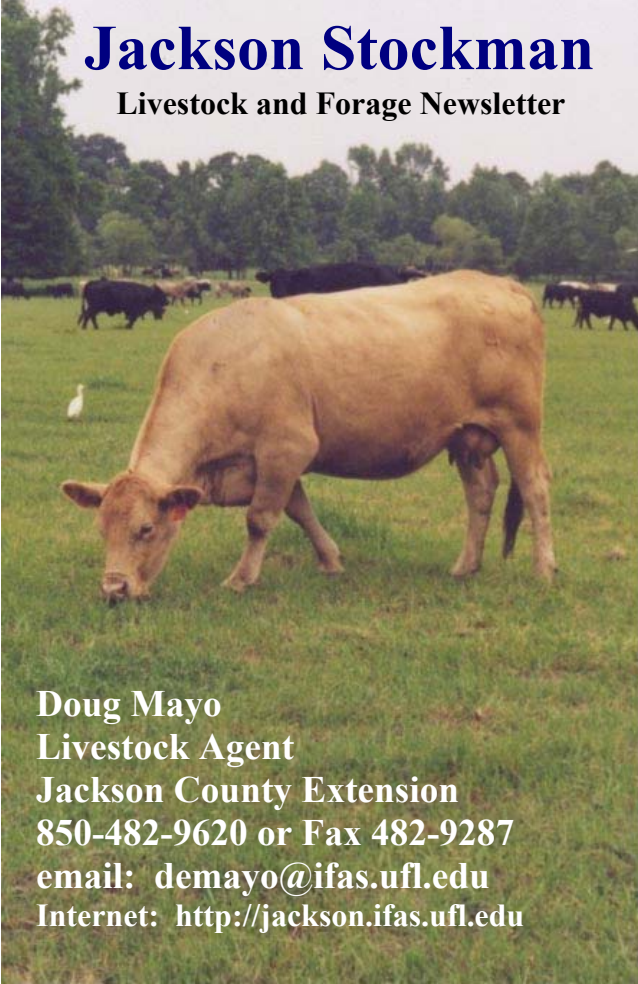


Jackson County Extension
 University of Florida
 2741 Pennsylvania Ave., Suite 3
 Marianna, FL 32448

Non-Profit Org.
 U.S. Postage Paid
 Permit No. 264
 Marianna, Florida

Livestock & Crops Calendar of Events

May	Event	Location
10	Republican Club Meeting with Charles Bronson	Jims' Buffet, Marianna
20-21	BLM Wild Horse Adoption	Jackson Co. Ag Center
25	Farm Safety Day Camp	Jackson Co. Ag Center
26	Corn Silage Field Day	Citra, FL
June	Event	Location
2	Vegetable Field Day	NFREC Quincy
9	Jackson Co. Cattlemen's Covered Dish Meeting	Jackson Co. Extension Auditorium
11	Perennial Peanut Conference	Moultrie, GA
15	Turfgrass Expo & Field Day	WFREC Jay
15-16	4-H Horse Day Camp	Jackson Co. Ag Center
20-24	4-H County Camp	Camp Timpooshee
July	Event	Location
1	Florida Bull Test Consignment Deadline	NFREC Beef Unit
August	Event	Location
18	Beef Cattle/Forage Field Day	NFREC Beef Unit



Jackson Stockman
 Livestock and Forage Newsletter

Doug Mayo
 Livestock Agent
 Jackson County Extension
 850-482-9620 or Fax 482-9287
 email: demayo@ifas.ufl.edu
 Internet: <http://jackson.ifas.ufl.edu>



Jackson Stockman

Jackson County Extension Livestock & Forage Newsletter

Spring 2005

Volume 5 Number 2

Crossbreeding: A Lost Art

Doug Mayo, Jackson County Extension

Crossbreeding brought about tremendous genetic improvement to the US cattle herd at the turn of the 19th century. The longhorns of the west and southeast were greatly improved by crossbreeding to English breeds of cattle. In the 50's and 60's the performance of Florida cattle was again drastically improved by crossbreeding with Brahman cattle. Today though, many ranchers seem to be putting more emphasis on uniformity and carcass traits and have forgotten the hybrid vigor boost to cow herd performance that comes from crossbreeding.









