The BBSAI Newsletter

Fall 2016

Raising sheep the EASY way!

Barbados Blackbelly Sheep Association International

Blackbelly Banner

Using Coefficient of Inbreeding to Make Breeding Decisions

By Steve Schmidt, Nine Mile Ranch, Burns, OR

$$F_x = \Sigma\left[\left(\frac{1}{2}\right)^{n_1+n_2+1}(1+F_A)\right]$$

BBSAI's COI tool eliminates the need to worry about complex calculations

Recently, several Barbados Blackbelly breeders have been discussing how coefficient of inbreeding (COI) calculations can help breeders decide which sheep to breed together. These discussions were prompted by BBSAI's release of their new online tool for calculating COI. Although I am far from an expert, here is how I use this measure of inbreeding to pair my sires and dams.

First let me share a photo of why looking at COI can be important. The ram shown has a fairly high COI of 32.8%. This resulted from breeding his sire back to his sire's mother, who was already at 25% COI. This is a common COI percentage for many of us because we often breed a sire back to a daughter or a ram back to his dam (without otherwise being related). These are common breeding strategies for preserving bloodlines by linebreeding. My opinion is that getting a COI number that is too high can easily result in adverse genetic traits, such as the scurs on this should-be-polled ram, and I don't think the risk is worth it.

Unacceptable scurs/horns on a Barbados Blackbelly ram whose COI is 32.8%

With this in mind, my goal now is to keep my overall flock COI as low as possible for as long as possible. With two separate bloodlines to work with and a desire to breed for specific traits (larger, darker sheep), every year I'm challenged to come up with a good breeding schedule.

One key point to include here is that I do *not* sacrifice other well-known Barbados Blackbelly traits when aiming for the look and size that I want. Instead, I choose mating pairs predominantly based on bloodlines and COI. If I then have two rams to choose from for the pairing, I choose the ram who has the criteria I want to see more of.

So how do I get and use COI? First, the BBSAI's

continued on ***page 8*** ➢

Inside this issue:

24 Great Apps for Sheep Breeders

Animal & Veterinary Drugs
Kavenpoint LLC, October 2012

The top Animal and Veterinary drugs are now available on the iPhone! This is a searchable database with over 2400+ drugs. Drugs can be filtered by animal type. [$0.99]

Get it on iTunes

ASI Market News
American Sheep Industry Association, February 2016

ASI Market News is produced by the American Sheep Industry Association to help sheep producers stay informed on current market conditions. This app displays several national and auction barn reports for locations across the United States. The app also contains a break even calculator. The report data is compiled by the USDA Agricultural Marketing Service. [FREE]

Get it on iTunes | Get it on Google play

Farm Animal Breeding Calculator
Michael Stachiw (FeedDealer.com), September 2015

This app will let you calculate when your animals will approximately give birth. Includes Bison, Deer, Goats, Cats, Dogs, and Horses. Perfect use for agriculture, veterinary medicine, and household uses. [FREE]

Get it on iTunes | Get it on Google play

Compendium of Veterinary Products (CVP)
North American Compendiums, April 2013

The most complete and concise reference available. Features over 5,600 pharmaceutical, biological, feed medication, and parasiticide product monographs. Includes over 2000 manufacturers/distributors and their contact information. [FREE]

Get it on iTunes | Get it on Google play

Feed Cost Calculator
South Dakota State University, August 2012

Feed Cost Calculator allows livestock producers to compare two available feedstuffs based on their relative cost per pound of protein and energy delivered. [FREE]

Get it on iTunes

Feed Cost Calculator
Michael Stachiw (FeedDealer.com), November 2014

The Feed Cost Calculator allows you to estimate the cost of feedstuff per day based on the market price and pounds fed entered on the app. This app will help with any farming or agricultural needs related to livestock feed. This app was expertly developed to serve your business and it works great for FFA'ers too. [FREE]

Get it on iTunes | Get it on Google play

Gestation Calculator
Michael Stachiw (FeedDealer.com), November 2015

This is a multi-species gestation calculator for 18 of the most common and uncommon farm animals including cow, horse, sheep, pig, goat, chicken, turkey, duck, Muscovy duck, goose, dog, cat, llama, alpaca, whitetail deer, elk, rabbit and human. [$0.99].

