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Animal and Dairy Science Department
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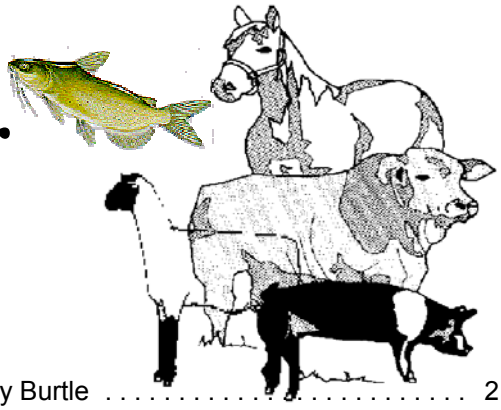
Livestock Newsletter



January/February 2005

http://www.ces.uga.edu/Agriculture/asdsvm/beef-home.html

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Robert L. Stewart
Extension Coordinator
Animal and Dairy Science Department

LIVESTOCK NEWSLETTER

January/February 2005 *AS-1*

Off-flavor Control Programs in Catfish Ponds

Dr. Gary J. Burtle
Extension Animal Scientist

Catfish production in Georgia has not escaped the off-flavor problems that historically effect the industry in other southeastern states. As catfish are stocked at increasingly higher densities and fed more feed, the conditions become favorable to produce the blue-green algae that cause musty-earthy tasting catfish. Even a slight flavor may cause a catfish processor to pass up an opportunity to harvest catfish. When that happens, the catfish producer is faced with the loss of sales and an accumulation of costs associated with delayed marketing.

Blue-green algae are controllable, only with an integrated approach. Several herbicides have been used to control these off-flavor sources including, diuron, copper, diquat, and endothal. Recently, sodium carbonate peroxyhydrate (Greenclean ™ or PAK-27™) has been labeled for use in aquaculture ponds. Each herbicide has advantages in certain pond situations. However, careful and informed applicators still have problems controlling off-flavor in catfish ponds using only herbicides.

Plankton-eating fish can be stocked to reduce the total numbers of blue-green algae. The threadfin shad has been shown to successfully reduce numbers of blue-green algae in catfish ponds. However, successful stocking and subsequent spawning of the shad is necessary for the program to work. Initial cost of threadfin shad stocking may seem too costly, at about $100 per acre. Most catfish farms that utilize threadfin shad stock their own ponds from the first pond after spawning has occurred, therefore reducing costs of stocking their other ponds. Also, the reduced number of blue-green algae can still create off-flavor in catfish, usually at less intense levels.

Utilizing herbicides after threadfin shad stocking can be easier and more effective. Treating lower numbers of blue-green algae requires less chemical and less frequent treatment. Instead of a thick algal bloom that may deplete dissolved oxygen when killed, a thinner bloom may be controlled with less water quality degradation.

Herbicide treatments are started in the winter, with copper application. Diuron is added when certain species of *Oscillatoria* develop or when copper is not effective. Sodium carbonate peroxyhydrate applications are best started in the early spring and continued at monthly intervals. Since the peroxide released after application is effected by the amount of organic material in the water, sodium carbonate peroxyhydrate works best with thin blue-green algae blooms.

When off-flavor occurs in catfish, aggressive treatment may be necessary to bring them back on-flavor. Treating with herbicides once each week may be needed to eliminate the algae causing the off-flavor. Pond aeration should be operational during these treatments in order to prevent oxygen depletion. Catfish that have absorbed algal off-flavor chemicals, may take 14 days or more to return to good flavor. It would be better to prevent off-flavor from developing in the first place, by pro-active and integrated control methods.

Fish Pond Fertilization: Time to Start

Dr. Gary J. Burtle
Extension Animal Scientist

Pond owners, in Georgia, who are want the best fish production should be ready to start fertilization by the end of March. Fertilization increases the productivity of pond water and provides nutrients for fish food organisms to live on. The increase in food supply for forage fish species like bluegill sunfish results in an increase in the food supply for the predator fish like largemouth bass. The end result should be more and larger bass and bluegill to catch. However, to start a fertilization program without a plan to catch more fish would be a mistake. Fertilization must be combined with increase fishing activity. Also, once fertilization is begun, it should be maintained on a regular basis.

Regular fertilization produces a "bloom" of planktonic, microscopic algae that are the basis for the food chain in fish ponds. The bloom also creates a certain amount of shade, blocking light from reaching the pond bottom and preventing rooted aquatic plants from starting to grow. If fertilization is started and then discontinued, the bloom will die, reducing the amount of food for fish and allowing light to reach the pond bottom. The results include stunting of the fish population and development of aquatic weed problems.

Fertilization works best in ponds that have little or no outflow of water. Ponds with heavy spring flows or ponds located on a stream channel will not retain the added fertilizer. Liming this type of pond will also be difficult, so that even if fertilizer were retained, the phosphorus in the fertilizer would not be available for plants to utilize.

Several types of fertilizer can be used in ponds, but the availability of liquid formulations has made fertilization easier. Liquid fertilizers are mixed 1:10 with water before spreading into the pond. Do not pour liquid fertilizer directly into the water as it weighs about 11 pounds per gallon and is heavier than water. Granular fertilzers are applied from fertilizer platforms, floating buckets, or other systems that prevent contact with the pond bottom before the fertilizer has a chance to dissolve. Organic fertilizers, like chicken litter or cottonseed meal, can be added to ponds or composted on the pond bank so that rain washes nutrients into the pond. All fertilizers are applied so that the rate of phosphorus added equals 3-4 pounds per surface acre of water.