The main advantage that crossbred animals have is heterosis, more commonly referred to as hybrid vigor. The gene interaction between breeds yield greater performance than within a single breed. Table 1 gives examples of the hybrid vigor (HV) from first and second crosses of different breeds. Brahman cattle are actually a different species, so a Brahman cross provides even greater hybrid vigor than crossing with European breeds.

Heritability is the percentage of gene expression, or performance, that is passed down from the parents. The gene interaction improvement from hybrids allows producers to make faster progress on traits that are slow to improve through genetic selection. Lowly heritable traits, such as weaning weights, fertility, mothering ability, longevity, and growth rate can be improved more rapidly through crossbreeding. Traits like skeletal size, tenderness

and ribeye area are highly heritable and will not be greatly improved by crossbreeding. When you have crossbred cows bred to a third breed, hybrid vigor improves both the mother cow and the growth of the calf, so there is an added benefit as illustrated by the 2nd cross in Table 1.

Crossbreeding also allows producers to combine breeds to compliment the strengths of each breed. Examples of complimentary crosses could be: Charolais x Angus to improve muscling and growth while maintaining carcass quality, or Brahman x Hereford to improve tropical adaptation, fertility and mothering ability in the female offspring.

Table 1. Potential Hybrid Vigor from 1st Cross

Cross	Dam	Sire	% HV	Avg. WWt
Straight-bred Angus X Angus			0%	
1 st cross	480 avg	520 avg		500
English X Angus X Hereford			4%	
1 st cross	480 avg	520 avg		520
Brahman X Brahman X Angus			13%	
1 st cross	480 avg	520 avg		565
3 Breed X Bra/Her F1 X Angus			16% Cow 13% Breeds	
2 nd Cross	565 avg	520 avg		700

Source: Cundiff-MARC 1994

There are some drawbacks to crossbreeding, however. As breeds are combined in multiple crosses, the calves become less uniform. The color, size and shapes of calves becomes more variable with each breed added to the mix. Mongrelization can become a real problem if you don't have a clear plan of the specific crosses you want to make. Also, the long term effects of heterosis (hybrid vigor) are diminished as multiple generations are crossed. Table 2 shows how much heterosis can be maintained in a herd over an extended period. The only way to take full advantage of hybrid vigor is to have terminal crosses. They are called terminal because all of the offspring are marketed. This would be the ideal system for smaller operations that cannot manage multiple breeding groups. If a rancher found a source of F1 (first cross) Brahman x Angus females and purchased a purebred Simmental bull, all of the calves would get a boost from their mothers being crossbred and from the gene interaction of the three breeds.

Table 2. Long-term Heterosis maintained in Crossbreeding Systems

2 Breed Rotation	66%
3 Breed Rotation	87%
4 Breed Composite	75%
Terminal Cross	100%

Another drawback can come from an increase in birth weights. Breeding of Brahman bulls on heifers of another breed is not recommended because of this birth weight increase. Brahman females, however, have a unique ability to regulate birth weight, so F1 females should be produced by crossing European bulls with Brahman cows.

Crossbreeding can truly help ranchers make dramatic improvements in the performance of their brood cows and the calves they sell. The key is to have a plan to take full advantage of hybrid vigor. Having multiple breed bulls in with a single herd creates mongrels with too much variation. To truly make crossbreeding successful, ranchers will have to maintain separate herds and follow a plan for adding heifers to replace cows from each group. The other key is to select complimentary breeds and stick with them over the long haul to help maintain as much uniformity as possible. More information on crossbreeding is available from UF/IFAS available online at <http://edis.ifas.ufl.edu/AN055>.



Beef Briefs

Bioeconomic Index Values are a Useful Tool in Beef Cattle Selection

Gary Hansen, NFREC Extension Beef Specialist

As the National Cattle Evaluation (NCE) has progressed over time, numerous traits (Expected Progeny Differences (EPD's) have been included in the analysis. This has become problematic in terms how of to use all these traits in an effective selection program. Questions similar to these often arise: "How much emphasis should I place on weaning weight EPD, birth weight EPD, yearling weight EPD? How important are carcass traits in my herd? Profitability should be the driving force in a beef cattle operation, however, it becomes confusing as to what combination of traits will achieve that goal.

