

DEER FARMING IN THE UNITED STATES

BY D. E. LANTZ
U. S. BIOLOGICAL SURVEY

That the rising prices of beef and mutton in the United States can be partially overcome by raising deer for venison, is maintained by Dr. C. Hart Merriam, chief of the United States biological survey. According to Dr. Merriam elk meat can be produced cheaper than beef or mutton in many sections of the United States, and with comparatively little effort it is possible to make raising deer for venison as profitable as any other live-stock industry. Everyone who has seen the large numbers of deer browsing on private estates in England as peacefully as cattle and sheep wonders why American enterprise has not long since developed breeding deer for food in this country.



Several species of deer are suited for breeding in enclosures in the United States; the axis deer, the Japanese and Pekin stags, the red and the fallow deer of Europe, and especially the Rocky Mountain elk, or wapiti, and the Virginia deer. While experiments with the foreign species named offer every promise of success to the owners of American preserves, the elk and Virginia deer are recommended as best adapted for the production of venison in the United States.

The flavor of venison is distinctive, though it suggests mutton rather than beef. In chemical composition it is very similar to beef. A lean venison roast before cooking has been found to contain on an average 75 per cent. of water, 29 per cent. of protein or nitrogenous material and 2 per cent. of fat; a lean beef rump, some 65 to 70 per cent. of water, 20 to 25 per cent. of protein and 5 to 14 per cent. of fat; and a lean leg of mutton, 67 per cent. of water, 19 per cent. of protein and 13 per cent. of fat.

The general popularity of venison is so great and the demand for it so widespread that over-production is improbable. The other products of the deer—skins and horns—are of considerable importance and in countries where deer are abundant and especially where large herds are kept in semi-domestication, the commerce in both is very extensive.

The wapiti, known generally in America as the elk, is next to the moose, the largest of our deer. It was once abundant over the greater part of the United States, whence its range extended northward to about latitude 60 degrees in the Peace River region of the interior of Canada. In the United States the limits of its range eastward were the Adirondacks, western New Jersey and eastern Pennsylvania; southward it reached the southern Alleghenies, northern Texas, southern New Mexico and Arizona; and westward the Pacific ocean.

At the present time the elk are found only in a few scattered localities outside of the Yellowstone National park and the mountainous country surrounding it, where large herds remain. Smaller herds still occur in Colorado, western Montana, Idaho, eastern Oregon, Manitoba, Alberta, British Columbia and the coast mountains of Washington, Oregon and northwestern California. A band of the small California valley elk still inhabits the southern part of the San Joaquin valley.

The herds that summer in the Yellowstone National park and in winter spread southward and eastward in Wyoming are said to number about 30,000 head and constitute the only large bands of this noble game animal that are left. Although protected in their summer ranges and partially safeguarded from destruction in winter by the state of Wyoming, there is yet great danger that these herds may perish from lack of food in a succession of severe winters. Partial provision for winter forage has been made within the national park, but the supply is inadequate for the large numbers of animals. Further safeguards are needed to place the Wyoming elk herds beyond the reach of winter starvation.

In addition to the wild herds there is a considerable number of elk in private game preserves and parks, as well as in nearly all the public zoological parks and gardens of this country. The herds in captivity form the nucleus from which, under wise management, some of the former ranges of this animal may be restocked and from which a profitable business of growing elk venison for market may be developed. At the present time this species affords a most promising field for ventures in breeding for profit.

The elk is both a browsing and a grazing animal. While it eats grasses freely and has been known to subsist entirely upon pasture, it seems to prefer a mixture of grass and browse.

The elk is extremely polygamous. The adult bulls shed their antlers annually in March or April and new ones attain their full size in about 90 days. The "velvet" adheres until about August. While the horns are growing the bulls usually lead solitary lives, but early in September, when the horns are fully matured, the mating season begins. Fights for supremacy take place and the victor takes charge of as many cows as he can round up and control.

Although the elk is less prolific than the common deer and some other species that have been bred in parks, it increases fully as rapidly as the common red deer of Europe. Moreover, it makes up for any lack of fecundity by its superior hardiness and ease of management. It has been acclimated in many parts of the world and shows the same vigor and hardiness wherever it has been transported. In Europe it has been successfully crossed with the Altai wapiti and the red deer and in both instances the offspring were superior in size and stamina to the native stock.