Get it on iTunes

Goat and Sheep Weight Calculator
Michael Stachiw (FeedDealer.com), October 2015

This allows you to calculate the approximate weight of your goats and sheep by using a cloth measuring tape to determine the girth of the animal's heart and the length of the animal's body. Simply enter in your measurements to calculate the weight of your goats and sheep in pounds. This easy-to-use calculator is useful for veterinary medicine, vocational agriculture, farmers, and ranchers. [FREE]

Get it on iTunes | Get it on Google play

HerdBoss
K2 Cashflow Inc., April 2016

HerdBoss keeps track of all the details about a flock of sheep as it grows and your operation expands. You can use HerdBoss without a 4G or WiFi connection! If you don't have signal out in the field, you can enter all of your information and HerdBoss will sync all of the new information with the cloud when your connection returns. [FREE]

Get it on iTunes

iHerd
MANDRA Limited, April 2015

iHerd has been designed to simplify the herd management process for station owners and managers around the world. iHerd has a server backend which enables advanced management and reporting as well as allowing multiple devices synchronize your data. Other features include a treatment cabinet that keeps inventory of your on-site chemicals, including treatments your animals are receiving and many more. [Free]

Get it on iTunes | Get it on Google play

Livestock Manager
Tyler Humphrey, June 2016

This app helps you organize your flock records and images. You can even add a YouTube video of your sheep. Each sheep has its own profile page. [$4.99]

Get it on iTunes

Livestock Weights and Expenses
Tommy Russo, January 2016

An app for your smart phone or tablet that will help you monitor and manage the weight of your livestock, so when Fair Day comes, you are ready! This app will support Steers, Swine, Sheep and Goats and takes the guessing out of having your animal ready for weigh in. It will also help you manage your expenses. [$2.99]

Get it on iTunes | Get it on Google play

continued on ***page 3*** ➢

Apps for Sheep Breeders

continued from ***page 2***

Meat Cuts

Meat & Livestock Australia Limited, March 2016

The Meat Cuts app is your number one destination for information about beef, lamb, veal and goat cuts. The Meat Cuts app provides you with information about where individual cuts come from, their characteristics, suggested cooking methods and a perfectly matched recipe – it even suggests an alternate cut to the one you are looking for. [FREE]

Get it on iTunes Get it on Google play

Merck Veterinary Manual

October 2015

The Merck Veterinary Manual App is the most comprehensive mobile resource for veterinary professionals and students, with more than 1100 full-color images, audio examples, videos, and links to related information. [$49.99]

Get it on iTunes Get it on Google play

NADIS Farmer

National Animal Disease Information Service (UK), May 2014

This App is a comprehensive livestock health resource and will help you to improve your profits with better animal health. NADIS has developed a comprehensive animal health resource for farmers, vets and SQPs. Choose the type of animal, search for the disease affecting them and find out more. Clinical signs to watch out for, causes, treatment and prevention and control (with checklist), all with clinical pictures and links to videos are held in a useful resource in your pocket! [FREE]]

Get it on iTunes Get it on Google play

Nose to Tail

Socket Software Pty Ltd, November 2013

Nose to Tail is the premier mobile app for learning more about cuts of meat. With over 200 cuts available across four animals (Cow, Chicken, Lamb and Pig) you will be hard pressed to find a cut that isn't included. [FREE]

Get it on iTunes Get it on Google play

Pearson Square

Michael Stachiw (FeedDealer.com), April 2015

Pearson Square software will provide an easy way to calculate mixtures of two ingredients. Very useful in the fertilizer, animal feed, and sausage industries. Animal Science and Veterinary students should also find it very useful. [FREE]