Recently, some breed associations have published selection indexes to use in conjunction with EPD's and individual performance as a selection tool. These select indexes are a weighted combination of traits that is reflected in a single value (usually dollar value per head). This allows producers to select for several traits at once. Multi-trait indexes are a simple and convenient way for commercial cow/calf producers to make selection decisions. They were developed to be a screening tool to insure that the right genetics are selected. Correctly constructed indexes will eliminate bulls with extreme traits that could unfavorably affect profitability, while identifying those bulls with traits that improve profitability.

The American Angus Association, American-International Charolais and the American Hereford Association have developed selection indexes. Each breed has developed an index with specific producers in mind. Indexes are comparable only within breed and sire summary analysis.

The American Angus Association has developed indexes for Weaned Calf Value (\$W), Cow Energy Value (\$EN), Feedlot Value (\$F), Grid Value (\$G) and Beef Value (\$B).

Weaned calf value quantifies the economic impact of birth weight, weaning weight, maternal milk and mature cow size on an expected dollar-per-head basis when comparing two individuals. For example, if two bulls (A= \$20 and B=\$5) were randomly mated to a comparable set of females and the calves were exposed to the same environment, the difference between the \$W value (\$20 - \$5 = \$15) is the dollar value difference that would be expected between their progeny at weaning.

Cow Energy Value assesses differences in cow energy requirements, expressed in dollars per cow per year, as an expected dollar savings difference in future daughters of sires. Larger values are more favorable when comparing two animals (more dollars saved on feed expenses). Components include lactation energy requirements and maintenance energy requirements related to mature size. Using a \$EN value of \$18 for one animal and \$3 for another, we would expect \$15 in cow energy saving per year for future daughters if the former rather than the latter animal was used for breeding purposes.

Feedlot (\$F), Grid Value (\$G) and Beef Value (\$B) are a set of postweaning bio-economic values, expressed on a dollar per head basis to assist commercial producer with their selection decisions. They include feedlot, value based grid market as well as beef value parameters to determine the value of each breeding animal. More information about the Angus indexes can be found at www.angus.org.

The American Charolais Terminal Sire Profitability Index (TSPI) utilizes producer information along with EPDs from the Charolais Sire Summary. The index uses economic selection index theory to generate dollar values on the progeny that different sires will produce. The TSPI is internet based and allows producers to interact online. It is available to the public at www.charolaisusa.com.

The American Hereford Associations has four indexes available with the commercial producer in

mind. The terminal sire index is called the Certified Hereford Beef Index (CHBS) to be used in mating Hereford bulls to British cows and a Calving Ease Index (CEZ) for use in mating heifers. The Baldie Maternal Index (BMI) is for use in mating Hereford bulls to Angus based females in a rotational crossbreeding program. The Brahman Influence Index (BI) serves the same purpose in herds with Brahman influence females. For more information visit www.hereford.org.



Forage Notes

Editors Note: *Dr. Carrol Chambliss, who authored many of the **Forage Notes** and spoke at the 2005 Beef Conference, passed away in April. Carrol dedicated many years to the improvement of pastures in Florida.*

Warm Season Legumes You Can Overseed in Your Pasture

Carrol Chambliss, UF Extension Forage Specialist

Seed of three commonly used summer annual legumes are available for planting in 2005. These are aeschynomene (*pronounced ash-i-nom-i-nee*) also called deer vetch, alyceclover and hairy indigo. These legumes can provide extra protein for cattle during July, August and September when pasture grasses may be low in protein. Aeschynomene is adapted to wet flatwood sites, and should not be planted on upland sands. Alyceclover and hairy indigo can be planted on flatwood sites with good drainage and on upland sands. They do not like standing water. Since all three are annuals, they are all susceptible to establishment failure due to drought. Most producers wait until the summer rains start before planting. When overseeding an established bahiagrass sod, be sure to graze it short to reduce competition with the legume seedlings. When legume seedlings are found, remove the cattle in order to let the legume plants develop. Start grazing when the legume plants are 12 to 14 inches in height.



Deer Vetch—*Aeschynomene Americana*

Another potential use for these warm season legumes is for creep grazing paddocks. The table below shows the added weight gain of calves given access to legumes. This would also be a great way to try these forages on your operation on a small scale to see how well they are adapted to your soils.

