



PRESIDENT'S MESSAGE

Fall is an exciting time for Lincoln Red breeders as their calves are being weaned and can be evaluated for their growth and type. Larry and Sarah Pedelty submitted DNA from fullblood and high percentage purebred Lincoln Red's to the University of Missouri to fingerprint the Lin Reds compared to other breeds. All of the Lincoln Red males were clustered close together which confirms that purebred Lincoln Red cattle are genetically very similar to the fullblood Lincoln Reds. If possible the use of fullblood bulls is great to maintain the few fullblood Lincoln Red animals worldwide; however, an outstanding purebred Lincoln Red that has strong genetics and phenotypic traits will also allow us to keep genetic variation within the breed. Genomic selection in the future may be another tool in our toolbox for Lincoln Red breeders to select and maintain high quality breeding stock. Have a great Fall!

Scott McClinchey



Photo Courtesy of Heather McClinchey

HIGHLIGHTS FROM THE NOVEMBER 12, 2011 ANNUAL GENERAL MEETING

Mr. Burton Rose was awarded an Honorary Membership for his contributions to the Lincoln Red breed. Dennis Hoffrogge became a new director for the organization joining John Ashby, Dan Lamarche, Gordon MacRae, Scott McClinchey, and Sarah Pedelty. John Ashby publicly thanked Heather McClinchey for the excellent tri-fold brochures she designed. The website is being totally redesigned and the number of visitors to the website has increased to over 4000 per month. Every member is encouraged to send Sarah pictures and new information to be included on the website. Registration numbers are very similar in 2011 to 2010. The 2012 annual meeting will be held in the first part of November. We are in the process of redesigning and updating the website www.lincolnred.org. Any pictures, comments or suggestion would always be appreciated.



Photo Courtesy of Bill Reid

MERRY CHRISTMAS

Visit our website at www.lincolnred.org



APPLYING NEW TECHNOLOGIES TO INVESTIGATE ANCESTRY IN CATTLE

Jared E. Decker with Jeremy F. Taylor

jed42d@mail.missouri.edu

Animal Genomics Laboratory; Division of Animal Sciences; University of Missouri

Animal breeding can be viewed from the perspective of three basic categories: recording matings, predicting the outcome of matings, and planning future matings. Thus, ancestry is a central and integral part of animal breeding, and breeders have had an inherent interest in ancestry since at least the time of Robert Bakewell (1725-1795). Until recently, we could only trace ancestry as far back as we had pedigree records. But, with the advent of DNA technologies we are now able to infer the extent of relationships among individuals separated by hundreds, thousands, and even millions of years – i.e., the individuals are from different species.

In 2009, we published research that describes the relationships between 48 different breeds of cattle and the relationships between cattle and other ruminant species. We used a recently developed DNA analysis kit, called the Illumina BovineSNP50 BeadChip, to survey approximately 50,000 sites among the entire 3 billion DNA bases present in cattle (referred to as the genome). By genotyping a sample of individuals from each breed we can use this information to identify which breeds of cattle are most similar and which must have the most recent common ancestor. In the “family tree” of cattle breeds the Belgian Blue, Maine-Anjou, American Shorthorn and Lincoln Red breeds all share a recent common breed ancestor. From our knowledge of breed histories, we can infer that the related ancestors are Durham Shorthorns.

We used a statistical procedure called Principal Component Analysis to identify components (unobserved factors which measure similarity and differences among individuals) that represent, in decreasing order of importance, the greatest amount of variation between the animals’ genotypes. The American Shorthorn samples are spread throughout the plot, indicating the large amount of variation within the group, likely due to the presence of DNA from other breeds within these animal’s genomes resulting from an open herd book. The Native Shorthorns and Lincoln Red individuals are clustered

much more closely together indicating that the individuals within these groups are more closely related than are individuals within Shorthorns in general. Due to the closed breeding programs, Native Shorthorns and Lincoln Reds form distinct populations of cattle, but they are both closely related and trace their ancestry to Durham Shorthorns.