Get it on iTunes Get it on Google play

Sheep body condition scoring

Michael Stachiw (FeedDealer.com), September 2013

This easy to use app allows you to keep track of the body condition of your sheep. Simply score your sheep on a scale of 1-5 based on their condition and enter in the number of sheep that satisfy each particular condition on the app. This app is perfect for use in agricultural and veterinary settings. [FREE]

Get it on Google play

Sheep Breeding Calculator

Michael Stachiw (FeedDealer.com), September 2015

Use this app to calculate when your ewe will lamb. Perfect for veterinarians, sheep breeders, animal husbandry students, and animal enthusiasts. All that you need to do is required is select the date of the breeding and the system shows the anticipated lambing date. [FREE]

Get it on iTunes Get it on Google play

Sheep condition scoring

Western Australia Agriculture Authority, May 2014

This app allows you to record sheep body condition scores and will calculate the average flock condition score. The histogram produced will show the range of scores within the flock and identify if there is a skew in the scores towards the lighter or heavier scores. [FREE]

Get it on iTunes

Today's Mobile Sheep Rancher

Today's Rancher, March 2015

Today's Mobile Sheep Rancher 5.0.0 is the latest release in the Today's Rancher® family of livestock management solutions from Ag Management Systems. It works as a stand alone product or with Today's Rancher Desktop to give the modern livestock operation a complete solution for ranch asset management. This app is perfect for 4-H, FFA members or the beginning or small farmer or rancher. [$12.95]

Get it on Google play

Available at amazon

Veterinary Handbook for Cattle, Sheep, and Goats

Australian Livestock Export Corporation, May 2014

The Veterinary Handbook app for cattle, sheep and goats is a comprehensive, mobile resource for veterinarians, animal health professionals, livestock producers, livestock handlers and veterinary and agricultural students. [$1.99]

Get it on iTunes Get it on Google play

VetGRAM

Food Animal Residue Avoidance Databank, April 2016

The Veterinarian's Guide to Residue Avoidance Management (VetGRAM) is the most comprehensive and up-to-date information resource for drugs approved in food-producing animal species. VetGRAM users can create customized searches to obtain approved drug uses, government restrictions, required withdrawal times and tolerances for any drug approved for use in food-producing animal species. [FREE]

Get it on iTunes Get it on Google play

4-H Livestock Record

New Mexico State University, May 2014

Do you agonize over 4-H record keeping? Now you can organize your market livestock project information on your iPhone or iPad and send customized reports right to your email inbox. [FREE]

Get it on iTunes

Copper Toxicity in Sheep

By Susan Schoenian, reprinted from Maryland Small Ruminant Page, http://www.sheepandgoat.com/cutox

Recently, I visited a sheep farm where copper (Cu) toxicity was suspected. Several lambs appeared lethargic and anemic. The producer had purchased feeder lambs from a farm that had been feeding poultry litter (manure).

Sheep are unique in that they accumulate copper in the liver more readily than other farm animals. As a result, they are very susceptible to Cu toxicity (poisoning). Mature ewes of British breed origin appear to be the most vulnerable and there is evidence to suggest that Finn Sheep and Texels also have a tendency to accumulate more Cu in the liver than other breeds.

Copper is essential for life. It is required for normal iron metabolism, synthesis of elastin and collagen, melanin production and integrity of the central nervous system. It is essential in keratin (wool) production. More recently, it has been shown that copper is one of the key trace minerals required for an effective immune response. Signs of deficiency include anemia, brittle or fragile bones, loss of hair or wool pigmentation and poor wool growth. In sheep, stringy wool and "swayback" are commonly reported.

Generally, sheep require about 5 ppm (parts per million or mg/kg) of Cu in their total diet. Toxicity can occur at levels above 25 ppm. However, dietary molybdenum (Mo) levels also affect copper requirements, as Mo forms an insoluble complex with Cu to prevent copper absorption. If molybdenum levels are low (less than 1 ppm), sheep are more susceptible to Cu toxicity. If Mo intakes exceed 10 ppm, Cu deficiency may occur on diets that would normally be adequate.