Creep Treatment	Average Daily Gain
Aeschynomene	1.98 lbs.
Millet	1.80 lbs.
Hairy Indigo	1.80 lbs.
Alyceclover	1.70 lbs.
Commercial Feed	1.86 lbs.
Control (no creep)	1.50 lbs.

Bill Ocumpaugh, 1979 Beef Short Course Proceedings

Editors Note: *Hairy Indigo should not be planted in fields that may be used in the future for row crops. Hairy Indigo produces 30-70% hard seed and can be a difficult weed to control in crop fields.*

Hay Field Fertility

Carrol Chambliss, UF Extension Forage Specialist

“Don’t get behind on your potassium application.” You might be surprised at the amount of potassium that is removed from the soil when hay is harvested and hauled off the hay field. Table 1 gives estimates of the amount of nutrients removed in various hay crops. The numbers in the table indicate that hay harvests remove as much or more potassium (K₂O) than nitrogen. You may not want to add all of the potassium that is indicated above if your soil test is medium or high in potassium. Plants can take up and use some of the native potassium that is in the soil. Follow soil test recommendations.

Table 1. Pounds of nutrients removed by various forage crops at specified yield levels when harvested as hay. (*Source Potash & Phosphate Institute*)

Species and assumed hay yield, tons/acre			
Crop	Bermuda grass	Alfalfa	Sorghum Sudan
Yield	6 tons	5 tons	4 tons
Nitrogen	258	280	160
Phosphate (P ₂ O ₅)	60	75	61
Potash (K ₂ O)	288	300	233
Magnesium	18	25	24
Sulfur	30	25	25

A New 2,4-D Formulation

Curtis Rainbolt, UF Extension Weed Specialist

Amine and ester formulations of 2,4-D are common and have been available for many years. Recently, Helena Chemical Company has developed and released, ‘Unison’, an acid formulation of 2,4-D. In the past, practical use of acid formulations of phenoxy herbicides was limited due to water insolubility and formulation problems. Helena has overcome these issues by developing a system to dissolve insoluble auxin acid in a water dispersible surfactant system. The benefits of this technology are very low volatility, low odor, 100% water solubility, and 100% liquid fertilizer compatibility.

Preliminary research indicates that when comparing equal lbs acid equivalent, the acid formulation has greater herbicidal activity than amine formulations and is similar in activity to ester formulations. It is important to note that Unison is formulated at 1.74 lbs 2,4-D acid per gallon, while most standard amine and ester formulations contain 3.8 lbs 2,4-D acid per gallon. Unlike some ester formulations, the acid formulation of 2,4-D (Unison) complies with Florida’s Organo-Auxin Herbicide Rule. Compared to standard 2,4-D formulations, there is likely to be increased cost associated with this new technology; however, it may be feasible to use Unison when volatility and odor issues are of concern.



Dairy Update

IT'S SPRING CLEANING TIME AGAIN!

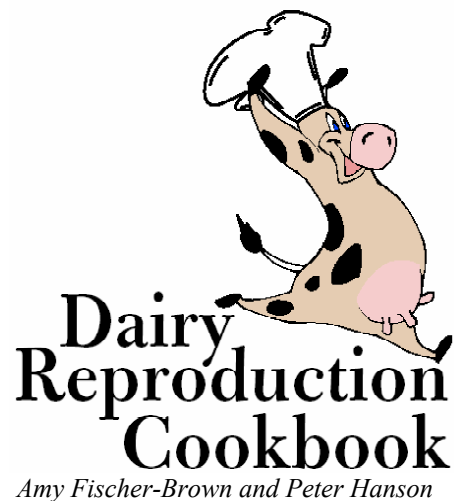
David R. Bray, UF Extension Dairy Specialist

Now is the time to prepare for the long hot summer. I'm going to repeat this until you do these tasks:

