Two Sides to Crossbreeding

Beef cattle breeding plans using crossbreds can provide potential advantages but will not automatically assure success. Results from our studies at the Lethbridge Research Station show that crossbreeding can cause difficulties as well as gains for the cattleman. Management inputs will change depending on whether cattlemen choose to raise British breed, exotic, or species crossbreds.

Initial results from crossbreeding trials in North America have demonstrated that combinations of Hereford, Shorthorn, and Angus can produce modest gains over straightbreds in weaning weight of calves and conception rates of dams. Calving problems and feeding and management requirements are similar to those of straightbreds. The plan is simple and the results predictable.

In more recent studies at our Substation near Manyberries, Alberta, heavy-milkng exotic crossbreds, such as the Simmental × Angus, produced progeny with high weaning weights. However, under drought stress 26 percent of these cows failed to show estrus. Many of the large, heavy-milkng crossbred cows had no measurable backfat at weaning time. They required up to 30 percent more feed than the Hereford × Angus cross during severe winter weather to survive, calve, and rebreed successfully.

Unfortunately, the potential for rapid growth rates of some exotic crossbred calves is accompanied by heavy birth weights, calving difficulties, and death losses, and by the need for extra manpower during the calving season. Fortunately, hybrid vigor from a cross between two breeds can be substantial without emphasizing large size or rapid growth rate in the sire breed. The selection of a sire average in growth or mature weight will reduce the likelihood of heavy birth weights and death losses at calving, and still provide a significant advantage from hybrid vigor. Some breed associations can recommend easy calving sires for crossing purposes.

Sometimes a species cross, such as the Brahma × Shorthorn, will yield an extremely productive dam in a tough range environment, even though both of the parental breeds lack hardiness during the winter. Brahma × Hereford cows were used on a lifetime productivity phase of this same study, and produced 26 percent more calves and 52 percent more kilograms of beef to weaning than straightbred Hereford cows.

However, not all species crosses are productive. For example, Bixon × British breed crosses were hardy at Manyberries, but fertility was virtually non-existent in firstcross and backcross bulls and was reduced by about 20 percent in the cows.—John E. Lawson, Animal Geneticist, Weekly Newsletter, January 19, 1983, Lethbridge.

Obtaining Plant Genes from the Soviet Union

New genetic sources of plant material could help improve the hardiness, vigor, and drought and disease resistance of new prairie cereal varieties. Introduction of new genes is crucial to upgrading the hardiness and resistance of present varieties. Consequently, at the Lethbridge Research Station we are continuously searching for new plant genes from around the world. The Soviet Union, because of its immense size and location, is an obvious source of such material.

The Vavilov Institute in Leningrad is the principal agency of the Soviet Union for obtaining seeds of potentially useful plants and for exchanging material with other countries. The seed collection of the Institute is enormous, presently holding about 3000,000 entries, much of it from within the Soviet Union. Although the Soviet Union covers a wider range of vegetation and climatic zones than Canada, in the more northerly areas the two countries have a common climate and vegetation. Consequently, plant material from the Soviet Union is of great interest to Canadian plant breeders. For the same reasons, the Soviets are eager to obtain plant material from Canada, especially seed of our newer varieties.—Dr. J.B. Thomas, Wheat Breeder, Weekly Newsletter, June 15, 1983, Lethbridge.

Propane Gas Bubbler Keeps Livestock Tanks Open

Chopping ice-covered livestock tanks to give animals a drink is a time-consuming chore most ranchers would like to avoid.

A propane gas bubbler may be just the device to do the work for them, says an Extension specialist. "This bubbler, marketed by Stockman's National Supply Co., slowly releases bubbles from a five-gallon tank of propane placed at the bottom of a stock pond or tank," said Extension Agricultural Engineer Charles Hohn. "The propane tank is ballasted by about 75 pounds of rocks or other material."

"Propane is nontoxic to livestock and humans. It can't ignite at the low-concentration level used for the bubbler," Hohn said.

The system is inexpensive to install. One five-gallon tank of propane lasts three months. It should be removed, cleaned and stored in the spring. Late in the fall, the tank should be refilled and reinstalled under water.

The bubbler costs less than $100, not including the propane tank.

The bugglers are reported to be working well in New Mexico and Arizona, Hohn said. For more information, persons can write to Stockman's National Supply Co., Inc., P.O. Box 917, Pueblo, Colo. 81002.

What Every Horse Owner Should Know About the Wild Horse Situation

For over ten years the horse industry has been bombarded with information about our Nation's wild horses now under the jurisdiction of the Bureau of Land Management and the US Forest Service. Much of the material that has been written has been inaccurate, untrue or half true.

What are the facts? To begin with, beyond a shadow of the doubt, most of the horses on our western ranges are descended from stock that either escaped from ranches or were turned out intentionally rather than having direct exotic foreign lineage. Further, three factors have drastically influenced these animals.

First, during the era of the Government remount stations,
and later as the market for saddle horses blossomed, there was a strong infusion of domestic stallions to upgrade the quality of horses that either the ranchers were using themselves or selling. The beneficial result of that upgrading is evident in several of the BLM herds today.

