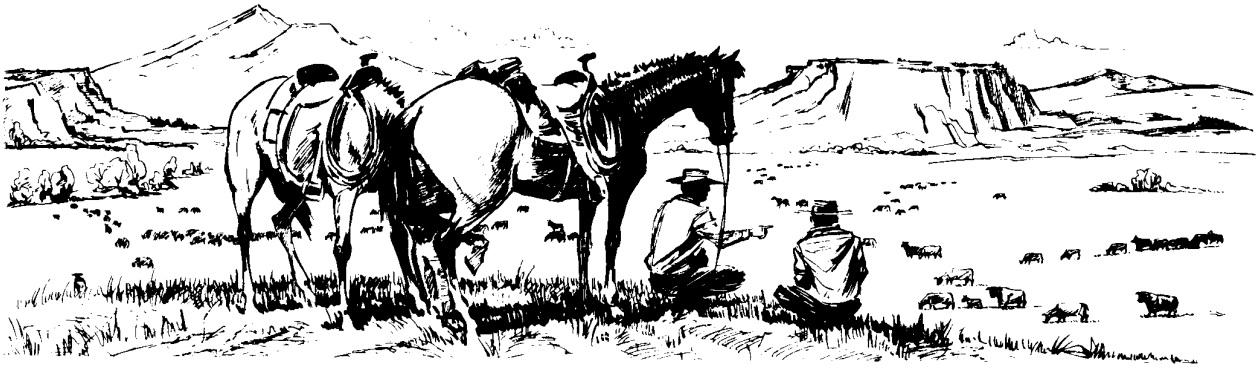
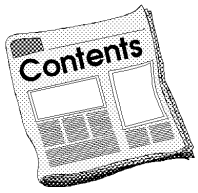


SISKIYOU STOCKMAN

What's New in the "Top of the State". A report for Siskiyou Livestock Producers put out by the Farm Advisors Office, Cooperative Extension of the University of California, located at 1655 South Main Street, Yreka, California 96097

December 2001



In This Issue

Calendar

Dec 2 - 5	California Farm Bureau Annual Meeting, Anahiem, CA. http://www.cfbf.com/
Dec 12-13	Alfalfa Symposium, Modesto, CA http://alfalfa.ucdavis.edu/
Jan 23-26	Red Bluff Bull Sale, Red Bluff, CA. http://www.red-bluff.com/
Jan 31 - Feb 2	Klamath Falls Bull Sale, Klamath Falls, OR. http://klamathbullsale.com

Crossbreeding: How Much Are You Missing?

Crossbreeding is like good intentions, not always carried out as we would like. Nationwide 4 out of every 10 cows and 3 out of every 10 cattle marketed are straightbred. Industry experts say 80 percent of herds use ***some sort*** of crossbreeding. That "some sort" includes bull of the month breeding programs. Between improper or incomplete implementation of crossbreeding and lack of crossbreeding, beef producers are losing a golden genetic opportunity, and selling less. For a variety of reasons many herds have "some sort" of crossbreeding – cows and calves are a mixture of two or more breeds but not in a systematic pattern. In most cases intentions were good, but things happened to prevent a consistent, long-term complete crossbreeding program. With so many people having legitimate problems implementing a true crossbreeding program, the facts are – it just isn't that easy. There is nothing wrong with "some sort" of crossbreeding program, but can you afford to give up those pounds, and dollars? Currently cattle are rapidly becoming blacker, again for some very good reasons. As they are becoming blacker the cattle are becoming more straightbred. There are some relatively painless ways to crossbreed, and the "all black" herd offers an excellent opportunity. If you do not crossbreed, it is also worthwhile to evaluate the costs of choosing not to fully capture the advantages of crossbreeding.

