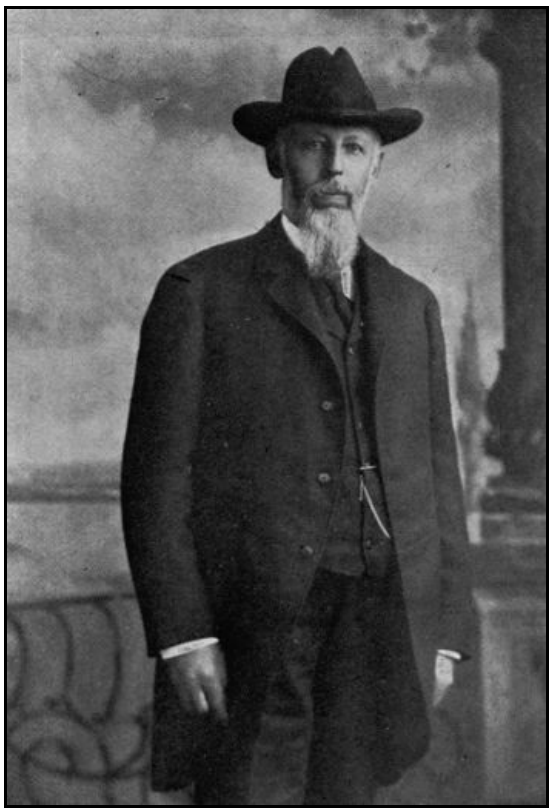


C. P. BAILEY,
One of the founders of the Angora Goat Industry in America.

Practical Angora Goat Raising

C. P. BAILEY & SONS COMPANY
SAN JOSE, CALIFORNIA

PREFACE.

For several years beginners in the Angora goat industry were without text books, and even to-day there are very few practical treatises. From our forty years of experience in farming Angoras, and from the personal observations of our Dr. W. C. Bailey, while in the interior of Asia Minor, we have tried to select the essential points in the successful management of Angora flocks, and to present these points so that they may be used.

We have given a brief outline of the history of the Angora goat, but we have devoted several pages to consideration of detail in breeding and kidding. It has been our aim to make this a practical text book for the beginner in the Angora industry, and if it proves of value to him, it has fulfilled its mission.

THE AUTHORS.

ORIGIN AND HISTORY OF THE ANGORA GOAT.

As to the origin and early history of the Angora goat little is known. It is supposed that the Angora variety descended from one of the classes of wild goats, and different writers have contended that different genera were the foundation of the Angora species. They have based these claims upon the characteristics of the horns, the covering of the body, shape and size of the animal, and various other details. Several agree that Capra Ægagrus is the class of goat from which the Angora species has developed.

KNOWN FACTS.

Present history traces the Angora goat to the vilayet of Angora, in Asia Minor, and to the country immediately surrounding this vilayet. Some have set a date over two thousand years ago, claiming that the Angora goat was introduced into Asia Minor at that time, but the only authentic history is that given by Tournefort, a French naturalist, employed by his government, who explored Asia Minor about two hundred and fifty years ago, and who described and pictured the Angora goat about as he appears to-day and by Evliya Effendi, a Turk, who wrote in 1550 of the goats, and by a few other writers. That they have not changed more is due to the fact that the Turk is quite content as he is, and he has no ambition to breed a different goat from what he has had for at least the past three centuries.

ASIA MINOR.

Before we consider the migrations of the Angora goat, we will investigate the physical conditions of their native province. The interior of Asia Minor, or the Angora goat country, is from one to four thousand feet above the sea level. Low, rolling hills and broad plains, treeless and almost waterless; dry, hot and desolate in the summer, and covered with more or less snow in the winter, form the habitat of the Angora. A small fine fibered sage brush is the principal diet of the goat, both summer and winter, but in the spring this diet is supplemented with weeds and some grass, and in the summer some of the goats are driven to the higher mountains, where there are some scrub pines and other varieties of brush. There is no winter feeding. The goats make their own living on the tops of the sage brush, which protrude through the snow.

The indolent Turks do make some provision for the shelter of themselves and the goats in the winter. If a cave can be found it is divided so that the goats share the quarters with the humans. Sometimes an adobe house is so arranged that the goats and other livestock occupy the lower part of the house and the natives the upper part, or if there be but one floor, a low fence is run across to keep the livestock out of the living quarters. Great greyish-white wolfish looking dogs, wearing formidable collars of sharpened spikes go with the shepherds during the day and watch the flocks during the night. They are used as a means of protection from thieves, and not as an aid in herding. The flocks camp around the cave or hut, and are not confined in corrals. Fences are almost unknown in the Angora country. There are probably four or five million Angora goats

in Asia Minor. Much of the central plateau region of the United States is very similar to the Angora region of Turkey. A peculiar fact is that the mohair produced in the different sections of Asia Minor varies a little, and the mohair merchants of Constantinople readily recognize an appreciable difference in its market value. Even the smaller merchants in the country recognize a difference in the mohair grown within a few miles of their town. Some try to explain this by a difference in food, others by slight climatic changes, and still others by the soil formation. Some of the goats from the locality of Geredeh, in the province of Kastamouni, have fleeces which are filled with grease. They are as black and gummy as merino sheep. This mohair, however, scours white. The most marketable mohair comes from Beibazar and Eskischehr. That this difference in the quality of the mohair is not entirely due to climate or food conditions is evidenced by the fact that Angoras taken from Beibazar to California still retain the same qualities in the mohair after four years in California. However, it has been noticed that different parts of the United States produce different qualities of mohair.

SCENE IN ASIA-MINOR.

Turkish owner, his herder, holding an Angora buck kid and the grey-wolfish-looking dogs wearing collars of sharpened spikes. This picture was taken on the range and one can see the fine fibered sage brush on which the goats feed.
Photo taken by Dr. Bailey, 1901.

ANGORA GOATS IN THE UNITED STATES.