An example of pond fertilizer application can be calculated as follows: A fertilizer contains the formula, 10-34-0, or 10 percent nitrogen and 34 percent phosphorus. The fertilizer weighs 11 pounds per gallon. If one gallon of the fertilizer were added per surface acre of a pond, 34% of 11 pounds would be 3.74 pounds of phosphorus. That amount is in the range between 3-4 pounds of phosphorus per acre, so one gallon of the fertilizer would be the proper amount per acre of pond area.

Ponds must be checked frequently to determine the need to repeat fertilization. Use a white dish shaped target or "secchi disk" to determine the visibility into the water. If the target is visible below 18 inches, the pond should be fertilized. If the target disappears before 12 inches, the pond is over-fertilized. Check ponds every two weeks and fertilize when needed. Continue to check the pond water until fall, when water temperatures fall below 70^{o} F. This temperature usually occurs after mid-September, in Georgia. Also, remember to stop fertilizing if aquatic weed growth or filamentous algae develops. Also, control aquatic weeds first before fertilization is started.

Diet Affects Body Temperature of Cattle

Dr. Johnny Rossi
Extension Animal Scientist, Tifton

It has long been debated that body temperature is affected when feeding a roughage versus a grain based diet. Most of the debate centers around the attempt to increase the body heat production through diet during periods of cold weather. When digested and metabolized by the body, roughages do produce more heat per unit of metabolized energy than do grains. Heat cannot be used for productive purposes (growth, lactation), and this difference in heat production is one of the reasons that grains have a higher energy (TDN) value than roughages. Because of this difference in heat production during digestion and metabolism, it is sometimes recommended to increase hay and reduce grain in the diet during a period of cold stress. However, this practice is controversial because feeding more grain usually increases total energy intake versus feeding only hay. To provide answers to the debate, a trial was conducted at the University of Nebraska to evaluate body temperature between cattle fed a corn versus a hay/silage based diet.

Heifers were fed either an 80% corn based diet or a diet consisting of 60% silage and 40% hay. Body temperature was recorded over a 24 hour period. Tympanic, rectal, vaginal, and ruminal temperatures were recorded. Overall, feeding the corn based diet increased body temperature compared with feeding the roughage diet. The normal range of body temperature for cattle is 100.4 to 103.1°F. Body temperature averaged approximately 102.0°F for heifers fed the roughage based diet and 102.6°F for heifers fed the corn based diet. Time of day also affected body temperature with temperatures being highest in the afternoon and evening hours. Temperatures were higher in the rumen than in the other locations tested. For practical purposes, rectal temperatures are used to measure body temperature in cattle.

Feeding a high grain diet will increase body temperature by approximately one-half degree. One explanation for this effect is that more total energy is being metabolized when cattle are fed grain versus roughage because grain is much more digestible than forage. During periods of cold stress, additional energy supplied by grain rather than increased forage should be used to maintain body temperature. Cattle with a dry winter hair coat become cold stressed once the temperature falls below freezing. However, when they have a wet hair coat, cold stress begins to affect the animal when the temperature falls below 59°F. In addition, wind has a significant effect on cold stress and cows in poor condition will have a harder time staying warm due to less insulation from fat. Unless cattle are protected from the wind, use the wind chill temperature to determine when additional supplementation is needed to overcome cold stress. The old rule of thumb is to increase TDN by 1% for every degree below the critical temperature. A variety of high energy grain and grain by-products can be used to increase energy intake during periods of cold stress.

Beef Cattle Research Update

Dr. Charles McPeake
Extension Beef Specialist

Winter 2005

Summarized by Michigan State University personnel

Following are reviews of research projects recently reported at scientific meetings or in scientific publications. Please feel free to use as you see fit.

BREEDING/GENETICS

Genetic Evaluation of Carcass Traits: Effects of Slaughter End Points

An exhaustive global review of research literature for estimates of heritability for a wide spectrum of beef cattle traits, covering a period from 1945 to 1991, was published by Koots et al. (1994). However, their review did not include a number of important carcass traits. Marshall (1994) published estimates of heritability for some additional carcass traits, but only for cattle raised under U.S. conditions. Neither of these reviews focused on the effect of slaughter end point on estimates of heritability. Rios-Utrera (2004) recently conducted an excellent review of estimates of heritability for 14 carcass traits reported in the literature from 1962 to 2004. In his review, he reported heritabilities estimated for three different end points: constant age (or time-on-feed), weight, and fat thickness. His paper resulted in at least a doubling of the number of estimates for many carcass traits. Table 1 presents the unweighted averages for the 14 traits at the three different end points.