Sulfur (S) further complicates the Cu:Mo relationship by binding with the Mo.

Copper toxicity in sheep usually results from the accumulation of excess Cu in the liver over a period of a few weeks to more than a year with no clinical signs, followed by a sudden release of liver Cu stores to cause toxicity (rapid breakdown of red blood cells).

In these situations, chronic Cu poisoning may result from excessive Cu intakes or from low intakes of Mo, S, zinc, calcium or following liver damage. Stresses, such as weather, environment, poor nutrition, transportation and handling, can also cause the liver cells to die and release the stored copper into the bloodstream.

Affected sheep are lethargic and anemic. They may grind their teeth incessantly and experience extreme thirst. Membranes are very pale and may appear yellow, as jaundice sets in. Urine is a bloody color. Death usually occurs 1 to 2 days after the onset of clinical symptoms. At post-mortem, tissues are pale to dark yellow and the kidneys are a very dark color.

In contrast, cattle require about 10 ppm of Cu in their diet and can tolerate Cu levels ten times higher than sheep. Non-ruminants, such as pigs and chickens, tolerate even higher levels of Cu. Growing pigs are often fed 100 to 250 ppm to improve performance. According to the Salt Institute, the toxic level of Cu in the diet of chickens ranges from 250 to 800 ppm.

Thus, due to species differences, it is necessary to purchase grain rations or mineral premixes which have been specifically formulated for sheep. It is recommended that sheep NOT be fed poultry litter or other waste products which contain high levels of copper. In addition, there have been instances where high levels of Cu have been traced to the fertilization of pasture with pig manure.

If and when copper toxicity is suspected, the diagnosis needs to be confirmed by a veterinarian or diagnostic laboratory. Sources of copper need to be promptly identified. It is important to know the Cu and Mo status of all feeds and forages being fed. Grains

continued on ***page 5*** ➢

Dressing Percentages of Slaughtered Lamb & Goat Carcasses

By Robert J. Melchior, Market Coordinator for the Northeast Sheep and Goat Marketing Program at Cornell University from 2000 until his death in 2002

Dressing percentage (DP) = (hot carcass weight/live weight) × 100, i.e., it's a measurement of the weight of the carcass compared to the live weight of the animal. For example, if an animal weighs 80 lb live and dresses out with a 40 lb hanging carcass, the DP is 50%.

Dressing percentage is affected by what parts of the lamb are being included in the carcass weight. Is the hide included? Is the head included? Are any organs (heart, kidney, liver, etc.) included? Other factors that influence dressing percentage include, but are not limited to, gut fill and carcass fat.

Note: Although dressing percentage is extremely important to the packer who purchases live animals, it is not a very good indicator of the value of the potential carcass, especially for sheep. Higher dressing percentages on sheep are often a result of much fatter carcasses. This is less true for goats unless they are excessively fat. This is because goats carry the bulk of their fat internally and this internal fat drops out with the gut and internal organs when slaughtered.

Goats—Hide Off/Head On (60 to 120 lb live) . . . . . 45% to 55%

Kid Goats—Hide On/Head On . . . . . 60% to 68%

Kid Goats—Hide Off/Head On . . . . . 50% to 60%

Kid Goats—Hide Off/Head On with organs hanging . . . . . 52% to 62%

Feeder & Market Lambs—Hide Off/Head Off (60 to 120 lb live) . 50% Avg

Hot House Lambs—Hide On/Head On. . . . . 65% to 70%

Hot House Lambs—Hide Off/Head On. . . . . 55% to 58%

Cull Sheep—Hide Off/Head On (Depending on Condition) . . 37% to 52%

These percentages are based on averages. To be really accurate you should keep records from your own animals. These averages are helpful tools to calculate what the live weight price will be when the animals are sold on a dressed weight basis and vice versus.

Example: A live lamb that weighs 80 lb is sold to a Halal market at $1.50/lb

80 lb × $1.50 = $120.00. This is what you are paid in live weight.

