COOPERATIVE EXTENSION SERVICE
UNIVERSITY OF KENTUCKY
College of Agriculture

Kentucky Dairy Notes

February - March 2007

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For additional publications - visit our web site http://www.uky.edu/Agriculture/AnimalSciences/dairy/dairyinfo.html

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2007 Kentucky Dairy Conference

Tuesday, March 6, 2007
Cave City Convention Center

Program (All times are Central Standard Times)

8:30 AM View Exhibits

9:30 AM Controlling Feed Costs Over the Long Haul—John Bernard (University of Georgia)

10:15 AM Bringing Your Freestall Up-to-Date – Dan McFarland (Penn State Extension Service)

10:45 AM Managing the Money Makers—John Bernard

11:15 AM New Directions, Partnerships and Progress-- Kentucky American Dairy Association Update—George Purcell, Cheryl Hayn, and Eric McClain

11:45 AM-1:15 PM Lunch and View Exhibits

1:15 PM Helping Cows Deal With the Summer Heat—Dan McFarland

1:45 PM Our Calf Management Program—Denise Robey

2:15 PM Adjourn

Registration will be collected at the door on the day of the conference Registration Fee: $25/person
(Pre-registrations will not be collected)

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Improved Ovsynch Protocol
by George Heersche, Jr.

Ovsynch is the popular hormone treatment protocol used by dairy farmers to synchronize ovulation so cows can be inseminated at a predetermined time. The Ovsynch protocol is as follows.

Day 0: 1 shot of GnRH
Day 7: 1 shot of Prostaglandin F2α (PGF2α)
Day 9: 1 shot of GnRH 48 hours after PGF2α
Day 10: Inseminate 16 hours after day 9 GnRH shot

Dr. Richard Pursley told us at the 2006 Kentucky Dairy Conference he was researching several improvements in the standard protocol. His research has been published in the Journal of Dairy Science and the results look promising.

Dr. Pursley compared three treatments to the standard Ovsynch protocol. The three treatments were GnRH 4 days (G4G), 5 days (G5G) or 6 days (G6G) before the first GnRH injection of Ovsynch, then completion of the Ovsynch protocol. All cows in the three treatment groups received a shot of PGF2α two days before the preOvsynch GnRH. The results are summarized below.

Cows ovulated to First Ovsynch GnRH

Control	G4G	G5G	G6G
54%	56%	67%	85%

Cows responded to Ovsynch PGF2α

Control	G4G	G5G	G6G
69%	92%	92%	96%

Cows synchronized to Ovsynch

Control	G4G	G5G	G6G
69%	80%	75%	92%

Cows pregnant

Control	G4G	G5G	G6G
27%	24%	39%	50%

The results show better synchronization and higher conception when the standard Ovsynch protocol is preceded with PGF2α eight days before Ovsynch. These data looks good enough for us to recommend that our dairy farmers try the G6G Ovsynch protocol.

Results on Production and Calving Difficulty From Recent US Crossbreeding Study
by Jack McAllister

While a number of dairy producers have started crossbreeding, others have expressed an interest and still have many questions. Hopefully, most of those questions can be answered from past research in dairy crossbreeding or from research which is currently underway. While the current interest in crossbreeding is relatively recent, many of the questions about it can be answered from sound information which came from dairy crossbreeding studies done in the US in the 50's and 60's and a study in Canada in the 70's and 80's. Briefly, those studies found that crossbred dairy cattle can be produced which are not different in production from Holsteins, have lower calving difficulty, more efficient reproduction, greater longevity and equivalent lifetime net returns per female born alive.

Now 20 years after the most recent of those older studies, one question producers have is "can I produce a crossbred, today, from some combination of dairy breeds available which will outperform my current cow herd?" Whether performance is measured in terms of various aspects of production or in financial performance this is an important question.

There are some crossbreeding studies now underway which may be able to help answer this question. One study from California involves 7 commercial herds with Holstein cows and has been analyzed by the University of Minnesota.. Heifers were produced from these cows using AI matings with Holstein, Normande (a French dairy breed), Montbelliarde (another French dairy breed) and Scandinavian Red bulls. They then measured the calving performance and first lactation production for heifers calving from June 2002 through January 2005. First lactation yields are given in the table below. The Scandinavian Red X Holstein crossbreds had equivalent fat and fat + protein yields to Holstein.

California Commercial Herds Crossbreeding Trial - Production Data				
Genetic Group	Milk Yield (lbs.)	Fat Yield (lbs.)	Protein Yield (lbs.)	Fat + Protein (lbs.)
Holstein (H)	21465	761	671	1432
Normande X Holstein	18766**	702*	609**	1311**
Montbelliarde X Holstein	17060**	735**	645**	1379**
Scandinavian Red X Holstein	20418**	748	653*	1401
* significantly different from Holstein, ** highly significantly different from Holstein				

The Holstein and crossbred cows were evaluated for the calving difficulty and rate of stillbirths when they calved. When Holstein cows were mated to Holstein sires they had more calving difficulty and a higher rate of stillbirths than when the Holsteins were mated to Scandinavian Red sires. Second to fifth-calf Holstein dams had significantly higher rates of stillbirths when mated to Holstein sires (12.7%) as compared to Brown Swiss (5.6%), Normande (7.3%), Montbelliarde (5.0%) or Scandinavian Red (4.7%).