The flesh of the elk, although somewhat coarse, is superior in flavor to most venison. That of the bulls is in its best condition about the time the velvet is shed. In October their flesh is in the poorest condition. As the open season for elk is usually in October and November and only bulls are killed, it follows that hunters often obtain the venison when it is poorest. The meat



HERD OF DOMESTICATED VIRGINIA DEER.

is not best when freshly killed, but should be left hanging for four or five days before it is used.

With few exceptions the early attempts to domesticate elk were made by men who were wealthy enough to disregard all thought of profit in raising them. They were usually placed under the care of servants and the bucks were left uncastrated until they became old and unmanageable. Soon the serious problem of controlling them outweighed the novelty of their possession and one by one the attempts at domestication were abandoned.

A desire to preserve this important game animal has caused a renewal of attempts to breed it in confinement and at present there are small herds under private ownership in many places in the United States. The biological survey has recently obtained much information from owners of herds in regard to their experience in breeding and rearing the animals and also their opinions as to the possibility of making the business of raising them profitable. Of about a dozen successful breeders nearly all are of the opinion that raising elk for market can be made remunerative if present laws as to the sale of the meat are modified.

One especially important fact has been developed by the reports from breeders. It is that the elk readily adapts itself to almost any environment. Even within the narrow confines of the paddocks of the ordinary zoological park the animal does well and increases so that periodically the herds have to be reduced by sales.

The fullest reports that have been received by the department of agriculture from breeders of elk are from George W. Russ of Eureka Springs, Ark.

Mr. Russ has a herd of 24 elk. They have ample range in the Ozarks on rough land covered with hardwood forests and abundant underbrush. The animals improve the forest by clearing out part of the thicket. They feed on buds and leaves to a height of eight feet and any growth under this is liable to be eliminated if the range is unrestricted. If not closely confined elk do not eat the bark from trees nor do they eat evergreens. In clearing out underbrush from thickets they are more useful than goats, since they browse higher. Goats, however, eat closer to the ground, and as the two animals get along well together Mr. Russ recommends the use of both for clearing up brushy land and fitting it for tame grasses.

The increase of elk under domestication is equal to that of cattle. Fully 90 per cent. of the females produce healthy young. An adult male elk weighs from 700 to 1,000 pounds; a female from 600 to 800 pounds. The percentage of dressed meat is greater than with cattle, but, owing to hostile game laws, experience in marketing it is very limited. An offer of 40 cents a pound for dressed meat was received from St. Louis, but the law would not permit its export. Mr. Russ says:

"From the fact that as high as \$1.50 a pound has been paid for the meat in New York City and Canada and that the best hotels and restaurants pronounce it the finest of all the meats of mammals, we are of the opinion that if laws were such that domesticated elk meat could be furnished it would be many years before the supply would make the price reasonable compared with other meats. Elk meat can be produced in many sections of this country at less cost per pound than beef, mutton or pork."

Mr. Russ thinks that large areas of rough lands in the United States not now utilized, especially in localities like the Ozarks and the Alleghenies, could be economically used to produce venison for sale and he regards the elk as especially suited for this purpose.

Another feature of Mr. Russ's report is of more than passing interest. He says:

"We find from long experience that cattle, sheep and goats can be grazed in the same lots with elk, providing, however, that the lots or inclosures are not small; the larger the area the better. We know of no more appropriate place to call attention to the great benefit of a few elk



ROCKY MOUNTAIN ELK.

in the same pasture with sheep and goats. An elk is the natural enemy of dogs and wolves. We suffered great losses to our flocks until we learned this fact, since then we have had no loss from that cause. A few elk in a thousand-acre pasture will absolutely protect the flocks therein. Our own dogs are so well aware of the danger in our elk park that they cannot be induced to enter it."

Elk thrive best in preserves having a variety of food plants—grasses, bushes and trees. Rough lands, well watered with clear streams and having some forested area, are well adapted to their needs. About as many elk can be kept on such a range as cattle on an equal area of fair pasture. There should be thickets enough to furnish winter browse, but this should be supplemented by a supply of winter forage.