Table 1. Average estimates of heritability (%) for carcass traits at three different slaughter end points

Slaughter end point	Carcass trait[a]													
	CW	DP	FT	REA	KF	MS	YG	PRP.	RW	FW	BW	ARP	FP	BP
Age	42	28	39	41	48	45	60	28	51	52	51	54	51	45
Weight	37	38	33	37	19	29	--	41	42	37	39	50	51	35
Fat thick.	35	36	29	41	34	30	74	18	50	50	--	--	--	--
Overall avg.	40	32	36	40	40	37	64	36	51	50	49	52	51	44

[a]CW=carc. wt., DP=dress %, FT=Fat thick., REA=ribeye area, KF=KPH%, MS=marb. score, YG=yield gr., PRP=predicted % ret. prod., RW=ret. prod. wt., FW=fat wt., BW=bone wt., ARP=actual % ret. prod., FP=fat %, BP=bone %

As shown in Table 1, heritability estimates vary somewhat depending upon the end point. Constant age accounted for the greatest number of estimates followed by constant wt. Constant fat thickness accounted for the lowest number of estimates. Regardless of end point, Table 1 shows that most carcass traits are moderate (30-40%) to high (≥50%) in heritability. This indicates that carcass traits can respond well to genetic selection.

In addition to heritability estimates, the author conducted a review of the genetic correlations between carcass traits. Genetic correlations are normally expressed as decimals. A range for low correlations would be those less than 0.30, moderate would be 0.30 to 0.49, and high would be greater than 0.50. Correlations may be

either negative or positive depending upon the two traits involved. Therefore, the possible range is from -1.00 to +1.00. Following is a brief summary of some of the more interesting genetic correlations (average of all three end points).

·Marbling and fat thickness are lowly and positively correlated (.24), indicating that selection for increased marbling would tend to result in increased fat thickness. However, Bertrand et al. (1993) and Vieselmeyer et al. (1996) have demonstrated that marbling can be increased without increasing fat thickness through selection based on strategic use of EPDs for these two traits.

·The correlation between REA and actual % retail product is moderate and positive (.37). But REA has considerably less effect on % retail product than does fat thickness, which is highly and negatively correlated with % retail product (-.63).

·The correlation between marbling score and REA is .03, indicating that selection for marbling would have essentially no effect on REA and visa versa.

This review shows that considerable improvement can be made in carcass traits through genetic selection because of the moderate to high heritability of most of these traits. As genetic correlations have indicated, there are antagonistic relationships between some of these traits. However, with strategic use of EPDs, it is possible to reduce the risk of such antagonisms (Rios-Utrera. 2004. Proc. BIF Annual Res. Symp., Sioux Falls, SD, May 25-28, 2004).

Selecting A.I. Sires for Maximum Profit

The economic concept of net present value (NPV = future value [$] of net genetic gain discounted to present value [$] by adjusting for interest and inflation) was used by Washington State Univ. scientists as a method of selecting A.I. beef sires for maximum profit over a 3-generation time horizon. Spring 2003 EPDs for weaning wt., yearling wt., and milk of 552 sires in seven breeds available from four A.I. companies were evaluated, and were ranked by NPV from both the crossbred and purebred producer perspective. The analysis examined the impact on ranking of various production goals and management situations faced by producers. The 20 most profitable sires in each ranking provided significant genetic improvement at substantially less than the cost of average genetic improvement. The average NPV of the 20 most profitable sires across all seven breeds was markedly higher than the average NPV of all sires in the analysis ($22.51 vs. $3.23). NPV values ranged from a high of $31.14 to a low of $-112.24. Semen prices on all 552 bulls ranged from a high of $100 to a low of $8.00 per unit. Average semen price of the top 20 sires was $15.40 compared to $17.95 for all 552 sires, demonstrating that semen from top sires can be purchased at moderate cost. The analysis revealed that by selecting among the top 20 sires to maximize NPV over three generations, a crossbred producer with 500 cows could realize an increase of more than $9500 per year in discounted annual net income. It should be noted that this study involved only three traits and did not include some other economically important traits such as birth weight. Nevertheless, it provides an example of an objective economic approach to the complex decision-making process when selecting from among A.I. sires that range widely in semen price and EPDs for certain traits (Baker et al. 2004. Prof. Anim. Sci. 20: 336).

Genetic Relationship Between Heifer Pregnancy and Scrotal Circumference

Colorato State Univ. and Brazilian researchers used 43,511 records on Nellore heifers and young bulls to determine the heritabilities of yearling heifer pregnancy and scrotal circumference, and the genetic correlation between the two traits. The heritability estimates were high for heifer pregnancy and scrotal circumference, averaging 0.69 and 0.57, respectively. However, the genetic correlation between heifer pregnancy and scrotal circumference was relatively low, averaging 0.20. The authors noted that based on the results of this study, EPDs for heifer pregnancy can be used to select bulls for the production of fertile daughters, and would be considerably more effective than selecting on scrotal circumference EPDs. Nevertheless, their analysis revealed that scrotal circumference can be incorporated in a two-trait analysis to enhance the accuracy of prediction for heifer pregnancy EPDs in young bulls (Eler et al. 2004. J. Anim. Sci. 82: 5219).

An Inexpensive Measure of Feed Efficiency in Beef Cattle

Residual feed intake (RFI), an accurate predictor of feed efficiency, is difficult and expensive to measure. This disadvantage heightens the need for alternative cost effective measures for genetic improvement of feed efficiency in beef cattle. Recent Australian research has revealed that concentration of the protein hormone, IGF-1, in plasma is moderately heritable and is genetically correlated with RFI. The Australian genetic improvement system is now using genetic parameters to incorporate IGF-1 data into the computation of estimated breeding values (EBVs) for RFI. The IGF-1 measure is relatively inexpensive, but the EBVs for RFI generated from IGF-1 data alone have low accuracies (about 40%). The authors noted that to improve accuracy, strategies that combine measurement of IGF-1 in all breeding animals, and RFI measurement in strategically selected individuals in the herd in a two-stage selection process will be required (Herd et al. J. Anim. Sci. 82 [Suppl. 1]: 379).