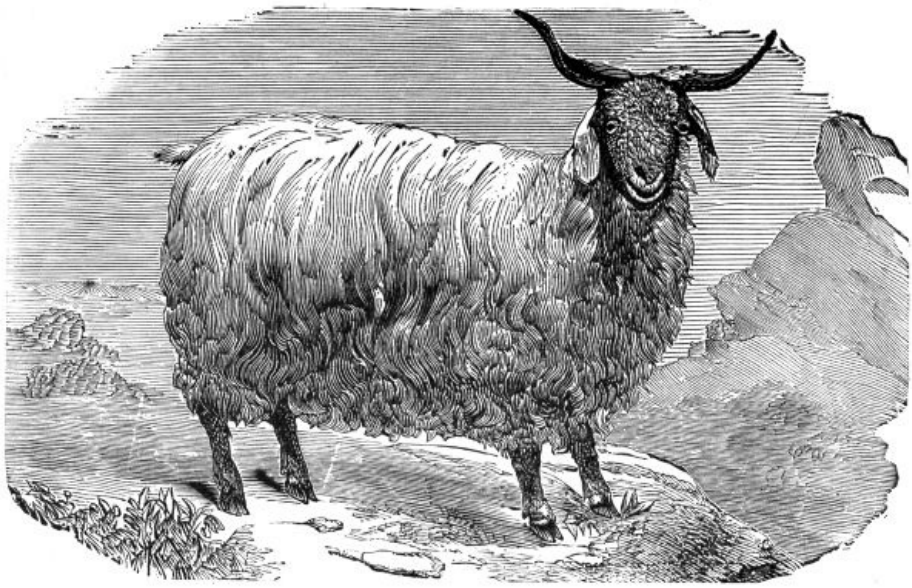
The history of the Angora goat in the United States dates from 1849, when Dr. James B. Davis, of Columbia, South Carolina, was presented with nine choice animals by the Sultan. The Sultan had requested President Polk to send a man to Turkey who understood the culture of cotton. Dr. Davis was appointed, and upon his return to America the Sultan, as a courtesy, presented him with the goats. For many years after their arrival in the United States these goats were considered cashmeres. Early reports about the fleeces and the goats were erroneous, and many were led to believe that the fleeces from these goats were worth $8 per pound, and that the goats would shear from six to eight pounds per year.

Dr. Davis did not do very well with the goats. He crossed his Angora buck onto some of the native common goats, and sold some of the cross-bloods and possibly some of the original importation to various parties, but in 1854, Col. Richard Peters, of Atlanta, Georgia, secured most of the Davis goats. To Col. Peters really belongs the credit of keeping the Angora breed in existence in the United States up to the early sixties. Col. Peters was very fond of his Angoras, and he continued to own and run them up to the time of his death. He made a very creditable exhibit at the New Orleans World's Fair in 1885.

THE CHENERY IMPORTATIONS.

W. W. Chenery of Belmont, near Boston, Massachusetts, is supposed to have made the next two importations in 1861. No one seems to know exactly how many goats Mr. Chenery imported or what became of these lots. Mr. Thompson quotes the Massachusetts Ploughman as saying, "The first of the two lots, consisting of thirty nine animals, was shipped from Constantinople on the 26th of March, 1861, and arrived at Boston on the 15th of May, except two animals which died on the passage. The second lot consisting of forty one head, left Constantinople on the 6th of October, 1861, and arrived at Boston on the 25th of November with the loss of only one on the voyage. In the whole flock, eighty in all, there were about a dozen males, and all the animals wintered well."

It is generally supposed that Mr. Chenery made another importation in 1866, of about twenty head.



ANGORA GOAT.

Brown and Diehl Importation, about 1868 or 1869.

THE BROWN AND DIEHL IMPORTATION.

The next importation of practical importance, although it was claimed that nine head were received about 1861, by one Stiles, was made by Israel S. Diehl, a former U.S. consul and C. S. Brown, of Newark, New Jersey, about 1868. Mr. Diehl was commissioned by the United States government to investigate the industry in Turkey, and he secured a lot of Angoras, variously estimated at from one hundred to one hundred and sixty head. Mr. C. P. Bailey furnished the money for the transportation of these goats to California. He says, "Some were fairly good and some were only ordinary. They were of medium size, and with the exception of the neck, tolerably well covered with fleece, which however had a scattering of kemp throughout. They were conceded to be the best brought to California up to that time." Some of these bucks had been tampered with and were sterile.

EUTICHIDES IMPORTATION.

This shipment followed the Brown and Diehl importation, and consisted of between one hundred and fifty and two hundred animals. A. Eutichides, was a native of Turkey, and claimed that he had some fine goats, but he had an immense amount of trouble with his Angoras, and lost a good many. They were held in Virginia for some time, and then were sent to Sacramento, California, and were afterwards sold by the express company, at public auction, at very low prices. This was about 1873. It was generally believed by old California breeders that some of the goats offered at this sale were cross-bloods of California origin. The blood of this importation, however, has been widely scattered over the Pacific Coast.

THE HALL AND HARRIS IMPORTATION.

In 1876, John S. Harris, of Hollister, California, returned from a perilous journey around the world in quest of new Angoras. He found the Thibet goats in the Himalaya Mountains, and finally succeeded in getting some goats at Angora, in Asia Minor. He secured two bucks and ten does, and brought them safely to California. That was really the first time an American had entered Asia Minor to study the Angora industry, as it was understood Mr. Diehl had secured Turks to go into the interior for him.

THE JENKS IMPORTATION.

This was a small importation of Angoras, supposed to have been three animals, made by C. W. Jenks of Boston, and sold to Col. Peters of Georgia. They were supposed to have come from Geredeh, in the interior of Asia Minor, and they arrived in the United States in 1880. The mohair from these goats was not considered very good, and the importation was not regarded as very important.