Secondly, when the price of canner horses increased in the 1960's, some ranchers turned out draft stallions and of course through the years a certain number escaped to the wild. Today, that influence also exists in some herds.

Finally, in some areas, a process of inverse culling has occurred as many of the most desirable animals have been removed for private use leaving the less desirable "out there" to reproduce. With no natural predators to keep numbers in check, it was only a matter of time before herds would increase beyond the capacity of available feed.

While the Adoption Program has gone a long way towards placing surplus horses into private hands, there is a limit as to what that program can accomplish under its present constraints. Most horses that are adopted as yearlings, two, three, and four year olds have a good chance of being domesticated. However, once they have spent 5 to 10 years or more in a totally unrestrained environment, their chances of adjusting to captivity declines dramatically. It isn't that none of them can be trained, some can; however, the percentage of success decreases as the horse's age increases. Why is that? It gets right down to the all important basic of horse behavior wherein flight is the first line of defense! When we domesticate the horse we not only teach it to go on command, but more importantly, to whoa on command. The ability to stop it when we wish to do so is the major difference between having it under control or not.

Domestic horses are halter trained and introduced to restraint at an early age. Wild horses can assimilate that same training fairly easily until the flight response is so deeply ingrained in their nature that is is only with great difficulty that their natural response reactions can, in essence, be reprogrammed. The older they are, the less likely that is to occur.

BLM and the Forest Service are well aware that primarily only the younger horses should be going through the Adoption Program. They also know that many of the older animals that are adopted eventually end up at the slaughter house, much the worse for wear after a year's unsuccessful attempt at domestication. However, under current law, they have no other alternative to reduce numbers but to shoot them.

Legislation, $457 and HR6757, has been introduced to allow the agencies to sell the excess unadoptables. The sales authority is the exact same authority now held by the US Fish and Wildlife Service for horses under their jurisdiction. That agency has been selling horses for over 6 years with few problems.

There has been what might be characterized as nearly a hysterical reaction to the possibility that some of the horses sold will go to slaughter; however, approximately 1/3 million domestic horses a year are now going into the human consumption slaughter market. This doesn't include those horses still going into the pet food market, yet there is no outcry about them. The fact is, all of the horses simply can't stay on the range. There are other considerations involved, such as wildlife habitat and the condition of the range itself. It has been charged that BLM intends to remove nearly all the wild horses. Our organization has in its files a letter dated April 27, 1982, from BLM Director Robert Burford in which he states the intended herd size will be 25,000 head. We agree that this is a reasonable and viable herd size. By the end of this summer it is anticipated that there will be approximately 1,500 horses in BLM corrals for which there is no adoption demand. Essentially they will be older horses and/or draft crosses. Costs will continue at about $80,000 a month to maintain these holdovers and there will be no end in sight until legislation provides relief.

With a projected deficit of over $200 billion dollars in our Nation's immediate future, this fiscal irresponsibility is just one of many issues that Congress must address. It will take individual responses from YOU, the horse owners of America, to give it priority for positive action.—Sharon Saare, Issues Analyst, TRAIL, Inc.—from South Dakota Section Newsletter.

More on Buffalograss

Those who read Tom Pozarnsky's article on buffalograss in the October 1983 issue and want more information about this very durable and efficient grass should contact David S. Nuland, Extension Horticulturist, at the Institute of Agriculture and Natural Resources, Panhandle Station, 4502 Avenue 1, Scottsbluff, Nebraska 69361. David has a fine leaflet entitled, "Buffalograss - Energy Efficient Turf for Lawns." The information in this leaflet would complement Tom's fine article.

Wildland Shrub Symposium

The Shrub Research consortium is sponsoring a Wildland Shrub Symposium on the "Biology of Artemisia and Chrysothamnus" on July 9-13, 1984, at Brigham Young University, Provo, Utah.

Papers are invited which deal with any aspect of the biology of Artemisia or Chrysothamnus including ecology, phy- 
giology, genetics, evolution, taxonomy, management, horti- 
culture, manipulation, distribution, uses, and impact of pathogens and/or insects. Presentations will be limited to 20 minutes. The proceedings will be published. A 2-day (July 9-10) field trip to south-central Utah will precede 3 days of papers. If you would like to present a paper, send the title and abstract, by April 15, 1984, to: Dr. E.D. McArthur, Chairman, Shrub Research Consortium, Shrub Sciences Laboratory, 735 North 500 East, Provo, UT 84601.

For further information about the symposium and facilities, contact: Dr. Robert Hales, Conferences and Workshops, Brigham Young University, 297 CONF, Provo, UT 84602.

Soil-Water History Symposium

The Agricultural History Society, University of Missouri- 
Columbia, and the Soil Conservation Service will hold a multidisciplinary symposium on the history of soil and water conservation at Columbia, Mo., May 23-26, 1984. Among the speakers will be agricultural economist Sandra Batie, agronomist Chris Johannsen, historian Harold Pinkett, Canadian research officer J.W. Morrison, and British experts on conser- 
vation in Africa Norman Hudson and Michael Stocking. For program and registration information contact Susan Fiander, Department of History, University of Missouri, Columbia, Mo. 65211, or Douglas Helms, P.O. Box 2890, Washing- 
ton, D.C. 20013.