COW-CALF

Cost of Raising Replacement Heifers

The objective of this demonstration project conducted at Southeast Missouri State Univ. was to determine the cost of raising replacement heifers from weaning to first parturition. It involved Angus or Angus cross heifers born in fall of 2000, weaned in April of 2001, bred in November of 2001, and calved in fall of 2002. Costs consisted of pasture, harvested and purchased feedstuffs, labor, vaccinations, prebreeding reproductive tract exam, estrus synchronization, artificial insemination (AI), clean-up bull, pregnancy exam, and value of weaned heifer calf. Prebreeding exam indicated that 100% of heifers reached puberty and were cycling prior to breeding season. First-service AI pregnancy rate was 71%. Pregnancy rate after breeding season (A.I. and clean-up) was 94%. Cost of raising the heifers was $400.23 per heifer. Total cost, including heifer value at weaning time, was $889.32. Average sale price of the bred heifers sold in the 2002 Missouri Show-Me Replacement Heifer Program was $1125, yielding a net profit of $235.68 over the total cost of heifer development (Ellis. 2004. J. Anim. Sci. [Suppl. 1]:288).

Quality Differences Between Grass Hay Stored as Dry Round Bales or Wet Wrapped Round Bales

High humidity in the Appalachian region of the eastern U.S. requires producers harvesting hay as large dry round bales (DRB, 80-85% DM) to wait 2 to 3 days between mowing or baling. Storing hay as wet wrapped round bales (WRB, 40-60% DM) can reduce time between mowing and baling to one to two days. Reduced time increases

leaf retention and decreases field losses. In this study, seven West Virginia forage producers harvested grass hay as either DRB or WRB that was cut from the same field on the same day.

- ·WRB hay contained significantly higher levels of crude protein (12.1 vs. 10.79%), soluble protein (6.0 vs. 2.2%), and net energy maintenance (.51 vs. .42 Mcal/lb), than DRB.
- ·WRB also tended to contain higher levels of available protein (11.1 vs. 9.7%), TDN (56.8% vs. 52.2%), net energy gain (.26 vs. .17 Mcal/lb), digestible protein (68.8 vs. 55.4% of CP), and lower levels of lignin 7.2 vs. 8.5%) compared to DRB.
- ·Unfortunately, the economic impact of the improved quality of WRB only covered the cost of the plastic wrap.
- ·To maximize the value of wrapping high moisture hay, it is necessary to harvest at earlier stages of growth so that improvements in forage quality will pay for the additional machinery, labor and material cost.

The authors concluded that WRB could be a cost-effective way to improve the nutrition of hay-fed animals only if the production state of those animals require additional nutrients (Rayburn et al. 2004. J. Anim. Sci. 82[Suppl. 1]:34).

One Year's Performance Is Indicative of Beef Cow Performance in Subsequent Years

Univ. of Arkansas scientists used 20 commercial cow-calf herds to determine beef cow performance predictability over time. The study involved 8928 cow records of which 4379 and 1958 cows had performance records for 2 and 3 consecutive years, respectively. Cows within herds were ranked in descending order based on 205-day calf wt. ratios during the first year and divided into three groups (top, middle, and bottom thirds). Following are data from the first year.

	Ranking by 205-d calf wt. ratio		
Item	**Top third**	**Middle third**	**Bottom third**
Adj. 205-day calf wt., lb	581	523	460
Avg. cow age, yr.	5.9	5.6	5.5
Cow body wt., lb	1171	1138	1115
Weaning efficiency, %[a]	50.1	46.5	42.0

[a](Adj. 205-day calf wt. ÷ cow wt) x 100

Of the cows that ranked in the top third in yr. 1, 33% continued to rank in the top third for the next 2 consecutive yrs. and 71% ranked in the top third at least 1 yr. of the next 2 yrs. Of the cows that ranked in the bottom third in yr. 1, 27% ranked in the bottom third for the next 2 consecutive yrs. and 63% ranked in the bottom third at least once in the next 2 consecutive yrs.

These results indicate that most cows ranking in the bottom third of the herd for adj. 205-day calf wt. are rather likely to consistently rank in the bottom third in subsequent years. The authors concluded that these results support the practice of culling cows, even first-calf heifers, that rank in the bottom third of the herd based on one year's performance (Troxel et al. 2004. Prof. Anim. Sci. 20:377).

Effect of Ractopamine Supplementation on Finishing Performance and Carcass Traits

From the time the beta-agonist feed additive, ractopamine (Optaflexx®), was cleared for approval for finishing diets in late January, 2004, six research trials have been conducted at four different universities. Ractopamine is approved for feeding during the last 28 to 42 days of the finishing period. The six trials involved a total of 6964 cattle allotted to one of three levels of ractopamine : 1) Control, 0 mg; 2) 100 mg/head/day; or 3) 200 mg/head/day. All cattle had been previously implanted 100 days or more with an estrogen-trenbolone acetate product. Ractopamine was fed for 28-32 days. Table 1 is a summary of the six trials.