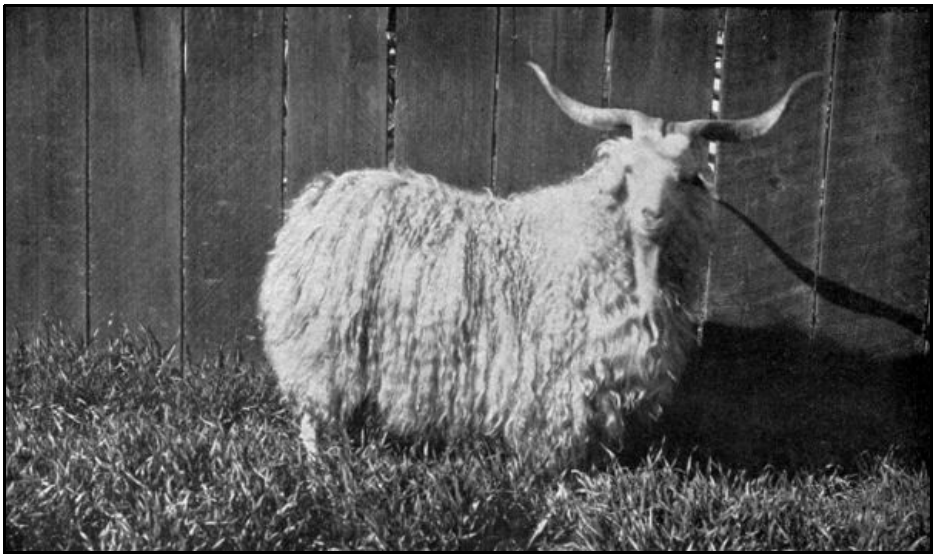
THE SHULTS IMPORTATION.

This was the first importation made from South Africa to the United States and arrived in 1886. There were two bucks and two does, and they went to Fink & Company, of Texas. There was a great deal of question about this importation, and so far as is known it was of no value to American flocks.

THE C. P. BAILEY & SONS CO. IMPORTATIONS.

In 1893, the first importation of Angora goats from South Africa, which was of value to American flocks, arrived. The two bucks, Pasha and Dick, which were secured by C. P. Bailey from R. Cawood, were sired by the great buck Sam. Mr. Schreiner says, "Sam was born in 1888, and sheared as a three year old, at twelve month growth, 15 pounds 2 ounces. He was exhibited for many years at all chief Agricultural shows and was never beaten but once, a judgment reversed at a subsequent show in the same year. Sam was the most famous goat in South Africa; with splendid weight of fleece, he combined a fineness of fiber rarely seen in an old ram."

Pasha developed into a great sire and his get has been distributed into nearly every State in the Union, Canada, Mexico and Australia. Without doubt Pasha's blood courses through the veins of more Angoras than any sire ever imported. He was acknowledged by every one to be the best individual ever brought to America. Mr. Landrum, who had seen most of the Angoras brought from Turkey and who saw Pasha at San Jose, California, in 1899, pronounced him the most perfect goat he had ever seen and a much better goat than any which had ever come to America from Turkey. He bought some of Pasha's get for his own flock.



ANGORA BUCK PASHA.

Bailey South Africa Importation 1893.

In 1899, the buck Capetown was imported by Mr. Bailey from South Africa to secure certain points. Size and a little "yolk," together with the covering, fineness, freeness from kemp, ringlets and evenness were especially desired. Capetown has been a great sire and is still in fine condition on the Bailey farms.

THE ASIA MINOR GOATS.

In 1901, Dr. W. C. Bailey, armed with an honorary commission from the United States Department of Agriculture, personally visited every goat-raising section of Asia Minor, and after seeing hundreds of thousands, and examining minutely hundreds, secured and succeeded in exporting two bucks and two does. The Sultan had passed an edict in 1881, prohibiting the export of these animals, as he hoped to keep the industry for Asia Minor. The undertaking was a hazardous one, and the expedition was fought with many and almost insurmountable difficulties. Asia Minor is alive with bandits, and to hold a foreigner for ransom is a favorite pastime. Then, too, a Christian's life is not considered of much value by a Mohamedan. The goats were transported for miles on mule and camel back, carried across the Bosphorus under a boat load of hay, disfigured by shearing and powdered with coal dust, transported through the streets of Constantinople in closed carriages protected from police molestation by the "golden wand," and finally condemned by the Italian Government because no health certificate accompanied them from point of shipment, but eventually landed in California in 1901. The bucks Beibazar and Kjutiah, and the does Moholitch and Eskischehr find the climate of California suited to their wants. These four goats cost over $5,000 landed in California.

BUCK BEIBAZAR AND DOE MOHOLITCH.

Bailey Asia Minor Importation 1901. Photo taken by Dr. Bailey on the plains of Asia Minor, March 7, 1901, while the goats were held by a Turkish guide.

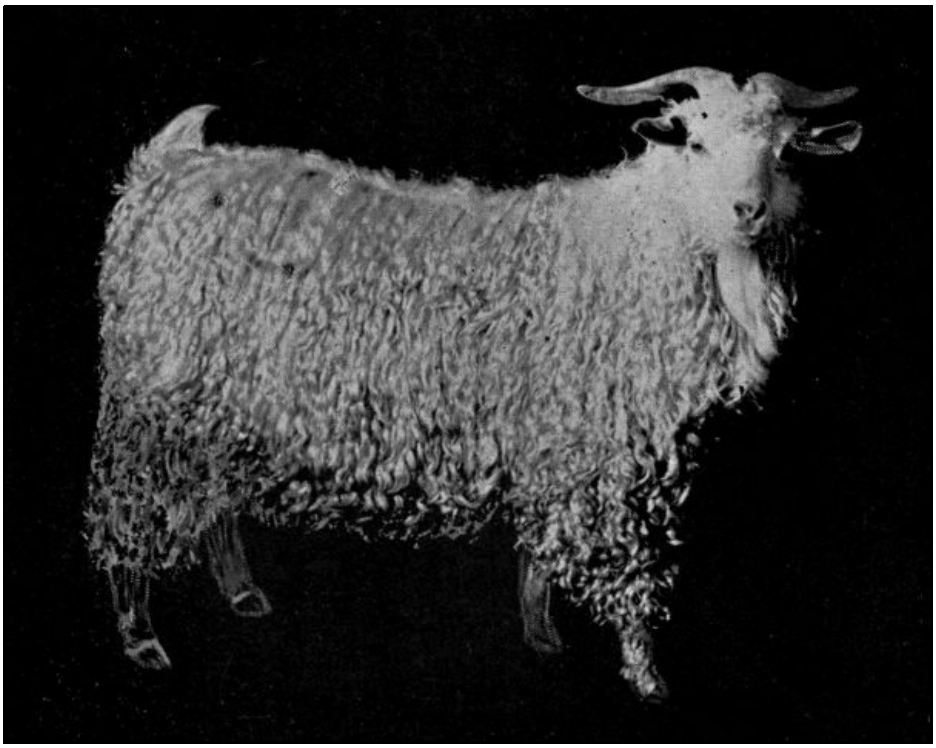
Beibazar impresses his qualities markedly on his offspring. His get won the Sweepstake prizes at the California and Oregon State Fairs in 1904, and the championship for two-year-old buck at the World's Fair at St. Louis, U. S. A., in 1904.