Except when deep snows cover the ground, elk will keep in good condition on ordinary pasture and browse, but a system of management that provides other food regularly will be found more satisfactory. Hay and corn fodder are excellent winter forage, but alfalfa hay has proved to be the best dry food for both elk and deer.

Elk are much less nervous than ordinary deer and less disposed to jump fences. When they escape from an enclosure they usually return of their own accord. If tame, they may be driven like cattle. Ordinarily a five-foot fence of any kind will confine elk.

The cost of stocking an elk preserve is not great. Usually surplus stock from zoological parks or small private preserves may be obtained at low cost, varying with the immediate demand for the animals.

The Virginia or whitetail deer is the common deer of the United States. Including the half dozen geographic races that occur within our borders, it is distributed over most of the country, except Nevada and the major portions of Utah, Arizona, Washington, Oregon and California. It is extinct in Delaware and practically so in a number of states in the middle west. South of our borders a number of closely related species occur.

In view of the wide natural range of the Virginia deer, its adaptability to nearly all sections of the United States cannot be doubted. Testimony as to its hardiness in parks and preserves is not so unanimous as that concerning the elk; but the general experience of breeders is that with suitable range, plenty of good water and reasonable care in winter, raising this deer for stocking preserves or for venison may be made as profitable as any other live-stock industry. Not only do deer thrive on land unsuited for cattle or horses, but, like elk, they may be raised to great advantage in brushy or timbered pastures fully stocked with cattle or horses, as the food of deer rarely includes grass.

Advocates of the American goat industry state that within the United States there are 250,000,000 acres of land not suited to tillage or to the pasture of horses, cattle or sheep, which are well adapted to goats. Much of this land is suited also to deer and elk and can be utilized for these animals with less injury to the forest cover than would result from browsing by goats.

Virginia deer have often been bred in parks for pleasure or in large preserves for sport, but the economic possibilities in raising them have received little attention. Recently breeders have recognized the fact that they are profitable under proper management and would be much more so were conditions for marketing live animals and venison more favorable.

The chief obstacle to profitable propagation of deer in the United States is the restrictive character of state laws governing the killing, sale and transportation of game. Many of the states, following precedent, lay down the broad rule that all the game animals in the state, whether resident or migratory, are the property of the state. A few states except game animals that are "under private ownership legally acquired."

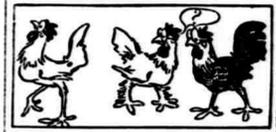
The laws concerning the season for killing and the sale of deer are often equally embarrassing to those who would produce venison for profit. The owner of domesticated deer cannot legally kill his animals except in open season.

Instead of hampering breeders by restrictions, as at present, state laws should be so modified as to encourage the raising of deer, elk and other animals as a source of profit to the individual and to the state.

It is believed that with favorable legislation much otherwise waste land in the United States may be utilized for the production of venison so as to yield profitable returns and also that this excellent and nutritious meat, instead of being denied to 99 per cent. of the population of the country may become as common and as cheap in our markets as mutton.

WASHINGTON GOSSIP

Strange Inventions at Patent Office



WASHINGTON.—"Labor-saving devices are always in demand; the thousand inventors of this country are all devoting 90 per cent. of their time to producing such things, each in the hope of winning for himself fame and fortune, cash and credit," said a patent attorney the other day in Washington.

"One of the strangest of these schemes to lighten the world's work is a patent recently obtained by an ingenious person in Des Moines, Ia. It is called the self-tipping hat, and is designed to save the popular person from the fatiguing labor of removing his hat every time he meets one of the fair sex with whom he is acquainted."

"Much valuable energy is utilized in tipping the hat repeatedly," says the inventor, "and my device will relieve one of it and at once cause the hat to be lifted from the head in a natural manner." It is a novel device, in other words, for effecting polite salutations by the elevation and rotation of the hat on the head of the saluting party, when said person bows to the person saluted, the actuation of the hat being produced by mechanism within it, and without the use of the hands in any manner.