Table 1. Performance and carcass traits of steers fed ractopamine

	Ractopamine, mg/head/day		
Item	**0**	**100**	**200**
Avg. daily gain (ADG), lb	3.04[a]	3.33[b]	3.57[c]
ADG improvement, %	---	9.5[a]	17.4[b]
Dry matter intake, lb	20.01	19.90	19.92
Feed conversion	6.74[a]	6.12[b]	5.67[c]
Feed conversion improvement, %	---	9.2[a]	15.9[b]
Dressing %	63.85[a]	63.87[a]	64.08[b]
Hot carcass wt., lb	825.4[a]	830.7[b]	837.7[c]
Carcass wt. response, lb	---	5.3[a]	12.3[b]
Fat thickness, in.	0.51	0.50	0.51
Ribeye area, sq. in.	13.8[a]	13.9[b]	14.1[c]
Carcass conformation score	20.75[a]	20.91[b]	21.05[c]
Marbling score	503.7	503.6	501.0

[a,b,c]Values with different superscripts differ significantly ($P<0.05$).

As shown in Table 1, feeding ractopamine resulted in a significant improvement in ADG and feed conversion, especially at the 200 mg level. Furthermore, there were significant increases in dressing percent, hot carcass wt., ribeye area, and carcass conformation, with no effect on fat thickness or marbling score.

In summary, these post-approval results compare favorably with those reported in research trials conducted prior to approval of ractopamine (SOURCE: Nebraska Husker Beef Conference, Oct. 29, 2004).

Beef Cattle Semen Handling Tips

Tim Wilson
Extension Animal Scientist – Beef Cattle

Beef cattle operations that utilize artificial insemination are faced with a similar challenge. They must limit the amount of error involved in each step of the artificial insemination process. Beef cattle semen can be frozen, and when thawed correctly it can be used successfully in artificial insemination breeding programs. A single straw of semen contains approximately 20 million sperm cells. Since fertilization occurs with the penetration of one sperm into the egg, it may seem excessive to have such large numbers of sperm in a single straw. However, semen handling procedures prior, during and after thawing can have substantial impacts on overall survivability and viability of spermatozoa.

Experienced artificial insemination technicians may use estrous synchronization to align cattle for breeding and navigate the cervix of each cow with ease. Having these capabilities are necessary for success, but reduced conception rates may occur without proper semen handling techniques.

Tank Considerations
Prior to purchasing semen, inspect the liquid nitrogen tank (semen tank) to ensure that overall tank structure is sound and free of rust and intrusions. Maintaining semen tanks a few inches above the floor with a palate of some sort can prevent corrosion and rust from multiplying on the shell of the tank. The transition of frozen semen from one tank to another should occur rapidly, and caution should be taken not to expose straws to sunlight due to its detrimental effects.

Thawing Considerations
The National Association of Animal Breeders (NAAB) recommends thawing semen in a water bath at 90 to 95˚ F for a minimum of 40 seconds. Many AI companies follow this recommendation, but some may have alternative methods that can be used successfully. When purchasing semen, consult with the manufacture regarding their recommended thawing procedure. If using a water bath, ensure the temperature has reached 95˚ F prior to beginning breeding.

To retrieve a straw for AI, elevate the canister to the upper portion of the semen tank. Canisters should be held approximately 5 inches or lower below the opening of the tank. Temperatures at this height are approximately -220˚ F or below. Prolonged exposure of straws above this temperature could result in damaged sperm cells and straws freezing together. If straws appear to be frozen together, a comprehensive semen evaluation should be performed before being used.

After identifying the cane of choice, quickly raise the canister to the neck of the tank, grasp the cane and lower the canister back to the 5 inch mark. Remove the straw of semen with tweezers from the cane and shake it slightly to remove any liquid nitrogen next to the cotton plug. Failure to shake the straw at this point may result in its rupture upon insertion into water. After the straw has been removed lower the cane carefully back into the canister and lower the canister back into the liquid nitrogen.

Cold-shock can be prevented by warming the straw-gun prior to removing the straw from the water bath. Failure to warm the straw gun prior to inserting the straw will result in varying degrees of cold-shock.

Research from Washington State has demonstrated that multiple straws can be thawed at one time using a water bath. Although this may be useful for some producers, careful attention must be paid to the temperature of the water bath to prevent improper thawing.

Upon completion of the minimum 40 second submersion in the water bath, grasp the straw at its tip and shake slightly to position the air bubble at the end of the straw. Since water is spermicidal, wipe the straw with a paper towel drying it completely to ensure the straw is dry. The paper towel can also be used to hold the straw and prevent temperature fluctuations. Cut the straw at a right-angle approximately $1/8^{th}$ to $1/4^{th}$ of an inch below the end opposite of the cotton plug. Insert the straw into the sheath and then into the warm straw gun. Carefully plunge the gun until all of the air at the tip of the straw gun has been removed. Place a paper towel around the end of the straw gun surrounding the straw to maintain temperature.

Summary

- When transferring semen from one tank to another, transfer rapidly, avoid sunlight and excessive temperature fluctuations.