THE LANDRUM IMPORTATION.

In 1901, Wm. M. Landrum imported two bucks from South Africa. Their get has been quite widely distributed in America, and has been of considerable value.

THE HOERLE IMPORTATION.

In 1904, G. A. Hoerle imported about one hundred and thirty head from South Africa. A few of these goats were exhibited at the St. Louis World's Fair, and some of them have been distributed to American breeders. A large part of them are now in New Jersey, and just what their effect will be on American flocks remains to be seen.



BEIBAZAR.

Bailey Asia Minor Importation, 1901.

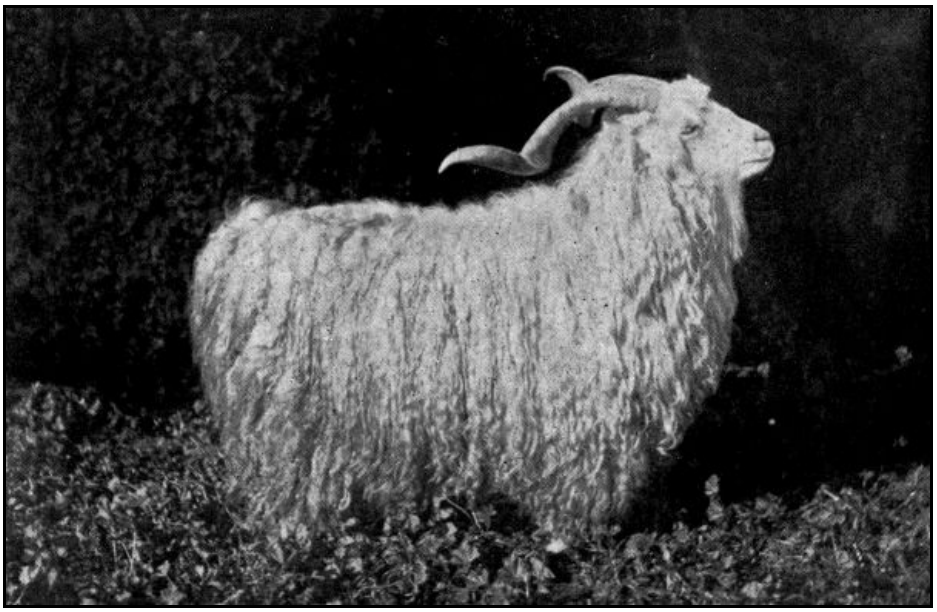
ANGORA GOATS IN SOUTH AFRICA.

In 1838, Col. Henderson made the first importation of Angora goats into South Africa, but while the number reaching the Cape was fourteen, yet only two proved to be perfect animals, a doe and her kid. The twelve bucks seem to have been tampered with, and they would not breed. Mr.

Schreiner says: "But for the fact that there were several million Boar goats, thoroughly accustomed to the country, to furnish innumerable ewes for grading up purposes, the industry would still have been in its infancy." It was years before any more Angoras were imported into South Africa.

The second importation into Cape Colony was made by Messrs. Mosenthal in 1856, and thirty Angoras reached their destination. Mr. Schreiner reports that some of these goats were sold at public auction and brought about $350 to $400 each.

The third importation was made by Sir Titus Salt, the English manufacturer of mohair, and arrived in South Africa in 1857. Dr. White had charge of these after they reached the colony. 23



CAPETOWN.

Bailey South African Importation, 1899.

The fourth importation consisted of about thirty-five animals, and was made about 1858 by Mr. W. R. Thompson. These were considered very fine animals, and were quite different from any previously imported. 24

Ten years later in 1868, another importation was made by South Africa and from then on to 1880 between twelve and fifteen more lots were secured, some of them consisting of hundreds of animals. In the twelve years, up to 1880, over three thousand goats were received in South Africa from Asia Minor. Some of them brought as high as $2,200 each.

During the next fourteen years there was a lack of importations into the Colony. In 1894, the first lot of American Angora goats, six head, were secured from C. P. Bailey of San Jose, California. They were sold to the Cape farmers by the importers at satisfactory prices, and in June, 1895, another lot of twenty bucks were secured from Mr. Bailey for $1000 cash. These bucks had a hard trip, and shed their fleece, but they were sold by the importer later.

In 1895, another importation of one hundred and sixty-five head were secured by consent of the Sultan from Asia Minor. In 1896 another importation of sixty-three head were landed and sold to the Cape farmers. The highest priced buck of this lot brought about $1,850, and the highest priced doe about $1,000. These goats were not considered extra, with the exception of a few of the tops. They were not uniform, the breeches were bad, bellies deficiently covered, and they carried considerable kemp. 25

ANGORAS IN OTHER COUNTRIES.

Even before the arrival of Angora goats in South Africa they had been tried in Holland, France and England. Australia also imported some in 1856, but the industry has not grown to any extent in any of these countries. There have been some Angoras exported to Australia from America since 1900. Canada, Mexico, Alaska, and some of the Pacific Islands, have small flocks of Angora goats at the present time. The start has been obtained largely from California.

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MOHAIR.

That part of the fleece of the Angora goat, which at a year's growth is composed of long, lustrous, elastic fibers, is called Mohair. It may be more or less curled, but it is readily distinguishable from that part of the fleece of the Angora which is composed of short, stiff fibers, known as kemp.

The word mohair probably has its origin in modern times, as the Turkish word for mohair is tiftick. A theory which is advanced by Mr. George Gatheral of Constantinople, and which is tenable, is that the early Dutch traders who visited Angora, found the native clergy wearing a gown made of mohair. The Turks called the cloth "mahr," and it is possible that the traders applied this word to the raw material. If this be so, the English have corrupted the word into the present term mohair.