If the dressed weight is 50%, calculate as follows:

Divide $1.50 (live weight price) by the dressing percentage (50%) and the animal is worth $3.00/lb on a dressed weight basis.

If sold on a dressed weight basis, .50 × 80 lb = 40 lb;
and 40 lb × $3.00 = $120.00

{**Ed.** Blackbelly sheep generally fit the slaughter profile of goats more so than sheep.}

Copper Toxicity in Sheep

*continued from **page 4***

are lower in copper than forages. Most forages will contain copper at levels equal to or above the NRC requirement for ruminants; however, as plants mature, the bio-availability of the copper decreases. Errors in feed mixing should also be considered as a possible source of excess copper. Water should not be overlooked as a source.

Although prevention is much preferred, there are times when treatment is warranted to prevent further losses. The most common treatment is to give a drench daily containing 50 to 100 mg of ammonium molybdate and 0.5 to 1.0 g of sodium sulfate.

Though more data is needed, observations suggest that goats are more tolerant of copper than sheep. In copper load studies conducted in Germany, goats consumed more copper and retained 6 to 9 times less in their livers than their trial lamb mates, indicating differences in utilization and resistance to toxicity between the species.

It is recommended that goats NOT be fed minerals labeled for sheep or sheep AND goats, without some other form of copper supplementation. Minerals formulated for cattle or horses usually contain adequate levels of copper and can be fed to goats. Copper boluses can be used (resized for goats) when goats, and/or cattle share the same pasture or pen with sheep.

Ask the BBSAI

Send questions to
info@blackbellysheep.org

Q: *I raise American Blackbelly sheep. I am careful and do not inbreed. One year I got a lot of solid black and quite a few with the gopher ears like La Mancha goats. Recently I was given a blackbelly lamb ram with those gopher ears. Do you know anything about these ears? I cannot find any photo of any sheep breed with these ears. Thinking that they are a throw-back to a cross.*

A: I've often wondered about "elf ears" or "gopher ears" as this trait is commonly called. Elf ears have external cartilage that is generally 1/2 in. to 3 in. long and exhibit a more v-shaped ear. Gopher ears have no visible external cartilage or have less than 1/2 in. The trait is hard to pin down because none of the breeds that were generally used to build the American Blackbelly gene pool (Barbados Blackbelly, Rambouillet, Mouflon) have this trait. The trait is an automatic disqualification in most breed associations, including the Barbados Blackbelly Sheep Association Int'l (BBSAI) and United Horned Hair Sheep Association (UHHSA), although the UHHSA does allow them for Painted Desert sheep. Painted Desert are another of the color combinations that were created by crossing the Barbados Blackbelly.

So my guess is that certain crosses created genetic interactions of some sort that were allowed to persist rather than being culled out. I don't know if a sheep with elf or gopher ears will beget offspring consistently that also have elf or gopher ears. It would be an interesting experiment to try. If you can find a couple of elf-eared ewes to breed your ram lamb to, you might be able to shed some light on the question. I suspect, though, that the trait occurs randomly, much as different and surprising color traits pop up. In the Barbados Blackbelly world, some sheep with solid pedigrees dating back 4-5 generations suddenly throw a wildly colored lamb, such as a lamb with a solid white rear leg, or a ram lamb with full horns (where the heck did THOSE come from?). Definitely head-scratching questions, and I'm sorry I can't give you a more science-based answer.

Elf ears are a common trait in American Blackbelly sheep

Q: *My flock consists of a dozen American Blackbelly sheep. At what age and weight should they be for slaughter? Can I raise them longer past 1 year and then slaughter? I read commercial sheep breeds butchered prior to 1 year can be called "lamb" and after 1 year have to be called "mutton".*

A: I have found that 9-12 months is the best time to slaughter rams. They have achieved the most growth by that age, and keeping them longer simply deducts from their overall profit because of having to feed them longer. Blackbelly rams continue to grow until they are about 3 years old, but after 9 months, they are so slow to grow additional weight that it really isn't worth it. Any younger results in a carcass that is too small and can't offset the costs of butchering.