While breeds may share a recent common ancestry, they can be quite different phenotypically. The descendants of Durham Shorthorns provide a very good example of closely related individuals which substantially differ phenotypically. In this group there are double-muscled Belgian Blues and light-muscled Milking Shorthorns. Lincoln Reds are solid colored and Shorthorns can be white, red, roan or a combination of the three. Shorthorns may be horned, polled or scurred. Milking Shorthorns produce large volumes of milk, while Beef Shorthorns have moderate amounts of milk. These are just some of the examples of phenotypic differences that result from the forces of artificial selection. Thus, even though two populations may be closely related, they may differ phenotypically because a relatively small number of genes of large effect cause the divergence. Rapid genetic progress has been made in many breeds through the process of artificial selection using phenotypic selection and estimated breeding values to improve economically important traits.

Applying these new DNA marker technologies has increased our ability to more precisely establish ancestry all the way from the species level down to familial relationships between grandparents and their grandprogeny. This information is not only interesting from an historical perspective, but it informs the design of new Genomic Selection programs. These technologies also allow us as animal breeders to more accurately identify relationships arising from previous matings, estimate genetic merit of progeny from current matings, and more precisely plan future matings.

To read this article in its entirety and view the included charts please visit our website at www.lincolnred.org. The article is located under newsletters. This study confirms what Lincoln Red Breeders already know: Pure genetics result in increased heterosis which translates into increased profits.

The Lincoln Letter

Publisher-North American Lincoln Red Association

Fall 2011



Synchronized Calving Works

Dr. Bob Nusbaum, Potosi, WI

Would it make life easier for you if all of your calves were born during daylight hours? Would you like to sleep all night during the calving season? You can! Synchronized calving (SC) is a tool that not many people take out of their toolbox, but it works and it can usually be accomplished without changing too much in your current management strategy.

A Canadian by the name of Gus Konefal discovered that by feeding his cows twice a day, from 11 am to noon and again from 9:30 –10 pm, 85 % of his calves would be born between 6am and 6pm. He started this schedule about a month before calving began. Other research institutions found similar results when repeating his study. Iowa State University looked at feeding only once a day, between 4 and 7pm, and found the same percentage of calves born during the daytime hours. They also found that only one week of this feeding schedule was necessary to synchronize the cows.

There are many advantages to daytime calving whether or not you calve in February or April. It's much easier to detect calving problems in the daylight, and if you were to need a vet, they charge much less during regular hours. If you are winter calving, it's much warmer during the daytime, so there is generally less cold stress on a calf born during daylight.

We used to calve in February and usually kept the cows in a large calving pen with free choice hay. We had as many calves born at night as during the day, so we checked them all the time, around the clock. After we started SC, we pretty much quit checking at night because there was almost no action after dark. We now calve in April but still practice SC, and it still works and it continues to be beneficial and we still rarely check at night.

There are some trade-offs to consider before you choose to utilize SC. Lots of people feed their cows continually from a hay ring, bunk or feeder wagon. This really saves on daily labor but will not work if you want SC since it does not control the time of intake. We try and calve completely outdoors and we have found that feeding close to 5 pm works well for us. We feed hay on the ground, either on clean snow or sod depending on the snow cover. We feed round bales unrolled with a spinner or feed individual sections from large square bales. We only feed enough for the cows to clean up by mid-morning the next day. If they leave too much we cut them back on the next feeding. Our cows usually eat into the

evening and then get up in the morning and clean up any remaining hay. Then they lie down and ruminate the rest of the day. If we get lots of rain and it's impossible to take hay out on a tractor without causing huge ruts, we have a wagon for our ATV that will carry about 1/3 of a large square bale. It takes a few trips, but leaves no marks in the pasture.

Feeding this way has several major advantages. Mostly, it really reduces waste. We give the cows pretty much all they want, but don't allow them to waste it. We've always had trouble with waste when feeding out of rings or feeder wagons, plus, the cattle like to lie in the manure around the ring or feeder wagon. By spreading it out on the ground, all the manure stays out on the field. Also, with hay fed on the ground, new calves tend to bed down in it, especially with the unrolled round bales. It makes a nice dry bed for them out of the wind. With hay feeders, new calves tend to sleep next to them and occasionally get stepped on. Furthermore, feeding at 5 pm not only synchronizes the calving, but the cows rumen acts like a furnace and produces the most heat several hours after feeding which keeps them warmer during the coldest part of the night.