The color of mohair varies in different localities and on different individuals. In the vilayet of Koniah, in Asia Minor, is a breed of goats producing a brownish colored mohair. This material is sold upon the market as Koniah mohair. The Koniah goat, however, has been rapidly disappearing, as the herdsmen found that the foreign demand was for white mohair, and they 27
have been crossing the white Angora bucks on the brown Koniah does. There are still over one hundred thousand pounds of Koniah mohair produced each year. In the Angora flocks of Asia Minor one always finds some colored goats. Black, blue, brown or red, usually with an admixture of white, are the common colors. The same thing may be said of the American flocks of Angoras. One may have been breeding white Angoras for years when, without apparent cause, a colored kid is dropped. Then color of the soil may give the mohair a peculiar tinge, but this usually scours out. The kemp in Asia Minor is sometimes a different color from the mohair. The kemp may be red or black and the mohair white. White mohair is what the manufacturer wants. If he wishes to make colored goods, he can dye white whatever color he wishes, but a colored mohair can only be used for certain colored goods.

GRADES AND GRADING OF MOHAIR.

In Turkey, after the fleece is shorn, the owner packs each fleece separately in sacks. He picks out the tag locks, colored fleeces or objectionable mohair, and after washing it, or making it more fit for market, he packs this in a sack by itself. Every village has its buyers, usually Greeks or Armenians, and there are a few traveling buyers. These men gradually collect the mohair. Men
who have more money than they need put that money into mohair, as mohair is always salable, 28
and it is so bulky that there is not much danger of it being stolen. There are so many robbers in Turkey that nothing is absolutely safe. One coffee house keeper in a small village sent about six dollars down to a larger place, as he was afraid to keep so much money in his house. When the mohair is collected in the larger towns it is again sorted, care being taken not to mix lots from different sections of the country. It is then forwarded to Constantinople of Ismidt, which is on the Sea of Marmara, near Constantinople. Here expert sorters go over the lots again. They do not break up the fleece, but they collect fleeces which are about the same and from the same district —for instance, Beibazar, Kjutiah, Kastamonia, Eskischehr, etc. These fleeces are then packed in bags and marked x - xx - xxx, or lettered a, b, AA, or numbered 1, 2, 3, etc. The mohair is then ready for exportation. It can be readily seen that a manufacturer who wants a particular kind of mohair can get exactly what he wants, if he knows the kind of mohair which comes from the different districts, and the grade of mohair which is put up under a certain mark by a certain firm. He can order of Mr. B. one hundred bags XX Beibazar mohair, and he knows what he is

going to find when he opens the bags. There is a large room in Constantinople where a gang of men are almost constantly at work sorting mohair. The commission men have their store rooms around this central room; when the sorters finish with Mr. A's lot they commence to sort for Mr. B. Thus the same men sort all the mohair, and this insures a uniformity of grade.

In America the plan of handling is somewhat different. It will be easier to tell what should be done than what is done. Until each grower becomes something of an expert sorter, or until we have central depots, where the mohair can be properly graded, the grower should roll the fleeces separately; they should not be tied, and put them in a bag or bale. He should pick out the tag locks, mohair discolored or clotted with urine or fæces, the colored fleeces, burry mohair or very kempy fleeces, and after preparation, put them in a separate parcel. Any kind of a bur or seed which sticks in the mohair must be picked out by hand. If the manufacturer has to do this, he puts a price on the mohair which will leave him plenty of margin. That is, he pays the grower about one-half as much as the mohair would be worth if it were free from this foreign material. If the mohair is very burry, it has to be treated chemically, and this spoils the luster. Sometimes the grower can make good wages by having the burs picked out before the animals are shorn. One man can pick the burs out of from fifteen to twenty-five animals a day, if there are not too many burs in the mohair. If the tag locks can be cleaned sufficiently by washing, they are of some value; but if not, they are hardly worth the expense of shipping.

The mohair shorn from kids should be kept in parcels by itself, as it is usually finer and worth top prices. That of the does, if it differs from that of the wethers, should be packed separately. When the mohair is received by the mill it is sent to the sorting room.

SORTING BY THE MANUFACTURER.

Each goat's fleece is made up of a variety of different grades of mohair. Before a fleece can be spun it must be separated into these different grades as nearly as possible, and this is done by expert sorters, who select from the raw material about seven different degrees of fineness of fiber. They also take into consideration freeness from kemp and color. In separating the fleece much dust is liberated, and as some mohair is liable to carry the bacillus of anthrax, or other dangerous material, this dust, if allowed to circulate in the air, would become a serious menace to the health of the sorters. Wool sorters' disease is by no means uncommon, and one of the American mill owners reported that his sorters had such a dread of a foreign mohair which came packed in a distinctive package, that he had to stop handling this particular lot, although it was profitable stuff to spin.

MOHAIR TRANSPORTATION IN CONSTANTINOPLE, TURKEY.

Photo taken by Dr. Bailey.

To obviate this danger as far as possible each man opens the fleeces on a table covered with wire screen, under which circulates a strong exhaust current of air which is mechanically generated. Thus small foreign particles and dust in the fleeces are drawn downward. When the fleece is opened the sorter selects that part of the fleece which is known to be the coarsest, *i. e.*, the breech and a strip along the center of the back, and puts this in one lot. Next he selects a narrow strip along the side of the fleece, which is known to be the finest part of the fleece, and puts this in another lot. Now the neck and the belly are separated and thrown into their classes. If the whole fleece were a fine one, and free from kemp, it would be sorted in the same way, but different parts of the fleece would go into proportionately higher classes. The lots which these sorters make are known to spin comparatively definite qualities of yarn. Thus the low breech and the back of most fleeces will not spin over No. 20 to No. 24 yarns, and the sides of good fleeces are fine in fiber and will spin No. 40 to No. 60 yarn.

The quantity of mohair which one man can sort varies considerably, according to the class of mohair which he is given to work upon. One mill estimated that experts can sort between two and three hundred pounds of domestic mohair a day, and that it costs about a cent a pound to thus

separate the fleece. After the fleeces are graded, the mohair is ready to be sent to the mill proper for scouring and spinning.