1. Clean out high organic matter dirt (MUD) in lots and add new dirt, especially in calving areas.
2. Clean out cooling ponds – pump out the water, and clean out the sludge and spread it some place where the cows do not have access to it.
3. Let ponds sit dry for the sun to work on the bacteria. Mycoplasma and other nasty stuff live in ponds. You must clean them out, at least once a year if you continuously add water to the pond. If you *DO NOT* continuously add water, you need to sample the ponds for Mycoplasma and pump and clean out the ponds once or twice during the summer.
4. Clean your fans. Dirty fan shields can reduce fan efficiency by 50%. You can purchase and install twice as many fans if you wish not to clean them. If cows are in the barn or holding area, run fans 24 hours a day. This not only moves air to cool cows it also helps to remove moisture and dry the place out.
5. Make sure your sprinklers, foggers, etc, work. Broken pipes and dirty nozzles don't add much water. Check timers for the proper time for adding water. Constant water is not as efficient as intermittent sprinkling. Set your sprinkler thermostat at 75 degrees F or lower during the hot season. Sprinklers need to run at night because cows get hotter at night than daytime on those hot nights. To repeat the above message, you need timers to control sprinklers or you will waste great volumes of water.
6. Clean and rebuild your pulsators. Wash out and change the filters on your vacuum controller,

(unless you have a variable speed drive). Make sure all ATO's work.

7. Replace all milk hoses, wash hoses, pulsator hoses and jetter cup holders. Replace all rubber hoses that may be in the milk house that may add water to the pipeline and/or bulk tank. These hoses harbor Pseudomonas and Coliforms and can raise your bacteria count. If rubber hoses are used to wash udders, change them also.
8. Clean your condenser fins on your milk coolers. Dirty fans cut down cooling and efficiency and you get warmer milk at higher electric costs.
9. Mow and spray careless weeds in pastures.
10. Cull your chronic mastitis cows now. It will lower your cell count and your help is sick of treating them.
11. Dip the dogs to keep the fleas out of your pick-up and your bed.
12. Keep a smile on your face; people will wonder what you are up to. 😊



University of Florida Dairy specialists have developed a new web site with recipes for successful dairy reproduction management. They have compiled links with information on artificial insemination, pregnancy diagnosis and infertility problems. Content ranges from informative background articles to instructive video clips, as well as contact information for commercial distributors. Check it out at:
<http://www.animal.ufl.edu/reproguide>

Survey Shows Land Values Increased in 2004

John Reynolds, UF/IFAS Food and Resource Economics Department

The 2004 Florida Land Value Survey results indicate that the value of all types of agricultural land increased substantially in all regions of the state from 2003 to 2004. The market for agricultural land was very active this past year and the rate of increase in land values was particularly high in the South region. The percentage change in most categories was in the double-digits. Survey respondents indicated that increases in agricultural land values were primarily due to strong nonagricultural demand for land. Agricultural land values vary by the type of land use and geographic area. The survey results indicate that the average value for agricultural land ranges from approximately \$1,500 per acre for unimproved pasture and farm woods in the Northwest region to over \$6,500 for orange groves in the South region.

Changes by Type of Land

The value of land used for crops and pasture increased in all regions. The value of cropland increased from 9 to 58 percent, and the value of improved and unimproved pastureland increased from 9 to 76 percent. The value of farm woods increased 16 to 18 percent.

2004 Northwest Fla. Ag Land Values

Category	\$/ac May 03	\$/ac May 04	% change
Cropland			
Irigated	\$1986	2193	10.4%
Non-irrigated	\$1665	\$1983	19.1%
Pasture			
Improved	\$1542	\$1783	15.6%
Unimproved	\$1294	\$1451	12.1%
Farm Woods	\$1244	\$1464	17.7%

Cash Rents

The cash rent data indicate that cash rents increased for crop and pastureland in all regions.

Average 2004 NW Fla. Land Rental Values

Land Class	\$/acre
Improved Pasture	\$27.87
Unimproved Pasture	\$18.52
Non-irrigated crop land	\$37.70

Call for Consignments 2005 Florida Bull Test

It is now time to plan consignments to the 2005 Florida Bull Test at the University of Florida, North Florida Research and Education Center, Marianna. Consignment is open to all breeds and composites with Expected Progeny Differences. Bulls must be born between September 1 and December 31, 2004. Bulls will be gain tested for 112 days. Weight growth, ultrasound, health and reproduction data will be gathered throughout the test. Eligible bulls will be sold at auction at the NFREC Pavilion on Saturday, January 21, 2006. Bulls will be scheduled to arrive at the testing facility on July 29-30, will go on test August 22-23 and complete the test on December 13-14.