Blackbelly meat remains tender and mild up to about 2 years. After that, the meat will still taste great, but the connective tissue will toughen. I had a 13-year-old ewe put into ground mutton and it was delicious.

Q: *One of my registered Barbados Blackbelly lambs grew up to have longish horns. I know that these genetic flukes sometimes happen. Is there a way to unregister the sheep so that if I sell him, his genes can't pollute the breed's gene pool?*

A: All you need to do is ask the BBSAI Registrar to change his registration number to a Tracked number. That keeps him in the database but flags him as not registerable.

When you sell him, you can choose to not provide his papers to the new owner. That will prevent them from registering any of his offspring. Perhaps a better solution would be to butcher him for your or a family member's table. That makes it impossible for him to pass those genes. There is no best answer about what to do with unregisterable sheep, but selling them intact as "pets" and trusting that they will not be bred usually isn't a good idea. Selling to someone who actually wants some BB genes in their mixed flock and doesn't mind the unpredictability of horns/scurs would probably be a win/win situation.

continued on ***page 7*** ➢

Ask the BBSAI

continued from ***page 6***

It is always heartbreaking when a Barbados Blackbelly ram suddenly spurts out horns. It is hard to not take it personally, but in the old days we were so concerned that these unexplained horns were a sure sign of cross-breeding, we destroyed entire bloodlines to fix it. Who knows what valuable genetics we might have tossed out with the baby's bath water. These sudden horns in otherwise genetically sound sheep just seem to happen. But the best thing to do when it happens is to cull the ram and make a note not to breed its sire and dam to each other again or to watch their offspring carefully if you do.

Q: *I have a ewe who has lost her scrapie tag. What paperwork do I need to submit to change the number?*

A: There is no official paperwork required by the BBSAI to report a renumbering. You do need to track the old scrapie number to the new scrapie number in your personal flock records, however. You also can email the registrar to have the new number entered in the animal record for your sheep. Her email address is registrar@blackbellysheep.org.

Q: *I know I don't need to dock my Blackbelly's tail. But why not?*

A: Blackbelly tails don't have wool under them so they don't collect feces and get nasty. Therefore, there is no reason to dock. The sheep use their tails to swat flies much as horses do. Most importantly, this breed of sheep HAVE TAILS and to register your sheep they must not be docked. Both Barbados Blackbelly and American Blackbelly sheep standards require that the tail should reach the top of the hocks.

Q: *Should I castrate my ram lambs?*

A: That depends on what you plan to do with your rams.

- If you want to breed them, don't.
- If you plan to sell them as breeding animals, don't.
- If you are going to butcher the lambs when they mature, don't. (Why put the lamb through that misery if there is no reason to?)

The only reason I can find to castrate a ram lamb is if you or a buyer specifically wants a wether (a castrated ram). Wethers are handy to have around to keep rams company. A wether can be a great "uncle" and a calming influence to any new sheep you introduce to your flock. He keeps them company during quarantine and also babysits weaner lambs.

Q: *Should I let the ram run with the ewes all the time?*

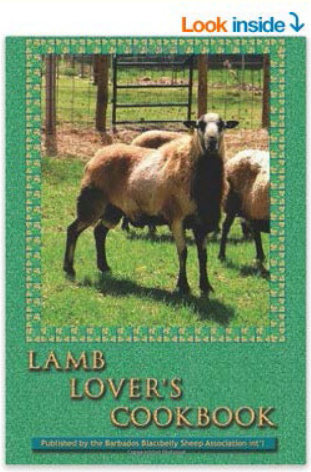
A: If you only have one ram, and you don't mind not knowing for sure when your ewe is ready to lamb, then usually it is alright to allow the ram to remain with the ewes. Monitor his behavior toward new lambs carefully, however, to ensure he doesn't harm them. In general, however, it is better to expose the ewe to the ram for a specific period after which you remove the ram. This enables you to better plan the lambing to ensure it fits YOUR schedule. Most breeders want to avoid lambing during frigid weather in December through February or high heat during July and August (when rams often become temporarily sterile).