"No truly rural person ever could have been responsible for the invention of eyeglasses for chickens, which was protected by United States patents recently. The glasses are modeled much after the fashion of grandpa's 'specs,' the nose rest being enlarged to go over the chicken's head, while the ear hooks are joined in the back.

"No claim is made that the chicken's eyesight is poor, or that magicians ever are needed that it may the better discover the reluctant worm or the elusive bug, but the inventor does say that the glasses 'are designed to

prevent chickens pecking out each other's eyes.' The inventor's attempt to enforce all chickens to wear the device by legislative action in Kansas did not succeed, I may say.

"Members of secret societies, who sometimes may be put to much trouble to secure a sufficiently tractable goat for the purpose of initiating new members to their respective lodges, will be glad to learn that the inventive genius of America has come to their assistance. The device is a mechanical goat, which can be put in the closet when not needed; that requires no feeding and practically no care. Also, it may be handled by its keeper without fear of consequences.

"The candidate, blindfolded, is led to the side of the animal, and on it he takes his seat, placing his feet in stirrups on either side. As the goat is pushed about the lodgeroom a series of wheels and rods, geared to the wheels on which it runs, causes the animal to buck and rear in a fearful manner, keeping the candidate in continual danger of being shaken off.

"Residents of Kansas and other states in the cyclone belt, who are forced to retire frequently to cyclone cellars, and then organize searching parties to find their home when the storm has passed, will be pleased with the invention of a tornado-proof house. This is built in the shape of a submarine, or a dirigible balloon. From one end there is a vane, or tail, which is designed to keep the other pointing in the direction of the wind the house being mounted on a pivot at its center, and turns freely on a circular track.

"Tails are common enough on wind mills and weather vanes, but here is probably the first time that the idea has been adapted to residences. The wind-breaking end to the house, the inventor says, is reinforced and windproof, and the door opens on a flight of steps, wheeled at the bottom, which follow a circular path that tenants may always have a place to descend. The inventor says his idea is particularly applicable to hospitals, and that by anchoring it it can be arranged to permit continuous sunlight."

How One Senator Viewed the Comet



"I HAD no particular interest in Halley or his comet," says Senator Simmons of North Carolina, "but Mrs. Simmons had. Every morning while the papers were full of the phenomenon, we would get up at two or three o'clock. Then Mrs. Simmons would lead me to a window and point out a dark line in the sky. It didn't look much of a comet to me, but she insisted that it was, and I took her word for it.

"One morning we went through our regular performance. The more I looked then the less I was convinced that we had seen the comet at all. At length, after an investigation, I discovered that our 'comet' was the dim outline of a church steeple against the sky. Nice performance for a dignified senator to rise every morning to look at a steeple."

All of the members of the house are not acquainted with each other, and this often leads to funny mistakes. Though Adam Monroe Byrd has been in four congresses, he made one of

these mistakes the other day. Byrd was making a tariff speech. He comes from Mississippi, and, of course, he thinks the present tariff is about the worst bill that could have been framed. He reached the woolschedule, and he went up and down the aisle, directly addressing first one member and then another. At length he paused at a desk occupied by a small man with a Van Dyke beard. Byrd allowed to this small man that the woolschedule was vicious. The small man nodded sympathetically. Byrd pounded the small man's desk vehemently.

"Knowing all the things I have said to be true, why did you vote for this schedule?" Byrd demanded of the small man.

"I did not vote for it."

"You mean to tell this house that you did not vote for the tariff bill?"

"I do," said the small man.

"Well," said Byrd, "I admire you for your convictions."

By this time the house was splitting its sides. The small man was Representative Edward W. Saunders of Virginia, who is, of course, a Democrat, and who, equally, of course, did not vote for the Payne bill. He had merely moved over to the Republican side so that he could be better heard what his political brother had to say.

Oklahoma Kids See Sights of Capital



THE unusual privilege of the floor of the house of representatives was granted to Louis and Temple Abernathy, sons of United States Marshal "Jack" Abernathy of Frederick, Okla., a few days ago. The boys, who are nine and six respectively, rode their ponies from their home in Oklahoma to New York, where they were to meet their friend, Colonel Roosevelt. On their way they stopped in Washington for a few days.