SCOURING.

To-day the process of washing or scouring the fleece is done by machinery. The mohair is fed into a machine in which revolve paddles, which thoroughly mix the fiber with the liquid in this machine. At the opposite end from where it was fed in, the mohair is rolled out over warm rollers, and it is ready to be spun. It is claimed, and with some justice, that American mohair loses or shrinks about 12% to 20% while passing through this washing machine, and that Turkish mohair only shrinks about 13%. This may be due to the fact that some of the Turkish hair had been washed before it was shipped to market, and that by previous sorting some of the dirt had fallen out of the mohair. Then, too, some of the American growers are not very careful to keep the fleeces clean. Straw, sticks, hats, and even stones have been found in some domestic stuff.

MIXING.

After the mohair is thoroughly cleaned it is ready for spinning or carding. In order to spin the fibers most economically, evenly and to the best advantage, some of the mills mix different qualities of mohair of about the same fineness. For instance, Turkish mohair is mixed with Texas and California stuff, or Oregon is mixed with Iowa material. The spinning qualities of mohair from 34
different sections varies, and this mixing tends to give uniformity. After the fibers have been mixed to suit, the mohair is run through straightening machines in preparation for the combing process.

FIRST OR NOBLE COMB.

This comb is so arranged that about two and a half inches of the base of all of the mohair fibers, and any other fibers which may be mixed with them, are held, the ends of the fibers which are longer than two and a half inches, hang freely and are caught in a revolving machine and dragged loose from the combs which hold the base of the fiber. Thus only those fibers two and a half inches long, or less, are left in the first comb. The longer fibers, or tops as they are now called, to distinguish them from the noil, or short fibers, are collected and are again passed through a second comb.

SECOND OR LISTER COMB.

Much the same process as was gone through with in the Noble comb, is repeated, except that now only the Noble top is combed, and as all of the fibers, less than two and a half inches, have been removed from this mohair, the comb is set so that any fibers shorter than four or five inches, shall be held as noil, and only those fibers which are longer than four or five inches shall 35
be included in the top. This combing completed, we have a collection of mohair fibers none of them less than about five inches in length. This top is now ready to spin. This combing is rendered necessary by the fact that all of the mohair contains an admixture of kemp, and kemp cannot be spun with the finer grades of mohair. In getting this kemp out of the mohair many of the short mohair fibers are lost, so that combing is an expensive process. It costs in time, labor and mohair.

SPINNING.

Many strands of this Lister top are now drawn down into a single thread. This thread, if the fibers comprising it are coarse, may have some projecting ends, which give it a rough, uneven appearance, and if so, these ends are burned off. The thread is passed through a gas flame at a given rate of speed by machinery, and the projecting ends are singed. This is called genapping. The yarn is now ready for manufacturing. In Bradford, England, there are mills which only spin the yarn. Their trade is with the manufacturers, both at home and abroad, and it is a known fact that, while France and Germany manufacture much plush and braid, they buy all of their yarn from Bradford.

CARDING.

Short mohair, that is, mohair less than six inches long, is not run through combs, as above described. It is run over a carding wheel, or a large metal cylinder covered with small brads, 36
which mix all the mohair and kemp. After passing over a number of these wheels, which revolve in different directions, the material thus carded is ready to spin.

NOIL.

Some of the noil collected by the combing process is composed of a large percentage of short mohair. This noil has a considerable value and is sometimes carded. The lower grade noil is sold to carpet manufacturers and various users of low grade stuff. Noil usually brings from twelve to twenty cents a pound.

USES OF MOHAIR.

As yet mohair has been used for only a limited number of things. Its possibilities have not been developed. New uses for the fiber are being discovered, and it seems probable that there will be many things made of mohair in the future. The yarn has a beautiful luster and is very durable. When ladies' lustre goods are in fashion a large amount of mohair goes into these fabrics. Much mohair is used in dress goods and men's goods. There is a steady demand for mohair plushes and braids.

There is no plush made which will give the service, present the luster and retain a standing pile as long as mohair. One may crush the nap of a mohair plush as often or as long as he pleases, but 37
the pile immediately resumes its upright position upon being released. Then, too, the dust shakes out of a mohair plush very easily. One rarely sees a dusty railroad car seat, although the country through which the car is passing may be very dusty. The rich effect produced by a heavily upholstered palace car is due to the mohair plush. Nothing has been found which will take its place. For furniture upholstering there is nothing more elegant and durable than mohair plush. The amount of plush thus used is governed by fashion. In countries where large military forces are retained there is always a heavy demand for mohair braids. There is no braid made which has the luster, combined with the durability, which mohair braid possesses. Here it may be stated that a coarse yarn can be used in making braids, so that when there is a heavy demand for braids there should be a proportionately high price paid for coarse long mohair. Mohair braids are always in demand, and will continue to be used upon ladies' clothing, as well as for military ornamental purposes.

The variety of uses to which mohair is adapted is almost innumerable. In the manufacture of hats it plays an important part, and recently the demand for long fiber for the manufacture of wigs, ladies' hair nets and other toilet articles has been created. 38

WORLD'S SUPPLY AND CONSUMPTION.

At present Asia Minor and South Africa can be regarded as the two leading producers of mohair. The Asia Minor exports vary considerably, according to the price allowed, and as no manufactured stuff is exported, one gets a fair idea of the amount produced. It may be broadly stated that the Asia Minor clip amounts to about nine million pounds annually. That of South Africa amounts to about ten million pounds, and the United States now produces about one million pounds annually. Of this production a very large percentage of that coming from all these countries may be regarded as inferior stuff. We mean by this, that the Angora goat raising industry is yet in its infancy, and that much of the mohair produced is sheared from goats which have been bred from the common hair variety. Many of the characteristics of the fleece of the common goat still persist in the mohair.

From the foregoing estimate the world's supply of mohair may be stated as twenty million pounds annually. Australia is as yet producing only a very small amount.

