securing the ICVI or other interstate movement document and making sure it accompanies the cattle. An ICVI must list the following elements:

1. The animal species covered;
2. The number of animals covered;
3. Address they are loaded (origin);
4. Address of destination;
5. Names of the consignee and consigner and their respective addresses if different from the origin and destination addresses;
6. The official identification situation of this load. Either:
  - a. The official identification must be listed for each animal that is required to be officially identified. **All sexually intact dairy cattle (male or female)**, all sexually intact beef cattle over 18 months of age, and all cattle used for rodeo, exhibition, or recreation must be listed individually on the certificate.
  - b. If the animals are not required to have official identification, the ICVI must state the exemption. For example, if moving a truckload of feeder steers under 18 months of age interstate, the ICVI must state that this class of cattle is exempt from official identification requirements.
  - c. In some instances, the animals are required to be officially identified but each individual number does not have to be listed on the certificate. However, the ICVI must state that all animals covered by the certificate actually are officially identified. The ICVI would include a statement such as, "40 Holstein steers all officially identified with individual official eartags," or, "40 mixed steers and heifers officially identified with Group/Lot identification number \_\_\_\_\_." Individual *listing* of ID numbers is not required for cattle in any of these three categories:
    - i. Cattle that are moved directly from a livestock facility to a slaughter facility.
    - ii. Beef cattle that are sexually intact and under 18 months of age as long as they are not used for show or recreation.
    - iii. Steers and spayed heifers of any age.

**Are there any exemptions to the requirement that cattle must be accompanied by an ICVI?**

There are exemptions to the requirement for an ICVI although most require some type of alternate documentation in lieu of an ICVI to accompany the cattle. Listed below are the documentation requirements that will be accepted and under what circumstances they can be used:

1. "Owner-shipper statement"- This is a statement signed by the owner or shipper of the livestock stating the origin, destination, number of animals, species, the names and addresses of the owner and shipper, and the identification of each animal as required by regulations.
  - a. Cattle are moved directly from the farm to a recognized slaughtering establishment or through an approved livestock facility that handles "for slaughter only" animals then to the slaughtering establishment. These cattle must be accompanied by an owner-shipper statement.
  - b. Cattle are moved directly from the farm to an approved livestock facility with an owner-shipper statement and do not move interstate from that facility without an ICVI.
2. "Commuter herd agreement" - This is an agreement between the herd owner and animal health officials regarding movement of cattle between two premises he operates in two different states.
  - a. Cattle can be moved as a commuter herd with a copy of the commuter herd agreement.
3. Alternative documentation
  - a. Cattle may be moved between shipping and receiving states with documentation other than an ICVI as agreed on by the animal health officials in the shipping and receiving states. An example of this is a brand inspection certificate.
4. No documentation is necessary.
  - a. Cattle are moved from the farm of origin for veterinary medical attention and returned to the farm without change of ownership.
  - b. Cattle are moved directly from one state through another state and back to the original state.

Why is traceability important? The specific characteristics of a disease lead to differences in the way they are investigated. Knowing the history of the location of the animal is critical when dealing with a highly contagious disease, in particular its prior contacts with other animals. Complete information can help animal health officials narrow down the number of herds tested. However, when information is limited or vague, the testing of herds is expanded to ensure all possible herds are included. If the herd owner cannot be located for an animal of concern, the herds of all potential suppliers of the subject animal must be tested. Numbers of animals needing to be tested can rapidly multiply as all potential sources are considered. Time is also a critical factor in a disease investigation. The more time it takes, the more herds and animals become infected or exposed, the more man-hours are needed to respond. Without traceability, the industry ultimately suffers from the loss or delay of sales and potential market share.

In summary, a good rule of thumb to remember is adult breeding cattle, all dairy cattle, and animals used for recreation or exhibition that are moved interstate warrant inspection which must be documented on an ICVI along with their official individual identification. These animals are at a higher risk for exposure and transmission of disease because of their contact with other livestock and their longevity. Younger beef animals, steers and spayed heifers, and animals moving directly to slaughter have less stringent regulations because they generally will have short lifespans. Work with your federally accredited veterinarian if you will be moving any cattle interstate as he or she will know what is needed for legal transportation. This contact must be made in a timely manner in order to complete all testing and paperwork required by the state of destination before the animals are scheduled to move.

**State 4-H Dairy Cow Camp Set April 27<sup>th</sup>**

Adair County FFA Livestock Facility  
526 Indian Drive (Adair County School Campus) Columbia, Kentucky  
8:00 AM Registration Begins

**Registration:** Use Registration Form Contact your local Cooperative Extension Service Office for form

\$15.00 (includes lunch, snacks, awards, etc.) **if received by Wednesday, March 27.**

\$20.00 (Late Fee) **if received after March 27.**

Makes checks payable to: Adair County 4-H Council. **No Refunds!**

Mail forms and fee to: Adair County Cooperative Extension Service  
Cow Camp 2013  
P.O. Box 309  
Columbia KY 42728  
(270) 384-2317



**Cooperative Extension Service**

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**Thanks to everyone who attended the  
Kentucky Dairy Partners Meeting!**



**March 18**

4-H Dairy Jeopardy Contest  
Barren County Extension Office  
Registration Due March 1<sup>st</sup>

**April 5 & 6**

Kentucky National Show and Sale  
Kentucky Fair and Exposition Center

**April 27**

State 4-H Dairy Cow Camp  
Adair County  
Registration Due: March 27th