Nomination forms are available by contacting: Mary Chambliss, North Florida Research and Education Center, 3925 Highway 71, Marianna, FL 32446-7906, phone: (850) 482-9904 or can be downloaded from <http://flbulltest.ifas.ufl.edu>. A Nomination Form and \$50 per head are due by July 1, 2005. The overall cost of the test is anticipated to be similar to last year at \$675. Upon receipt of the nomination, additional information will be sent to the consignors.

The 2004 test concluded with a successful sale for those consignors who chose to participate. Eighty-nine bulls sold for an average price of \$1,718 and total sale expense averaged \$48.88. In reviewing the sale results, one noted fact was that buyers are paying close attention of EPD's. Bulls with below breed average EPD's for growth, or well above breed average for birth weight were not as actively sought and their prices fell well below the average of the sale. This is a performance test and sale, so consignors should take this into account before selecting bulls to be placed in the test. This year should be another opportunity to showcase superior beef cattle genetics in Florida. Don't miss this opportunity to see how bulls from your herd compare with some of the best in the Southeast. By consigning a bull to the Florida Bull Test, you will also have the opportunity to participate in one of the highest quality bull sales in the region.

Upcoming Programs & Events

Bronson Visits Jackson County—May 10

The Jackson County Republican Club will be hosting Commissioner of Agriculture, Charles Bronson on Tuesday, May 10 at noon at Jim's Buffet in Marianna. The meal is "Dutch treat" and the presentation is free. Republican Club meetings are open to all folks interested in good government.

Corn Silage Field Day—May 26

The UF/IFAS Corn Silage Field Day will be held at the Plant Science Research Unit near Citra, approximately 20 miles south of Gainesville on Thursday, May 26. Topics to be covered include: corn and sorghum varieties, decisions that impact yield, factors affecting quality, round bale silage, bagged silage, and field demonstrations of equipment. For more information, go to www.animal.ufl.edu and look under the Dairy column for Corn Silage Field Day and you can download the flyer and registration form.

Perennial Peanut Conference—June 11

Perennial Peanut producers are invited to attend the 11th annual Perennial Peanut Conference to be held in Moultrie, Georgia at the Sunbelt Expo on Saturday, June 11. Topics will include Relative Forage Quality (RFQ) the new EPD for hay. Establishment Considerations, Sprayer Calibration, Herbicides, and Fertilization. Following lunch, there will be field and equipment demonstrations. For more information contact Clay Olson at 850-838-3508.

Tri-State Farm Field Day—June 18

Florida A&M University/CESTA-Statewide Goat Program, Southeastern Small Farmer's Network and Heifer International will be hosting their 3rd Annual Tri-State Farm Field Day. This event will be held at Mr. Johnny Dumas's farm in Slocomb, Alabama from 9:00am-4:00pm central standard time. Educational activities will be provided on goat management and rabbit and vegetable production. Other activities includes entertainment for the children, hands-on training for goat producers and much, much more. For additional information about this event, please contact Angela McKenzie-Jakes (850)875-8557.

Beef Cattle/Forage Field Day—August 18

A Beef Cattle and Forage Field Day will be held on Thursday, August 18 at the NFREC Beef Research Unit at Greenwood. Registration begins at 8 AM. The morning program will feature various tours and discussions, with optional tours and demonstrations in the afternoon. A \$5 registration fee will be charged. Lunch will be provided. For more info call (850) 482-9904 or visit <http://nfrec.ifas.ufl.edu>.



From the Bull Pen

Mechanics Nightmare

A few days ago I was having some work done at my local garage. A lady came in and asked for a seven-hundred-ten. We all looked at each other, and another customer asked, "What is a seven-hundred-ten?"

She replied, "You know, the little piece in the middle of the engine, I lost it and need a new one. It had always been there." The mechanic gave the lady a piece of paper and a pen and asked her to draw what the piece looked like. She drew a circle and in the middle of it wrote 710.

He then took her over to another car, which had the hood up and asked, "Is there a 710 on this car?" She pointed and said, "Of course, it's right there."



Kids Are Smart

A Sunday school teacher asked her children, as they were on the way to church service, "And why is it necessary to be quiet in church?"

One bright little girl replied, "Because people are sleeping."

Truly Yours,
Douglas E. Mayo

Doug Mayo
Livestock Extension Agent