The biggest hurdle to implementing SC is feeding the cows every day. If you do calve indoors or in a pen with access to a loafing shed, one strategy is to build a fence-line feeder that can be accessed from the outside. Limit feed them once a day at the feeder in the late afternoon. You will be able to judge how much it will take to last until the next morning. Bunk space becomes a critical factor if you feed this way.

Having nearly all of your calves born during daylight hours is very advantageous if you expect any calving problems. I have seen somewhere that the national average for assisting first calf heifers is around 20%. If that is true, I think it's about 19% higher than it needs to be. By using sires that have extremely high CED (Calving Ease Direct) values and low Birth Weight EPD's (Expected Progeny Differences) nearly all calving difficulty can be eliminated. Nutrition also plays a role because it affects the cow's body condition score. Allowing cows and heifers to get too fat by continually eating can complicate calving.

The bottom line is that calving can be synchronized. If SC is a tool you can use, it is easy to initiate and it has a high rate of success. Good luck with your calving!

Visit our website at www.lincolnred.org



NEWS FROM AGR. JEAN PIERRE MARTINS MACHADO, BRAZIL

Dear friends and Lincoln Red breeders it's always a great opportunity to share with you the movement that Lincoln Reds are having in southern Brazil. From my viewpoint, we have formed a very close breeders group that's first aim is the future and promotion of breed.

We finished our order of embryos from UK with a total of 21 embryos from 3 donors and 2 sires; also 100 semen straws were ordered from a bull at St Fort Essex. Unhappily, this is the only sire that actually qualifies for the Brazilian market. We already closed another order for semen of 150 straws from a four-year-old bull that is working on St Fort Stud.

The great news is a new Lincoln Red herd has formed under upgraded animals. The new breeder, Mr. Adilson Pinto Krueel, bought some Lincoln Red cows around 20 years ago. He marveled at the cows' depth of body, as well as docility and calving easy. Mr. Krueel bought heifers and some cows in calf by a bull imported from the UK years before.

From this stock Mr. Krueel started the actual herd, always selecting bulls from his herd and mating it on base stock as well as on crossed cows of predominantly Charolais blood. Some years ago, Adilson contacted me as he was looking for semen or bulls to add new genetics to his herd. This year, Mr. Adilson called for more information about our import project and ordered some embryos and semen too.

I'm inspector for Lincoln Red cattle in Brazil and was invited to inspect and select some cows that could have Lincoln Red standards to be registered in the upgrade program. On the farm, I was presented with more than 100 cows, mainly polled with red coats.

After a quick and easy inspection, around 60 cows were selected with good Lincoln Red characteristics. The owner asked me to be more selective as he would like to keep only 20 females. The selection criteria used for keeping the animals in the founding herd were basically looking for a cow that was feminine, with a good udder, legs and hooves, a deep body with long ribs, wide and straight loin, and a quarter full of meat all covered by a rich dark red coat.

The final founder herd was perfect, composed of medium framed animals with full Lincoln Red character. Some animals showed better characteristics than some pure Lincoln Reds I saw at Lincolnshire several years ago.