Practically eighty-five to ninety per cent. of the world's supply of mohair is handled in Bradford, England. Nearly all of the South African and Turkish stuff is shipped directly to Bradford, a small amount of the Constantinople export coming to America, but a large part of the American import 39
comes from Liverpool, England. At Bradford the raw material is manufactured, some of the manufactured stuff being exported as yarn, but the larger part is used to produce the finished article. The remaining ten or fifteen per cent. is manufactured in the United States. At times the demand for mohair goods stimulates the demand for raw material, and the United States has been known to use from twenty to twenty-five per cent. of the world's supply. To recapitulate, the United States produces five per cent. of the world's annual supply of raw mohair, and manufactures from ten to twenty-five per cent. of the world's annual production.

MOHAIR PRICES.

The price of mohair has fluctuated with the caprice of fashion. Supply and demand are the essential factors in its valuation, but demand has been so influenced by the requirements of fashion in the past that one finds a wide range in price for the raw material. In a report issued by the Bradford *Observer* we find the price ranging from fifty cents a pound in 1856, to eighty cents in 1866, ninety cents in 1876, and then down to thirty cents in 1886 and 1896. In 1903 the average price in the United States was about thirty-five cents a pound, and for 1904 about thirty cents a pound. 40

READY FOR THE SHEARERS.

To-day there is a demand for mohair, regardless of fashion. During the past two years the price of 41
raw material has been low, but there has been a margin of profit in the industry, and considering the fact that fashion's decree has eliminated the manufacture of luster fabrics for the present, the mohair producer can feel assured that there will be a steady market for his material. With the occasional good times when luster goods are in demand, the mohair grower should do well.

SHEARING AND PACKING MOHAIR.

The goat should be shorn before he commences to shed, as the mohair loses its weight and luster after the shedding process begins. There are a few goats, which, under certain kinds of food and climatic conditions, will not shed their fleeces, but most goats will shed, and even goats which have carried their fleeces over a year in one section, may shed if they are moved a few miles and the food is changed. A class of non-shedders would be very valuable, but so far a distinctive class of non-shedders, under any and all conditions, and which transmit this peculiarity, has not been identified. The Angora goat will usually commence to shed early in the spring, or as soon as a few warm bright days come.

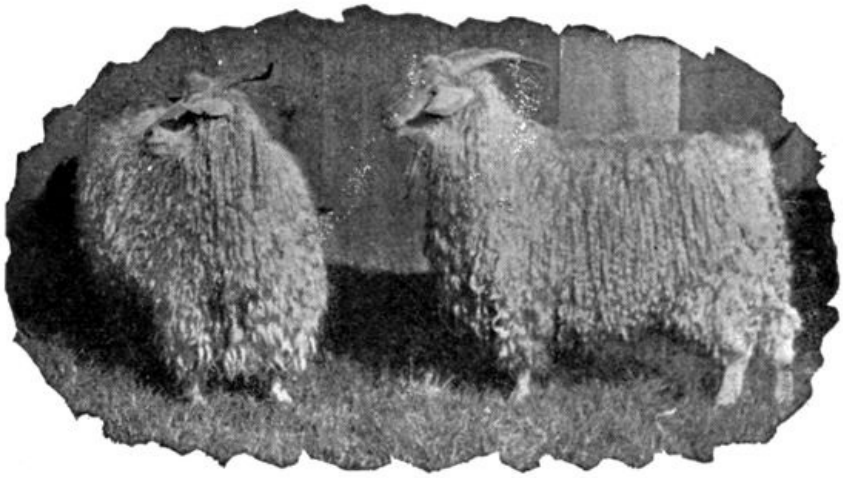
In some sections of the country it is thought advisable to shear twice a year. Many points in favor 42
of this method are advocated. It is claimed that the price realized for the two medium length, or short stapled fleeces, together with the increased number of pounds shorn in the two clippings a year, pays much better than the one long staple fleece which can be shorn from the same animal for a year's growth. There are many reasons both for and against shearing twice a year. The mills prefer long mohair, or at least fiber more than six inches in length (combing length). They pay the best price for this class of mohair, and it must be left to the individual to decide whether it pays him best to shear once or twice a year. At present possibly one-third of the Angoras in the United States are shorn twice a year, and the remaining two-thirds only once. In Asia Minor one finds the goat shearer using a pair of long bladed scissors to cut the mohair. The goats are shorn in the spring, and only once during the year. The animal's feet are tied, and then by using both hands, one at either end of the scissors, the goat is shorn. Recently some Englishman has introduced an ordinary spring sheep shear, but most of the natives prefer the scissors.

To-day one finds the hand shearer and the machine shearer at work in America. The hand shearer should use a pair of short bladed (about five inch blade) sheep shears. This is to prevent the point of the shear from cutting mohair, which is not intended to be clipped with that 43
particular stroke of the shear. If, for instance, the shearer is clipping the mohair along the sides of the animal, and the point of the shear cuts some of the mohair at least three inches out from the body, this stubble is shorn again (double cut) when the shearer gets to this place, and this three-inch mohair is too short to be of much value. It will be combed out at the mill as noil. An expert shearer can clip about the same number of range goats that he can range sheep—from ninety to one hundred and twenty a day.

The machine shear is rapidly taking the place of the hand shear. It clips the mohair close to the skin and almost does away with double cutting. It requires less skill to shear with a machine shear, and it does the work more uniformly. There is also less danger of cutting the animal. The machines do the work very rapidly.

After the goat is shorn the fleece should be collected and rolled into a bundle, "bump," and placed in a sack or bale. It should not be tied, as the mill men object to the particles of string which remain in the mohair and disfigure the manufactured product. Any colored fleeces, discolored mohair, or mohair containing objectionable features, such as burrs, straw, etc., can be placed in separate parcels. The kid mohair can be kept by itself, and the wether and doe mohair can be separately packed. The long mohair should be kept separate from short stuff. Thus one 44
grades the mohair to some extent on the farm, and he has a better idea of what the clip should bring.

If the mohair is to be shipped a long distance, it will pay to bale the fleeces, as compact bales occupy much less space than sacks. The freight rates are usually less upon baled mohair than they are upon the sacked material. The cost of baling the mohair is a little less than the cost of sacking.



45

BREEDING OF THE ANGORA GOAT.