- Temperatures inside a liquid nitrogen tank rise from approximately -300 degrees at the bottom of the tank to approximately +36 degrees at the top. Hold canisters at least 5 inches below the top of the tank to prevent straws from thawing and freezing together.

- Most AI organizations follow the NAAB recommendation of thawing semen in a 90 - 95˚ F water bath for a minimum of 40 seconds. However, some AI organizations may recommend an alternative method of thawing semen. Follow the recommendation provided by the AI organization from which the semen is purchased.

- Check the thermometer used in the water bath to ensure accuracy prior to thawing.

- Use a paper towel to dry the straw and to shield it from sunlight since both are spermicidal. The paper towel can also be used to reduce temperature fluctuations within the straw after it is withdrawn from the water bath.

Although there are many suggested techniques available when handling beef cattle semen, proper handling ensures that maximum numbers of viable sperm are available after thawing. If you have any questions regarding semen handling techniques, feel free to contact your county extension agent, veterinarian or call me at (912) 681-5639.

Update on National Animal Identification

Ronnie Silcox
Extension Animal Scientist

Background:

During Christmas week in 2003 the first case of BSE was reported in the United States. On December 30, 2003 the Secretary of Agriculture announced, "USDA is also working to take the next steps toward implementation of a verifiable system of national animal identification…."
Over the past year there have been listening sessions and planning sessions to get this done. According to USDA, "The goal of the National Animal Identification System is to have the capability to identify all premises that had direct contact with a foreign animal disease (FAD) within 48 hours after discovery."

This national animal ID program will develop over the next few years. The first step is to identify farms (premises) that have livestock. After a national number that will allow fast location of premises is established, a uniform method of identifying animals will be established. Then a national database will be established that tracks the movement of animals from one location to another.

All meat animals (cattle, swine, sheep, goats, chickens ...) are included. The methods of animal identification will probably be different for different types of animals. Cattle will probably be individually identified with electronic ear tags. Swine and poultry are more likely to use group or lot identification.

While the stated goal of the national animal identification system is to control animal diseases, a uniform national ID system could be used by producers or producer groups to do other things, like development of markets for source verified products.

A national animal ID system is coming and it is an evolving process. To keep up with current developments a good reference is the Animal and Plant Health Inspection Service web site:
http://animalid.aphis.usda.gov/nais/index.shtml

Recent developments with Premises ID:

The Georgia Department of Agriculture is now accepting applications for premises ID numbers from livestock producers. At this point in time, this is a voluntary program. There are no federal or state regulations at this time (February, 2005) that require a producer to have a premises ID. However, I would expect that it will not be long before some marketing groups start asking for these.

An application is included on the following page. For most producers, one premises ID would cover the whole farm. More than one premises ID is needed only in cases where there are totally separate herds at different locations.

Georgia Department of Agriculture
Thomas T. Irvin, Commissioner
Capitol Square, Room 105, Atlanta, GA 30334

NAIS Premises ID Application

Business/Farm/Ranch Account Information

Business/Premises Name

Mailing Address

City State ZIP

Owner Name

Business Phone FAX

Cell Phone Pager Email

Premises Contact *(Manager, Agent, Stable Manager, etc.)* Business or Cell Phone

Business Type ***(please check only one)***

☐ Individual ☐ Incorporated ☐ Limited Liability Corporation ☐ Partnership
☐ Limited Liability Partnership ☐ Non-Profit Organization ☐ State or Federal Government

Premises Information ***(Primary location where livestock reside. If animals are managed as separate herds on separate locations without commingling, register multiple premises.)***

Physical (911) Address

City State ZIP County

Primary Business Function ***(please check only one)***

☐ Producer Unit/Farm ☐ Exhibition ☐ Laboratory ☐ Clinic
☐ Market/collection point ☐ Non-Producer Participant ☐ Port of Entry ☐ Tagging Site
☐ Quarantine Facility ☐ Rendering ☐ Slaughter Plant

Species on Premises ***(please check all that apply)***

☐ Cattle ☐ Horses ☐ Goats ☐ Sheep ☐ Swine ☐ Deer ☐ Elk ☐ Llama ☐ Bison
☐ Poultry ☐ Chickens ☐ Ducks ☐ Geese ☐ Guineas ☐ Pheasants ☐ Quail ☐ Turkeys ☐ Emu

Signature of Applicant or Authorized Agent: **Date:**

MAIL OR FAX COMPLETED FORM TO:

Mail:
Georgia Department of Agriculture
Attn: NAIS Program Room 105
Capitol Square
Atlanta, GA 30334

FAX:
404-651-9024
Attn: NAIS Program

HORSE HAPPENINGS

Dr.Gary Heusner

USDA TO STUDY EQUINE INDUSTRY IN 2005

The U.S. Department of Agriculture (USDA) will begin collecting data for its Equine 2005 Study in early 2005.

Conducted by USDA's National Animal Health Monitoring System (NAHMS), Equine 2005 will consist of two separate components: 1) equine events and 2) on-farm health management factors relating to the control of equine infectious diseases. Twenty-eight states will participate in the study.

The Equine 2005 Study will be NAHMS' second national study of the equine industry. The first, Equine '98, included valuable information on the health and health management practices of the U.S. equine population, testing practices for equine infectious anemia, equine identification, infectious upper respiratory disease, colic, equine protozoal myeloencephalitis, causes of equine death, vaccination practices and biosecurity on equine operations. NAHMS equine reports are available at: http://www.aphis.usda.gov/vs/ceah/ncahs/nahms.