"Uncle Joe" Cannon was responsible for the appearance of Louis and Temple on the floor. They wore their sombreros and long cowboy pants tucked into boots, and the six-year-old had upon the front of his top piece a deputy United States marshal's badge. They were the breeziest things in the juvenile line to have struck Capitol hill recently. The congressmen gaped

and flocked around them.

"How do you like Washington?" the speaker asked the youngsters.

"Bully," said the boys, who used to know President Roosevelt, and had some White House slang.

"Well, my lads," said the speaker, "this city belongs to 90,000,000 of people. You own just as much of it as Andrew Carnegie or John D. Rockefeller."

The baby deputy marshal looked very important. He gazed longingly out of the window as much as to say that if he could have his share he would take the Washington monument.

"How much do you ride?" asked the speaker.

"Oh, forty or fifty miles a day," answered the wolf-catcher's son.

"You kids! You mean a week," said the speaker. The Abernathys looked bored.

"Now," they said, "a day. We make 50 miles a day easy."

"But the army test," said Uncle Joe, "that's 90 miles in three days. I thought that was a pretty severe test in horseback riding, for grown men, too."

Millionaire Soldier Causes Big Stir



THEY are fussed up out at Fort Myer, where the cavalry has its headquarters. Recently a Washington youth, who got tired of his ways and the ways of the world in general, and who had sufficient money to go those ways swiftly, decided to enlist. He did so in the ordinary manner. Then one day when he had leave an automobile was drawn up outside of the fort and the recruit sauntered out and got into it. The officers saw him driven away, and their amazement was considerable. The lines are definitely drawn at the fort. There are several streets with square houses

and neat lawns in front. In these houses the officers live. The private mess together in the big main building in the inclosure. The officers couldn't quite see a private coming to and from headquarters in a machine. But they couldn't help themselves, because he was entitled to certain leaves, and when he got them he was at liberty to ride in a balloon if he so chose.

Then, to cap the climax, one night there was a ball at a swagger downtown hotel. It was given by members of the "set" in which the young soldier had been wont to move. He was invited and he went. The officers cast many icy stares his way, but he let them go. So far there has been a lot of talk in officers' row at Fort Myer, but there has been no action. It is saddening to a gilt-braid man's heart to see a thing like this and to be able to do nothing about it.

WORLD OWES MUCH TO WOMAN

Florence Nightingale Worthy of All the Honors That Can Be Paid Her.

The honors paid to Florence Nightingale on her ninety-first birthday serve to recall how brief has been the period during which the sick have had the benefit of the competent nursing on which their recovery so largely depends.

It is impossible to conceive of modern medical practice without the aid of trained nurses. Their efficiency has undoubtedly been an important factor in the increased curability of disease. Yet but little more than half a century has elapsed since Miss Nightingale set out for the Crimea on her mission which was to revolutionize hospital work, and it was not until 1872 that the first class of trained nurses was graduated from the Bellevue Training School.

From these small beginnings has grown within a generation the great humanitarian profession for women for which they have shown a special aptitude and to which they are attracted in annually increasing numbers.

The influence of the woman whom England as also the civilized world honors beyond perhaps all others has extended to every sick room. She gave to the afflicted a new lease of life and to her sex its noblest vocation.

SKIN BEAUTY PROMOTED

In the treatment of affections of the skin and scalp which torture, disfigure, itch, burn, scale and destroy the hair, as well as for preserving, purifying and beautifying the complexion, hands and hair, Cuticura Soap and Cuticura Ointment are well-nigh infallible. Millions of women throughout the world rely on these pure, sweet and gentle emollients for all purposes of the toilet, bath and nursery, and for the sanative, antiseptic cleansing of ulcerated, inflamed mucous surfaces. Fetter Drug & Chem. Corp., Boston, Mass., sole proprietors of the Cuticura Remedies, will mail free, on request, their latest 32-page Cuticura Book on the skin and hair.

Conditional Piety.

Two Scotch fishermen, James and Sandy, belated and befogged on a rough water, were in some trepidation lest they should never get ashore again. At last Jamie said:

"Sandy, I'm steering, and I think you'd better put up a bit of prayer."

"I don't know how," said Sandy.

