

ZOOLOGY

Strange Hybrid Sheep Results From Bighorn Cross

A COUPLE of years ago a band of range sheep belonging to the Pitchfork Ranch in Wyoming was grazing under the shadow of the Rocky Mountains, when a bighorn ram from a flock of wild mountain sheep came down from the high peaks and mingled with the domestic ewes.

For years, the stories current among sheepherders of the West about the crossing of the bighorn mountain sheep with ewes of domestic flocks have been passed off largely as fanciful tales of a lonely shepherd's imagination. Rarely, if ever, has a specific case been produced. A few years ago a sheepman of Colorado sent five newly born lambs representing a cross between a Rocky Mountain bighorn and his domestic sheep to the Colorado Museum of Natural History. These had died within a few hours of birth.

Other similar cases have been reported, but in every instance the hybrid lambs did not have sufficient vitality to survive more than a few days at the most.

At the time that the bighorn ram strayed into his flock, the herder told his camp tender about it and predicted that at least one lamb would make its appearance during the next few months. As soon as the herder had seen the intruder he had chased him back to his own kind far up the snow-capped peaks. Early in the following spring, an odd-looking lamb made its appearance and was promptly taken to the home ranch, for early April is no time for a young lamb to be out on the storm-swept ranges of Wyoming. The balance of the ewes were not to have their lambs till a month later.

For the first few weeks of its life the lamb was weak and sickly and two months passed before it began to look strong and thrifty. It had the characteristic brown spots of the mountain sheep lamb and its coat seemed to be part hair and part wool. The coat of the bighorn sheep is dark-colored hair, not unlike that of a deer.

The actions of this strange youngster have never been those of a domestic lamb. It has the characteristics of its male parent. The lamb prefers to mix with a small herd of goats on the ranch and frequently jumps up on a pile of logs or on the roofs of the low ranch buildings. With apparently



OVER THE TOP

no effort at all it can hop over a six or seven foot corral fence. Another curious fact about this creature is that its tail is only about one-third the length of the tail of a domestic lamb.

It is a well known fact that the bighorn sheep is one of the hardest of animals, grazing as it does all the year

round on the roof of the continent. It is not beyond possibility that this cross might be the start of a new breed of domestic sheep that will stand the rigors of Wyoming or Montana winters even better than the merino or rambouillet ewes.

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PLANT PHYSIOLOGY

To Plants Red Light Means "Go" But Green Is "Stop" Signal

RED LIGHT doesn't mean "stop" to plants in the food-manufacturing business; it means "go ahead." Green light comes nearer to signifying "stop" to such plants. Blue is another "go ahead" light.

These facts were developed in a research project by W. H. Hoover of the Smithsonian Institution. He caged young wheat plants in a glass vessel, through which air could flow at a controlled rate. He passed the light received by the plants through filters that took out all but certain chosen wavelengths, all maintained at the same level of energy-intensity.

The ingoing amount of carbon dioxide, out of which green plants

manufacture primary foods, was definitely known. Analysis of the outgoing air showed how much of it had been removed by the plant in the food-manufacturing process. The less carbon dioxide coming out while a given color of light was on, the more efficient that light as an energy source for the plant's work.

Most efficient of all wavelengths tested was found to be in the red, close to the border of orange, at a wavelength of 6550 Angstrom units. Low efficiency was reached at about 5500 Angstroms, in the green. A second peak of efficiency came in the blue end of the spectrum, at a wavelength of 4400 Angstroms. Dull red light at less than 7500 Angs-

troms was of no use to the plants in Mr. Hoover's experiments, but they could still manufacture at least a little food under the invisible radiation in the lower ultraviolet region, up to about 3650 Angstroms. The limit of visible violet light is about 3900 Angstroms.

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AERONAUTICS

Airships to Make Their Own Ballast While Aloft

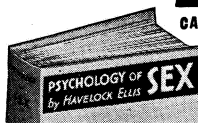
ZEPPELINS of the future will be able to take off without ballast, and once in the air will "manufacture" water, with a new reaction chamber invented by Ludwig Schirmer of Berlin. The fundamental idea is very simple: hydrogen and hydrogen compounds are present in the airship's lifting gas; the air contains plenty of oxygen to combine with them and form water. Thus instead of valving gas and thereby losing valuable reserve "lift," Herr Schirmer's invention will transform it into ballast, thus making a double gravitational gain. It is the reverse of lifting oneself by the bootstraps.

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PUBLIC HEALTH

Midwest Conquering Goiter With Iodine in Salt Cellars

Communities Need to Exercise Caution, However, That Salt Contains Iodine in Proper Amounts

FAMILIES in the Midwestern "goiter belt" began filling their salt shakers with iodized salt ten or twelve years ago.

The happy result is that in these homes goiter has practically disappeared.

Nobody disputed Dr. David Marine when he said twenty years ago that a normal thyroid gland could be found only along the seacoast.

Michigan and Ohio can successfully refute anyone who makes that statement today.

There is Midland County, Michigan, where in 1924 one-third of all the school children showed a well-developed goiter and where a questionable enlargement of the thyroid was seen in almost every child.

Now in Midland County anatomically normal thyroids are found in 90 per cent of the children. They have been taking iodized salt to make up for the deficiency in food iodine in that locality.

In this same county live five families whose doctor warned them against iodized salt, saying the children would develop acne. These families followed their doctor's advice for from three to six years.

When the goiter committee from the state health department made a statewide survey recently, it was especially interested in these families. The children did not have acne—it is true—but eight of them had moderately enlarged, soft, spongy hyperplastic goiters.

Recently the committee examined 3,000 children who had been using iodized salt regularly for years. Less than 2 per cent of them had goiter. Nor did the committee find more cases of acne than would be expected.

Dr. O. P. Kimball of Cleveland, who reports (*Journal, American Medical Association, March 13*) on the program of goiter prevention in Michigan and Ohio, tells of an interesting contrast in two Michigan cities.

In Houghton County are Houghton and Calumet, towns thirty miles apart. Calumet is a mining town and during 1932 the copper mines closed. Many families were on relief and only bag salt (not iodized) was given to relief

families. While in Houghton the percentage of goiter cases remained low, in Calumet without the iodized salt, which was the only source of food iodine in half of the homes for three years, endemic goiter became proportionately as prevalent as it was before prevention was initiated.

In Detroit the incidence of goiter dropped from 35 per cent in 1924, when the goiter prevention program was begun, to 5 per cent in 1936. However, in Cleveland the drop was from 31 per cent to only 18.5 per cent.

The city health department investigated and found that two local salt manufacturers were labeling their various brands of salt "iodized" when it contained only one-third of the amount of iodine stated on the label and one brand contained no iodine at all.

"In each study made in various cities," declares Dr. Kimball, "we found the iodine content of nationally advertised brands and the trade brands prepared by these manufacturers for other companies to approach closely the amount advertised."

Dr. Kimball advises every state in which goiter is endemic to educate the public to use iodized salt. He further urges state health departments to analyze every brand of iodized salt at least every other year.

"Attempts to interest and educate the public need not be aimed solely at the deformity of the neck," Dr. Kimball explains.

"One should think of the number of cases of feeble-mindedness, the many cases of boys and girls who do not mature normally through puberty, the many cases of cretinism and myxedema, and the thousands of large tumorous goiters with an occasional cancer, each of which is only a sequela of endemic goiter.

"For over twenty years Dr. Marine and I have consistently emphasized the importance of the replacement of the food element iodine. In meeting this deficiency we are preventing infinitely more than meets the eye, the goiter."

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