Objectives of the Events Component of the Equine 2005 Study include:

- Ascertaining the scope (number and type) of equine events in the 6 of the 28 participating states: California, Colorado, Florida, Kentucky, New York and Texas; these states were selected because they are border states, equine import states or for geographical representation.
- Gathering data on the use of equid health documents at events as well as a description of age, origin and vaccination history for equids attending an event and
- Determining the traceability of equids once they leave the selected events.

Objectives of the On-Farm Component of the Equine 2005 Study include:

- Focusing on health practices that could impact the occurrence of equine infectious diseases.
- Determining health management factors related to control of equine infectious diseases and
- Comparing relevant data collected in 2005 to data collected during the Equine '98 Study. These comparisons will help determine trends in equine health management related to the control of infectious diseases and the economic consequences of selected equine diseases.

Data collection for the events component is scheduled to begin in the spring of 2005. Data collection for the on-farm component is scheduled for the summer of 2005. Participation in the Equine 2005 Study is strictly voluntary. As always, links between NAHMS data and operations where the data were collected are confidential.

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[1]Alabama, California, Colorado, Florida, Georgia, Kansas, Illinois, Indiana, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Missouri, Montana, New Jersey, New Mexico, New York, Ohio, Oklahoma, Oregon, Pennsylvania, Tennessee, Texas, Virginia, Washington, Wisconsin and Wyoming.

Note to Stakeholders: Stakeholder announcements and other APHIS information are available on the Internet. Go to the APHIS home page at http://www.apahis.usda.gov and click on the "News" button. For additional information on this topic, contact Suzan Holl (301)734-6464 or suzan.holl@aphis.usda.gov.

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or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202)720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

STATE 4-H HORSE QUIZ BOWL FINALS

The 2005 State 4-H Horse Quiz Bowl Competition was held on Wednesday, February 2nd at the University of Georgia, Animal & Dairy Science, Instructional Arena. The primary objective of Horse Quiz Bowl is to provide an opportunity for youth enrolled in 4-H to demonstrate their knowledge of equine-related subject matter in a competitive setting where attitudes of friendliness and fairness prevail.

The first place Senior Team from Crisp County will travel to Louisville, KY in November to represent Georgia at the Eastern National Horse Quiz Bowl Competition. The Crisp County team members were: Ashley Buford, Lacey Chapman, Jessica Gordon, Erica Owens and Mark Allen. Coming in second was Coweta County and Union County placed third.

In the Junior Quiz Bowl Competition, Douglas County took home top honors. Douglas County Team Members were: Caitlyn Cliff, Sara Hopkins, Nicole Prince, Andrea Smith and Becky Yarbrough. Crisp County placed second and Peach County placed third.

2002 AQHA World Show Judging Contest Championship Judging DVD

The American Quarter Horse Association and the National Horse Judging Team Coaches Association have captured the AQHA World Championship Judging Contest on a DVD. Audiences have the opportunity to judge each class prior to the announcement of official placing and cuts. This DVD is perfect for teaching and learning about judging American Quarter Horse classes.**The proceeds from the sale of these DVD's benefit the NHJTCA Scholarship Program.

Contact Name _____ Organization Name _____

Mailing Address _____

City _____ State/Province/County _____ Zip/Postal Code _____

Telephone _____ Fax _____ e-mail _____

This DVD contains the following classes:
Heading, Reining, Western Pleasure, Pleasure Driving, Hunter Hack, Western Riding, Trail, Hunter Under Saddle and four halter classes.

Cost: $30 (which includes tax and shipping)
Make checks payable to NHJTCA
Mail Check Payment to:
Julie Voge (785)-532-1264
Kansas State University
214 Weber Hall
Manhattan, KS 66506

Interactive Horse Judging
Hunter Hack

MANHATTAN, Kan. - For horsemen and women who want to improve their skills in judging hunter hack classes, Kansas State University can help.

An interactive DVD is now available through K-State. The DVD sells for $34.95 plus $3.00 shipping and handling.

"Hunter hack is becoming increasingly popular in horse judging contests," said Kelsey Nordyke, K-State assistant horse judging coach. "Information about judging and giving reasons on this class has been limited until now. The interactive style of the DVD about judging allows beginners to learn about the class and seasoned judges to brush up on their skills."

The DVD consists of five chapters covering the basic principles of hunter hack from functional correctness to form over fences. Practice classes and quizzes allow the user to determine his or her level of understanding. A bonus of several "Hunter Under Saddle" classes is also included.

Chapter 1: "The Class" focuses on the description of the class and the requirements for judging hunter hack. It also discusses scoring the class and show several examples of various scores.

Chapter 2: "Functional Correctness" includes safety, strides, changing leads, and rail work in the class.

Chapter 3: "Quality of Movement: covers judging and scoring movement and mannerisms. It also includes several rides to practice scoring.

Chapter 4: "Form Over Fences" explains the correct approach and form over fences, as well as course faults and disqualification.

Chapter 5: "Practice Classes" contains six practice classes and official placings for each class.

Oral reasons given by the 2003 Kansas State Horse Judging Team are included for each class.

Abby Broulik-Keegan, former K-State assistant horse judging coach and a former graduate student, designed and developed the DVD as part of her master's program in animal science.