Extensive testing shows that a properly implemented crossbreeding system using 3 breeds with crossbred cows and crossbred calves will wean 20 percent more pounds of calf per cow exposed to bulls than straightbreds (Table 1). The increase of a 3-way cross compared to a 550 lb. straightbred system is 110 pounds calf weaned per cow exposed to the bull, which at $0.80 per pound, is $88 more. Few people attempt a 3-breed rotational crossbreeding system, most try to use a 2-breed cross, for example Hereford and Angus. A 2-breed cross produces 15 percent more than a straighbred, based on extensive studies. This still translates to 82.5 pounds and $66 more per cow exposed compared to straightbreds. So, if you have been keeping your replacements and using black bulls exclusively for several years, you are pretty close to straightbred Angus. If you have been using "some sort" of crossbreeding system then you are not reaping the full potential of crossbreeding. Maybe the costs to fully implement a 2- or 3-breed rotational crossbreeding system aren't worth the extra return? What if there was a simpler way to get the same benefits? It is worth mentioning how to fully implement a traditional rotational crossing system, but since that has not been easily adopted across the industry maybe alternatives are worth a try. An alternative to a rotational crossbreeding system is a composite bull.

If your herd is straight black (or straight something else) then it is easy to take full advantage of crossbreeding – you have already "cleaned-up" your herd's genetics.

Crossbreeding from a straightbred base

A traditional 2-breed cross starting with a straightbred base begins by using the second breed of bull, breed B. All of those female offspring need to be identified so they can be bred to the opposite breed of their sire. Females sired by breed B, would be bred throughout their lifetimes by bulls of breed A. Females sired by bulls of breed A, would be bred to bulls of breed B for their lifetimes. This means good identification, and at least two breeding pastures. Unfortunately, very few producers are able to consistently follow a 2-breed rotational crossbreeding program. A number of other management factors usually complicate the breeding plans. These include the need for separate pastures for first-calf heifers and heifer bulls, then a separate pasture for the second-calf heifers that need a little better feed. On top of that comes management for foothill abortion and the list goes on. There are good intentions, but, it is actually difficult to accomplish a 2-breed crossbreeding program and producers miss the increased production. But there is an alternative.

An increasing number of producers are finding they can use composite bulls just like they would straightbreds, but still capture the hybrid vigor of crossbreeding. A composite bull composed of three breeds (1/2 A, 1/4 B, 1/4 C) will yield the same increase, 15 percent (Table 1), as a properly implemented 2-breed rotational crossbreeding program, according to studies at the Meat Animal Research Center in Nebraska. That research says a 2-breed composite (1/2 A, 1/2 B) will increase yield about 12 percent. Interestingly, a 4-breed composite, which is still run like a straightbred system, should yield 18 percent more than straightbreds, and more than a true 2-breed rotational crossing system. It is easy to see the rising popularity of composites in beef breeding. Other meat animals, such as in the swine industry, are almost exclusively composite breeding.

For herds that are mostly straightbred, composite bulls would be used on all the females. Replacements would be bred to the same composite breeding. After about three generations, the composite breeding will be stabilized.

Crossbreeding from a "crossbred" base

For herds that are using "some sort" of crossbreeding, composite bulls are used to capture hybrid vigor while managed like straightbreds. Again, after about three generations, the composite breeding will be stabilized. Compared to "some sort" of crossbreeding, producers using composites will have more uniformity, which usually brings more money. Instead of using composite bulls, these types of herds could also use the traditional rotational crossing system, but complete success has been limited.

Table 1. Affect of breeding system on weaning weight. Adapted from Gregory and Cundiff. 1980. J Anim Sci 51:1224.

Breeding System	Estimated increase in calf weight weaned per cow exposed
Straightbreds	0
Rotational crossbreeds	
2-breed rotation	15
3-breed rotation	20
Two breed composite	
1/2 A 1/2 B	12
5/8 A 3/8 B	11
3/4 A 1/4 B	9
Three breed composite	
1/2 A 1/4 B 1/4 C	15
Four breed composite	
1/4 A 1/4 B 1/4 C 1/4 D	18
1/2 A 1/4 B 1/8 C 1/8 D	15

Developing composite bulls and what to look for when purchasing composite bulls

Composite bulls are not the same as crossbred bulls. Crossbred bulls will provide the hybrid vigor, but calf performance will be more variable than most people will accept. Composite bulls should be developed from either closed herds of large numbers of cows and multiple sires or by using open herds that bring in different genetics. Several generations are needed to stabilize genes for consistency. Development of composite breeds with inadequate resources will lead to inbreeding and hybrid vigor will suffer.

Composite bulls are still in limited supply and prospective buyers need to think about breed types in composites rather than specific breeds. For example, you may decide the ideal composite breed for your ranch resources and marketing is 75 percent English and 25 percent European breeds. Suitable bulls could be composed of 75 percent English from among Angus, Devon, Hereford, Murray Grey, Shorthorn or Wagyu, and 25 percent European from among Charolais, Gelbvieh, Limousin or Simmental.