"If ye don't I'll chuck ye overboard," said Jamie.

Sandy began: "Oh, Lord, I never asked anything of ye for fifteen years, and if ye'll only get us safe back, I'll never trouble ye again, and—"

"Whist, Sandy," said Jamie. "The boat's touched shore; don't be beholden to anybody."—Short Stories.

Wrong Diagnosis.

A drummer was taken ill suddenly. He went to see a physician of considerable standing, and the following conversation ensued: "I feel very sick," declared the drummer. "What's the trouble?" asked the physician. "Severe pain in my side." "Humph," said the doctor slowly. "I think you have appendicitis." "You have made a mistake, doctor," replied the salesman. "I'm not a millionaire, just a plain drummer." "Well, I guess you just have the cramps, then," replied the indignant personage. "Five dollars, please."

Right Name at Last.

"Let me show you our latest novelty," said the clerk in the haberdashery. "Here is the 'north pole' collar button. Named in honor of Cook and Peary."

"By Jove!" laughed the humorous customer. "They couldn't find a better name for a collar button."

"Why not?"

"Because it is so hard to locate."

Similarity.

Eva—Then you are not fond of pressed flowers?

Jack—No, they always remind me of a kiss through a telephone.

Eva—Gracious! In what way?

Jack—They have lost their sweetness.

Barberous Humor.

Barber—How would you like your hair cut, sir?

Stude—Fine. Do you think I came in here to discuss the tariff?

Adversity is a searching test of friendship, dividing the sheep from the goats with unerring accuracy; and this is a good service.—Watson.

Grief is the agony of an instant. The indulgence of grief is the blunder of a life.—Dunegan.

My thoughts are my own possession, my acts may be limited by my country's laws.—G. Forster.

A DETERMINED WOMAN Finally Found a Food That Cured Her.

"When I first read of the remarkable effects of Grape-Nuts food, I determined to secure some," says a woman in Salisbury, Mo. "At that time there was none kept in this town, but my husband ordered some from a Chicago traveler.

"I had been greatly afflicted with sudden attacks of cramps, nausea, and vomiting. Tried all sorts of remedies and physicians, but obtained only temporary relief. As soon as I began to use the new food the cramps disappeared and have never returned.

"My old attacks of sick stomach were a little slower to yield, but by continuing the food, that trouble has disappeared entirely. I am today perfectly well, can eat anything and everything I wish, without paying the penalty that I used to. We would not keep house without Grape-Nuts.

"My husband was so delighted with the benefits I received that he has been recommending Grape-Nuts to his customers and has built up a very large trade on the food. He sells them by the case to many of the leading physicians of the county, who recommend Grape-Nuts very generally. There is some satisfaction in using a really scientifically prepared food."

Read the little book, "The Road to Wellville," in phgs. "There's a Reason."

Ever read the above letter? A new case appears from time to time. They are genuine, true, and full of human interest.

Trees in Their Right Place

One Writer Who Asserts That Conservation Can Be Carried to the Extreme.

Among persons who use more sentiment than reason, or lack knowledge of the facts, it has become a fad to say it is a crime to cut down a tree and that it is always, under any circumstances, an act of great virtue to plant one.

To one who gives thought to the matter, these accepted principles may be reversed, and we can say with all seriousness and truth that there is no town in this country where the judicious use of the ax among trees in some neighborhood or other is not demanded; and, on the other hand, thousands of trees are planted where no tree should be planted.

Each variety of fruit or ornamental tree when it reaches maturity under reasonably favorable conditions has its established size or spread of branches. Among the better shade trees this reaches 40, 50, and even a greater number of feet in diameter. In dense forests we see the trees stretching up after air and sunshine, losing their side branches and becoming a collection of giant telegraph poles with pitiful bunches of green at the top, nothing beautiful about them.

Every tree to be beautiful must have room to expand and develop to its proper proportions, and to retain the side branches with which nature is furnished them, unless she is thwarted by the bungling hand of the hired man with ax or saw.—Milwaukee Evening Wisconsin.

When They Married.

"Her husband makes a fool of her!"

"I don't make a fool of you, do I, dear?"

"You did once, but not since."