"This DVD is a must have for every 4-H club and FFA chapter across the nation. Many hours were devoted to this project to make it extremely educational and interesting to all ages," said Julie Voge, K-State Research and Extension Youth Coordinator and K-State horse judging coach.

The DVD can be purchased by writing to Voge at Kansas State University, Attn: Julie Voge, Department of Animal Sciences & Industry, 214 Weber Hall, Manhattan, KS 66506-0201, or call 785-532-1264.

K-State Research and Extension is a short name for the Kansas State University Agricultural Experiment Station and Cooperative Extension Service, a program designed to generate and distribute useful knowledge for the well-being of Kansans. Supported by county, state, federal and private funds, the program has county Extension offices, experiment fields, area Extension offices and regional research centers statewide. Its headquarters is on the K-State campus in Manhattan.

Youth Horse Judging Clinic

April 2nd, 2005

9:30 a.m. - Check in

10:00 a.m. - Judging Clinic

1:00 p.m. - Lunch provided

2:00 p.m. - Western Riding & Reining

3:00 p.m. - Optional Reasons Clinic

UGA Livestock Instructional Arena, Athens, Georgia

Sponsored by: Georgia 4H & The University of Georgia

This clinic will be given by the UGA horse judging coach and the 2005 UGA horse judging team. The clinic will be run as a 'mock' judging contest. The students will be able to view the class, take notes and place it. Following each class, the horses will be lined up in front of the students and a critique highlighting areas of emphasis and a final placing will be given.

Classes to be judged will include:
several halter classes of different ages and sexes
several rail classes (hunter under saddle, western pleasure)
equitation, horsemanship, western riding, reining

Each student will receive a packet with detailed information on judging standards for each of the classes seen at the clinic as well as information on other classes. There will also be reasons information including lists of terms for individual classes as well as sample sets of reasons.

REGISTRATION FORM

This form and your entry fees must be **received on or before Friday March 25th** to avoid late fees. Registration may be done on the day of the clinic, however there will be a late fee assessed and no guarantee of lunch.
The reasons clinic in the afternoon is optional.

Mail to: Laura Morgan
Animal and Dairy Science
425 River Rd. #204
Athens, Ga. 30602

phone: (706) 542-7386
email: laura03@uga.edu

Make check payable to UGA Horse Judging Team
No purchase orders can be accepted.

I plan to enter the horse judging clinic with the following number of students:

Total number of students _____ X $20.00 ($25.00 after March 25th) = _____

Total number of adults _____ X $5.00 (to cover lunch costs) = _____

Total enclosed = _____

Total number of attendee's that need lunch = _____

An adult must remain with the teams or individuals throughout the clinic

4H Club/FFA Chapter Name: _____

Coach/Teacher(s): _____

Address: _____

_____

County Office/School phone (____) _____

Market News Branch
P O Box 86
Thomasville, GA 31799
Tel 912-226-1641

Market News
GEORGIA LIVESTOCK

Agricultural Building
Atlanta, Georgia 30334

WEEK ENDING: 12-17-04 **The Cooperative Extension Service would like to thank Terry Harris for submitting this information.**

GEORGIA CATTLE: RECEIPTS: 10,900 LAST WK 13,100 YEAR AGO 11,900

FEEDERS	STEERS	MED & LARGE 1	HEIFERS
	133.00-148.00	300/350 LBS	118.00-130.00
	125.00-140.00	350/400	110.00-125.00
	115.00-130.00	400/450	108.00-122.00
	108.00-120.00	450/500	101.00-114.00
	102.00-115.00	500/550	95.00-107.00
	98.00-110.00	550/600	90.00-105.00
	93.00-104.00	600/650	89.00-98.00
	90.00-98.00	650/700	88.00- 95.00

SLAUGHTER COWS % LEAN		
	75-80% 850-1200 LBS	47.00-52.00
	80-85% 850-1200 LBS	49.00-57.00
	80-86% OVER 1200 LBS	49.00-58.00
	85-90% 800-1200 LBS	46.00-52.00

5 Area Daily Wtd Average - Texas/Oklahoma; Kansas; Nebraska; Colorado; and Iowa/So Minnesota Feedlots:
Steers...Select/Choice 65-80% Weighted Average Price Range 81.00-82.00
Heifers..Select/Choice 65-80% Weighted Average Price Range

By-Product Drop Value (Steer)...Hide and Offal Value 8.27 /cwt.

Box Beef Cut-Out Value Choice 1-3 550/750 LBS. 135.69
Select 1-3 550/700 LBS. 129.39

Georgia Hogs: GA-FL-AL Direct Area Receipts 4900 Trends 7.00 lower

US 1-2 220/260 LBS. 46.00-48.00 Sows 300/500 LBS. _____ 500-UP_____

FEEDER PIGS	GEORGIA	TENNESSEE		GEORGIA	TENNESSEE
US 1-2 35/40 LBS.			55-60		
40/45			60/65		
45/50			65/70		
50/55			70/80		

IOWA-SOUTHERN MINNESOTA DIRECT HOGS: RECEIPTS _____ TRENDS .88 Lower

BARROWS & GILTS 49-51% LEAN 185 LB CARCASSES RANGE 59.75-68.00 WTD AVG. 66.26