Development of a 3 breed composite (a European breed, Hereford and Angus) from a straightbred English (Angus) herd would start with 50:50 bulls, say 1/2 Simmental and 1/2 Hereford. Resulting calves (F1s) would be 25 percent European (Simmental) and 75 percent English (1/4 Hereford and 1/2 Angus). The best of the F1s would be selected and bred together producing 1/4 European, 3/4 English cattle (F2s). The best F2s would be selected and bred together producing the F3s generation (still 1/4 European, 3/4 English). It is estimated that performance stabilizes after three generations. Geneticists suggest large herds (500+ cows) and multiple sires (30+) are needed for closed herds to develop composites. So called open herds develop composites by introducing bulls for breeding to the F2s, F3s or later generations from outside the herd thereby infusing new genetics and avoiding inbreeding. The European and English breeds could be any similar type breeds depending on specific goals.

Development of composites from crossbred herds is similar. For herds with mixed English breeding, the first generation would use sires producing the correct percentages in their offspring. In the above case, 50:50 European and English bulls would be used first.

Developing a composite breed is not a trivial exercise but using the composite bulls when properly developed is as easy as straightbreds with performance like crossbreds. Using F1 or F2 composite bulls will introduce hybrid vigor, but variation will be higher than with later generations. Coat color will be one character that takes some time to stabilize. While this does not affect performance or carcass, it may affect marketing. Colors from composites derived from breeds with solid colors are more predictable. Similarly, horned cattle will arise at a small percentage from composites unless the composite bulls come from "pure polled" breeds.

"Commercial" Composites

Several composite "breeds" are becoming widely available. The Gelbvieh Association composite program allows registration of Balancer cattle that are 1/4 to 3/8 Gelbvieh and 1/4 to 3/4 Angus or Red Angus. This is a two breed composite. Leachman's Stabilizer is 1/2 English, 1/2 European including 1/4 Red Angus, 1/4 Hereford, 1/4 Gelbvieh and 1/4 Simmental. Some other composite cattle are MARC I, MARC III, RX3,

Brangus, Braford, Santa Gerturdis, Rangemaker, Beefmakers and others.

Any breeding plans should be based on the long term: future goals in production, financial and market, and need the commitment to see them through. These factors may make it easier not to change. However, recognizing the costs of not fully exploiting the genetics of crossbreeding is a strong motivator. While traditional rotational crossbreeding systems can harness the gene power, they have been very difficult to adopt, thus losing some of their advantage. Composites, especially as they are becoming more available, capture the genetic gain of crossbreeding, while simplifying management. Something to consider.

For further information on Composites see
http://www.compositebeef.com.au/
http://www.uaex.edu/Other_Areas/publications/PDF/FSA-3057.pdf
http://web.csuchico.edu/~slsmith/CCBIA/index.html

Proposed Weed Free Hay Only

(from Klamath National Forest news release)

Public input is sought on the use of certified weed free hay and straw on National Forest System lands. The requirement would be in effect region-wide, limited to all national forest system (NFS) lands within California.

The purpose and need for this proposed action is to help prevent the spread of noxious weeds onto NFS lands that are currently not infested by these species. This preventative action is needed now, since NFS lands are at risk of widespread infestation in light of the millions of acres of noxious weeds that presently occur in California. Prevention is the most cost-effective means for managing weed spread.

Weed seeds may be spread in any number of ways. One way is in hay and straw. Weeds growing in fields are cut and baled along with the crop. Hay bales are packed onto national forest lands by people using horses for recreation, trail maintenance crews using pack strings, and livestock permittees packing in hay for their working stock. Straw, which may also contain weed seeds, is used extensively in erosion control projects, reclamation, and construction projects.
The proposed action is to issue a Regional Closure Order that would require the use of certified weed free hay and straw on National Forest Service lands. A closure order is a special order under the CFR (Code of Federal Regulations) that allows a Forest Service unit to take a specific action to meet an identified need.

Under this proposal, only certified weed-free hay or straw would be allowed onto National Forest Lands for use by livestock or erosion control, reclamation and other projects.

A state program is already in place to certify fields for production of weed-free hay and straw. The county agricultural commissioners worked to design and implement a program to certify these products.