Holiday Gift Ideas Under $15

It's hard to think about the holidays when we're hardly into October, but these gift-giving ideas will help you ease into the spirit gently. There are hundreds of blackbelly products available from the BBSAI Giftshop at

http://www.blackbellysheep.org

Lamb Lover's Cookbook



T-Shirts, Water Bottles, & Mugs for Both Breeds

The Barbados Blackbelly Sheep Association International is a non-profit organization registered in the State of Missouri

Raising sheep the EASY way!

The BBSAI Newsletter is a benefit of membership in the BBSAI and is published quarterly. The BBSAI Newsletter welcomes articles, photographs, and business cards that relate to American Blackbelly and Barbados Blackbelly sheep. Publication of articles or advertisements does not necessarily constitute an endorsement by BBSAI. No part of the BBSAI Newsletter (including photographs) can be reprinted, put on Web sites, or used in any manner without written permission of the BBSAI.

Issue deadlines are
January Issue – December 15
July Issue – June 15
April Issue – March 15
October Issue – September 15

Please send changes of address to
BBSAI
808 30th Lane,
Pueblo, CO 81006

or email
newsletter@blackbellysheep.org

Back issues can be downloaded from

http://www.blackbellysheep.org/association/newsletters/

Using Coefficient of Inbreeding

continued from ***page 1***

Web site has a fantastic new tool that will not only calculate an animal's COI for you, but will allow you to view the COI of a hypothetical mating pair. The calculator reports the COI in decimal format. Simply move the decimal two places to the right to get the percentage. For example, the ram pictured above has a COI of 0.328; moving the decimal two places to the left results in a COI percentage of 32.8%.

"Inbreeding" occurs when mating related animals—animals that have an ancestor (or more) in common. "Linebreeding" is essentially the same as inbreeding, but usually refers to mating of animals less closely related than with inbreeding. Linebreeding concentrates the genetic contribution of a specific ancestor. The idea is to breed close to preserve the good traits, and cull heavily to dump the bad ones.

People much smarter than I am have bred mothers to sons and fathers to daughters in the name of line breeding. When you mate a parent to its offspring, the subsequent COI (if otherwise not related) is 25%. Based on their expertise, I therefore will accept a COI of a breeding pair at 25% maximum. This is very much personal choice and there can be very good animals with a higher COI than that. My goal however is to find the right breeding pairs based on bloodlines with as low a COI as possible.

Now that this tool is available to us, we can make more informed decisions about how to breed within our own flocks. I also hope at some juncture that we can became more cooperative as a group of breeders, whether we breed American Blackbelly or Barbados Blackbelly, to better manage the overall COI of our respective breeds. BB breeders face a tough challenge to try to establish new separate bloodlines from sheep that are already very much related to each other. With bloodline conservation and better COI management, this challenge will get easier over time.

So I invite all breeders to take a look at the COI tool on the BBSAI Web site to see what COI numbers your sheep have. Then if you can, talk to your neighbor breeders and see if there is some cooperative breeding that can take place to make new animals with a 0% COI (this is called "outcrossing"). If you are creating starter flocks for folks new to Blackbelly sheep, make sure they will be able to breed 0% COI animals for as long as possible. In the long run, that will help us all greatly.

{The BBSAI's COI tool is available in the Member's Only area at http://www.blackbellysheep.org/about-the-sheep/coefficient-of-inbreeding/ }

New BBSAI Members

Joseph Bourg	Oberlin, LA
Daniel Brooker	Bend, OR
Serge Castagne	Caniere, MS
Larry Reed	Bloomingdale, MI
Donna Sikking	Eastman, GA
Timothy Small	Hebron, ME
Jeff Terpstra	Dorr, MI
Chris Umholtz	Little Rock, AR
John Whitehead	Andersonville, TN