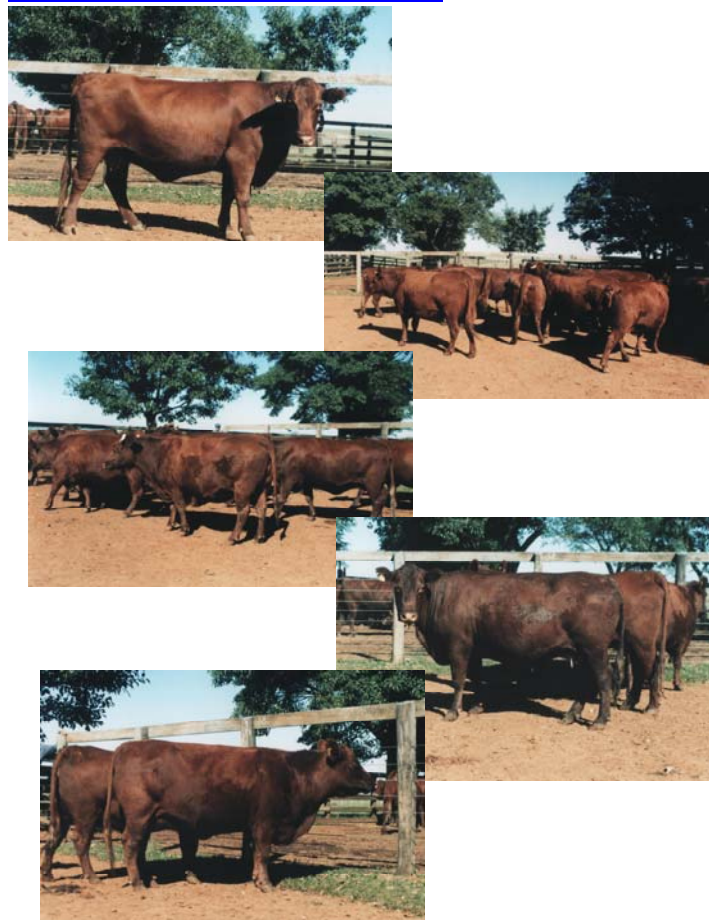
Mr. Adilson has a unique and unusual management system. The mating season starts in late July until August, with calving season starting in May. Our county is the largest soybean producer of the Rio Grande do Sul state, so winter grazing is based on an oat variety that shows long cycle and higher forage mass than other varieties; this gives him a special winter food. The cows all year are in very good condition. Feeders are sent to the slaughterhouse on average at 600 kg live weight, which is very good for our finishing system. Also, Mr. Adilson receives around 4% to 5% twins each year, a very high rate compared with 0.5% of beef cattle average. The calves are weaned at about 210 kg on average.

At 70 years old, Mr. Adilson is founding a Lincoln Red herd with full enthusiasm like a teenager. He is working as life were endless, planning the herd future, making new investments and believing the Lincoln Red breed is his life's work.

Cheers.

Jean Pierre Martins Machado Brazil.

<http://www.vetorial.net/~shorthorn>



The Lincoln Letter

Publisher-North American Lincoln Red Association

Fall 2011



**LINCOLN RED CATTLE SOCIETY
AUTUMN SHOW & SALE
SATURDAY 22ND OCTOBER 2011
AVERAGES UP AT LINCOLN RED
AUTUMN SALE**

Both the Champion Bull and Champion Female, on Saturday, at the Lincoln Red Autumn Show & Sale were outstanding representatives of the Breed; with Buyers agreeing with Judge, Sally Horrell's, selection. Overall the female averages were up by more than £300 on the 2010 Autumn Sale.

Champion Bull: July 2009 born, Grovehouse Martin (ET), bred by Mr P Stennett from Doncaster, South Yorkshire; by Sire St. Fort Essex and out of Dam Fenton Elegant E84, sold for £4725 to Mr J G Parkinson's Donington Herd in Louth, Lincolnshire. Reserve Champion Bull: February 2010 born, Beverley Nimrod, bred by R I Clough and Son of Spilsby, Lincolnshire; by Sire St. Fort Dickens out of Dam Beverley Annie E30, sold for £2940 to Mr N T Morgan's White Cliffs Herd in Dover, Kent.

Mr R E Needham's March 2010 born Bull (from Louth, Lincolnshire): Market Stainton Nelson by Sire Hemingby Bevan out of Dam Market Stainton Holly 6th H82 sold for £2625 to Mr N Bark of Biggar, Lanarkshire.

Champion Female: March 2009 born, in calf Auchmacoy Grace M45, bred by Mrs S Buchan from Ellon in Aberdeenshire; by Sire St. Fort Jonathan out of Dam Donington Grace H5, sold for £3150 to Mr P Bush in Norwich, Norfolk. Reserve Champion Female: April 2010 born, maiden heifer Walmer Lass N33, bred by Mr H M Needler from Ranby, Lincolnshire; by Sire Beverley Jaunty out of Dam Walmer Lass H66, sold for £2100 also to Mr P Bush in Norwich, Norfolk, who was a major buyer on the day.