This proposed action would be analyzed through compliance with the National Environmental Policy Act (NEPA). At this time, we would like to know what concerns, issues, or comments you might have regarding this proposed action. Please send any comments you may have to the following address:

U.S. Forest Service
Attn: Cheri Rohrer
1323 Club Drive
Vallejo, CA 94592

Cost of Foodborne Illnesses

Foodborne illnesses make headlines in the media and are an increasing issue for food producers such as cattle ranchers. Most restaurants have changed their cooking procedures for meat by increasing internal meat temperatures to help avoid possible foodborne illnesses. Illnesses stemming from the bacteria E. coli 0157:H7 draw most of the publicity. E. coli 0157:H7 is most often associated with meat products. However, illnesses from these bacteria arise from many other sources. Are illnesses from this organism the most costly as might be perceived based on the amount of media attention?

The Economic Research Service, ERS, (part of the USDA) has recently used data from the Centers for Disease Control and estimated the cost to the U.S. of the five major pathogens in foodborne illnesses. These costs are comprehensive including actual medical costs for illness, lost productivity and estimated value of premature deaths.

Disease Organism	Annual Cost
Salmonella	$2.4 billion
Listeria	$2.3 billion
Campylobacter	$1.2 billion
E. coli 0157:H7 and related E. coli	$1.0 billion

How does this affect the cattle producer, especially the producer 'way back there' raising the baby calf? It is important to learn for ourselves and to teach others the relative importance and risks of the different diseases, and to help focus attention on prevention. We also need to understand the diseases to recognize which are related to beef consumption and which to other foods.

Today the cow calf producer has several options to help minimize these problems.

- Practice good sanitation, basic animal husbandry; minimize spreading of disease from sick cattle.
- Keep cattle healthy so they can fight off diseases: provide adequate nutrition and preventative health measures.
- Establish an inventory, animal identification and recording system to monitor and track animals.
- Attend quality assurance and food safety seminars.

Reducing foodborne illness is not something the feedlot, consumer, food preparer, restaurant or cow calf producer can accomplish individually. They all need to do their part. Certainly a food product can be wholesome and safe, but result in illness if improperly handled at the last minute. Some technology such as pre-cooked ready-to-eat products might help prevent simple or "stupid" mistakes like failure to wash hands. Educating the public and concerned individuals is another part of the picture.

Cattlemen's Feeder Sale

The annual feeder sale sponsored by the Siskiyou County Cattlemen's Association is set for Friday, January 4, 2002, at the Shasta Auction Yard in Cottonwood. Traditionally this has been a good sale. It is an opportunity to consolidate shipping and the extra attention of a special sale. Board of directors from the local Cattlemen's Association helps organize the sale and can be contacted for further information. Contact Rick Hayden, 467-3405, John Jenner, 468-3486, JT Martin, 938-2498, Tom Nielsen, 435-2262, Jess Dancer, 398-4294 or any other director.

Ranch Plans for Improving Water Quality Workshop

Ranchers and landowners are encouraged to sign up for a workshop to write ranch plans for improving water quality. The workshop follows the format for the State Water Resources Control Board Non Point Source Program "California Rangeland Water Quality Management Plan". The workshop has been held several times in Siskiyou County and this provides another opportunity for those that missed or were not interested at the time. Four evening meetings that are hands-on working sessions are needed plus some work at home to prepare written plans. Space is limited to 20 ranches (2 or 3 people per ranch are encouraged). The first meeting is from 7 to 9:30 p.m. January 8th. The following 3 meetings are tentatively on Wednesdays, Jan 16, 23, and 30, but may be changed based on the attendees. Sign up now is preferred to allow time to prepare maps and other materials, call 842-2711. A $20 fee for materials is required.

Red Books Available

The attached order form can be used to get your "Red Books". Order now or come by the office while supplies last.

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Address to mail calendar book:
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City _____State _____ Zip_____

Return order form to: Cooperative Extension, 1655 So. Main, Yreka, CA 96097

This is your copy of the Siskiyou Stockman, which you requested, or which we thought would be of interest to you.

Sincerely,

Daniel J Drake

Daniel J. Drake, Ph.D., PAS
Farm Advisor - Livestock & Range
530/842-2711

For special assistance regarding our programs please contact us.

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