When the Holsteins and crossbred dams calved either with their first or second calf calving difficulty and rate of stillbirths were measured again. Holstein dams had a significantly greater frequency of calving difficulty when having their first calf (17.7%) compared to Normande X Holstein heifers (11.6%), Montbelliarde X Holstein heifers (7.2%), or Scandinavian Red X Holstein heifers (3.7%). There were no differences among the different genetic groups of dams for calving difficulty or rate of stillbirths during second calvings._

Resolving Nutritional Problems

by Donna M. Amaral-Phillips

Often the formulated ration (and the nutritionist who formulated the ration) gets blamed when cows do not milk as well as expected or health issues arise in the herd. Most nutritional problems are often a combination of several factors that have changed which result in a decrease in milk production, growth or health problems. The formulated ration can be the problem, but, other management-related factors can contribute to the problem. Often, changes in management practices are needed to resolve the problem. The following table highlights some of the areas that should be investigated to resolve some of the common problems seen in dairy herds.

Troubleshooting Nutrition Problems for the Dairy Herd

Nutritional Problem	Areas to Investigate to Resolve Problem
Cows not milking as well as expected	1. Evaluate feeding management program for milking cows (ration and feeding and management practices) 2. Evaluate changes in quality of forages being fed 3. When was the last time a ration was balanced for the milking herd? 4. Has their local veterinarian evaluated the overall health of the herd 5. How many cows are recently fresh (average number of days in milk)? 6. Evaluate water availability and quality issues
Low butterfat content (less than 3.2% for Holsteins)	1. Re-evaluate ration actually being fed (and consumed) to see that it meets the nutrient requirement of cows 2. How many pounds of grain are fed at each feeding- (We want less than 8 lbs per feeding period of 4 hrs) 3. Evaluate amount of effective fiber (chew factor) fed 1) Are cows fed long stem hay? 2) Are cows sorting the TMR being fed? 3) Is the TMR mix overmixed and particle size reduced? 4. Are 60% of the cows chewing their cuds when they are resting?
Feet problems- Laminitis (other than hairy heel warts and foot rot)	1. Evaluate ration fed and consumed by cows (Specifically look at NSC (starch) content of diet) 2. Evaluate diet consumed by cows for adequate amounts of effective fiber (chew factor to stimulate cud chewing)
High MUN's (Milk Urea Nitrogen content of milk)	(MUN greater than 14 mg/dl) 1. Evaluate the diet consumed by the cows (specifically protein fractions and NSC (starch) content)

Nutritional Problem	Areas to Investigate to Resolve Problem
Diarrhea	1. Is this a herd problem or does it affect individual cows? 2. Has their local veterinarian evaluated the health of these cows affected? (ie. Winter Dysentery, Salmonella, Johne's Disease) 3. Evaluate specifications of ration actually consumed by cows
Displaced abomasums (twisted stomaches) in mid-lactation cows	1. Evaluate effective fiber of the diet consumed by the milking herd (length of time TMR mixed, amount of grain fed in 4 hr time period) 2. Evaluate amount of sorting done by the cows 3. Evaluate macro-mineral (Calcium) content of the milking cow diet
Displaced abomasums (twisted stomaches) in cows within 45 days after calving	Evaluate transition of cows onto the milking cow ration as well as feeding management program 21 days prior to calving
Milk fever in fresh cows	Evaluate macromineral (potassium, sodium, sulfur, and chlorine – not calcium) content of diet fed 21 days prior to calving
Retained placenta in fresh cows (cows do not clean after calving)	Review mineral/vitamin feeding program during the dry period (ie. Selenium content as well as DCAD balance - potassium, sodium, chlorine, sulfur content of diet)
Low body condition of cows less than 60 days in milk	1. Evaluate transition into the milking herd 2. Evaluate dry cow and close-up dry cow programs (Are cows adjusted to the forages and increased grain amounts prior to calving?) 3. Evaluate feedbunk management for the milking herd to make sure adequate bunk space and feed is provided for fresh cows to eat
Dry cows losing weight	Evaluate feeding program for dry cows– quality of forages being fed, pasture availability, heat stress, and amount of grain being fed relative to forage quality
Calving problems in heifers	1. Evaluate body condition of heifers prior to calving– Are they over conditioned? 2. Evaluate feeding program for heifers
Heifers calving too small	Evaluate feeding program for heifers– Are rations balanced for heifers after forages are tested for their quality? Review pasture management as it relates to quality and quantity
Feet problems in first-calf heifers seen shortly after calving	Evaluate heifer feeding problem to make sure heifers are getting a properly balanced diet