Highest selling in calf cow with March born calf at foot was the Timbury Family's (Harrington Bred) Harrington Libby L189 by Sire Manor Frank out of Dam Harrington Constance sold for £2100 to G H Robinson's Frisby Herd of Houghton on the Hill, Leicestershire, with Mr & Mrs R A Farmer's in calf cow with May born calf at foot, Drayton Lisa L1 by Sire Harrington Charlie out of Dam Farnsfield Queen 102 D13 sold for £2100 to Mr T Green's Chestnut Tree Herd, Grantham, Lincolnshire.

4 in calf Heifers sold for £1995: R I Clough & Son's Beverley Milkmaid M30, Sire Market Stainton Governor and Dam Beverley Milkmaid B56 to I & A Davison's Alndyke Herd, Alnwick, Northumberland; Mrs S Buchan's

Auchmacoy Ethal M46, Sire St. Fort Jonathan and Dam Market Stainton Ethel 8th and Auchmacoy Heroine M47 Sire St. Fort Jonathan and Dam Westacre Heroine H5 both sold to G L Gent & Son's Stokedoyle Herd in Oundle, Peterborough and Mr J G Parkinson's Donington Jessie M11, Sire Bevann Gallant and Dam Donington Jessie G21 sold to Carrick & Son of Dereham, Norfolk.

Overall 5 Bulls averaged £2856 (2010: 1 bull £2835), 65 Females averaged £1327 (2010: 67 females £1004); cows with calves at foot averaged £1565, in calf heifers averaged £1788 and Maidens averaged £1085.

Lincoln Red Cattle Society President, Geoff Bolton, commented that the move towards concentrating more on health status in herds with all animals forward either accredited disease free or having tested negative and/or been vaccinated against the four main diseases; had definitely led to buyer confidence and consequently overall higher prices than in 2010. He thanked Vendors too for supporting Council's initiative.

Pictured below are the Champion Bull and Champion Female from the Autumn Show. The Spring Show and Sale will be held on March 24th, 2012



Auchmacoy Grace




Grovehouse Martin

Visit our website at www.lincolnred.org



LOOKING FOR LINCOLN REDS?

The following breeders have animals for sale:



SOUTHCREEK ACRES
~Shaver Lincoln Reds~
Scott & Heather McClinchey
112025 11th Line, R.R. #2
Orton, Ontario L0N 1N0
519.928.3106 (h) 519.570.7020 (c)
hlm.dvm@sympatico.ca

A lovely selection of two year-old and yearling bulls are available for sale (Cockerington Lord, Abner & Guardian bloodlines). Also offered is a small selection of proven cows and heifers. Visitors welcome.

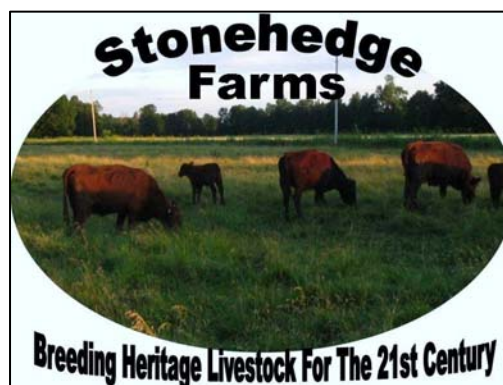
- **Sarah Band**
Mohil Farms
Puslinch, ON
(519) 824-5619
- **Dan and Lily Lamarche**
St Charles, ON P0M 2W0
(705) 867-2683
- **Cedar Ridge Lincoln Reds**
Bill Reid
Oxford Station, ON
(613) 926-2456
bill@lincolnred.ca



Bull #7

- **Rose's Lincoln Reds**
Amherst, NS B4H 3Y1
(902) 667-9834

- **John and Lorraine Ashby**
Stonehedge Farms
Prescott, ON
(613)925-5778



- **Dennis and Mary Hoffrogge**
Sleepy Eye, MN 56085
(507) 227-5745
- **Larry and Sarah Pedelty**



sarahpedelty@yahoo.com

Straws for US Breeders

(Collected and Shipped
from Hawkeye Breeders)

Visit our website at www.lincolnred.org