One can learn very little about breeding the Angora goat from the Turk. As we know from Tchikacheff's work, which was published over fifty years ago, cold winters often killed many of the Angoras in Asia Minor, and the Turk then imported from more favored districts common bucks or does to breed to the Angora. This was before the great demand for mohair, occasioned by the increase in manufacturing plants at Bradford, England, caused the Turkish mohair raisers to resort to all manner of means to increase the supply of raw material.

To-day the Turk is treading in the paths of his forefathers. What was good enough for them, certainly ought to be good enough for him, so he reasons. He eats with his fingers, cooks on a brazier, sits on the floor, eats, drinks, sleeps and works all in the same room, and keeps his wives in seclusion.

When he comes to breeding the Angora he leaves that to his servants, if he be wealthy enough to have any. Most of the breeders cannot read or write. They have never traveled. They have no ambition, and they know nothing of the principles of selective breeding. As a natural 46
consequence the Angora goat of to-day has not improved, nor is he likely to improve under Turkish management. One large breeder who supplied bucks to some tributary country, said that he thought that it was a shame to castrate a buck, no matter how bad he might be. The Turk separates the bucks from the does at breeding season, as Asia Minor has cold weather late in the spring, and the danger of losing kids, if they come too early, is great. When the bucks are turned with the flock they are allowed to run until the next breeding season, and all of the bucks, regardless of quality or quantity, are allowed to run with the does.

When the first few Angoras arrived in America the natural procedure was to cross them upon the common short-haired goat of this country. It was a new industry, and many wanted to try the Angora. Very slowly the Angora, or the cross-bred animals were scattered over the United States. Stories were told of the wonderful things for which the mohair was used, and some supposedly reliable authorities quoted mohair at $8.00 a pound, as has been stated. Companies were started, and of course the supply of good Angoras, that is, goats which would shear about four pounds of mohair (worth at that time about seventy-five cents or a dollar a pound), was limited. Men bought any goat which had a trace of Angora blood in him as a thoroughbred Angora. A few years, 47
however, demonstrated the fact that a common goat, with a little admixture of Angora blood, did not produce either the quality or the quantity of fleece wanted. Only a few of the more persistent breeders continued the experiment and their investigations. They sent and went to the home of the Angora, and brought more of the original animals to America. It took the American breeders about thirty years to find out just what the Angora goat was and how he should be handled.

During that thirty years large flocks of common goats, which had been crossed with the Angora, and which might be properly termed "grade flocks," had been formed. Only a few thoroughbred flocks, that is, flocks of the original Angora, as he came from Turkey, were in existence.

CROSSING WITH THE COMMON SHORT HAIRED GOAT.

By experience we have learned that the common short coarse haired goat can be crossed with the Angora goat, and that after sufficient crosses have been made, the cross-bred Angora so nearly resembles the thoroughbred that for all practical purposes he is an Angora. We have also learned that certain kinds of common goats respond rapidly to the infusion of Angora blood, and that others retain certain peculiarities of the common goat for generations. The Angora will not cross with sheep. For instance, a common goat with a long mane on the back, or tuft of long hair 49
behind the foreleg, or on the flank or the hip, will continue to perpetuate this long coarse hair on the offspring for generations, even though the best of Angora blood be infused. The color of the common goat is of some importance. A brown or reddish brown goat retains the reddish cast at the base of the mohair much longer than one of a bluish or bluish black color. It is equally true that a pure white mother may drop a colored kid occasionally. In Constantinople the mohair is graded into parcels containing red kemp, black kemp, etc. There it is the kemp which retains the color. As has been stated, there is also a breed of brown Angora goats, or at least mohair-producing goats, in Koniah in Asia Minor. Presuming, then, that one has a suitable common doe and a good Angora buck as a basis, the following may be deduced as relative changes in the different crosses:

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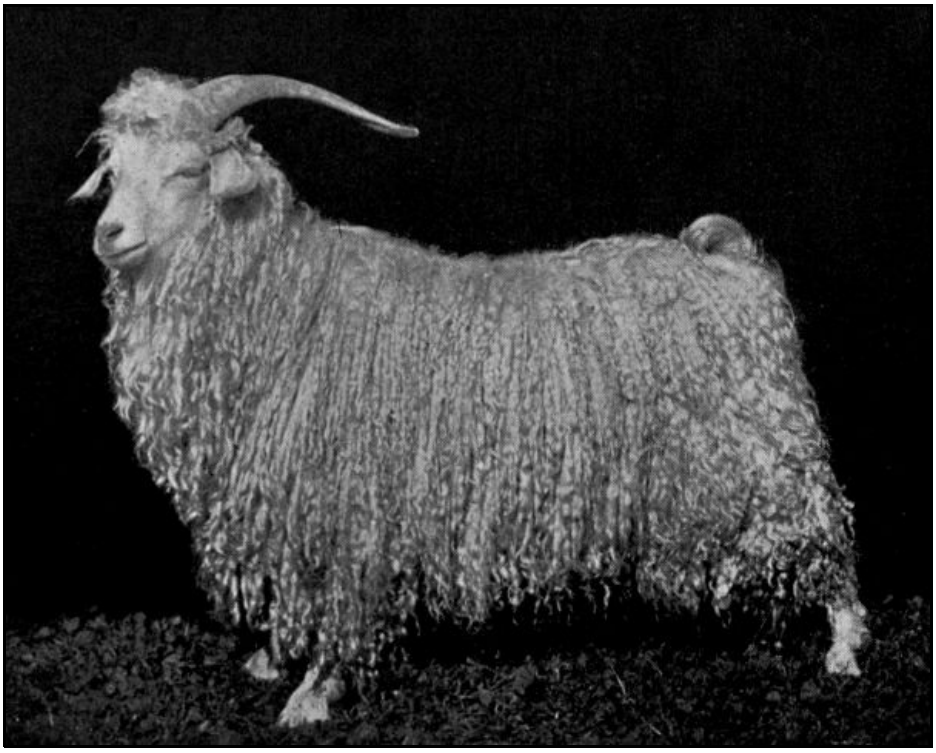

PASHA V—A True Breeder.

The first cross, or half-blood Angora, will have a covering of short coarse common hair and a thin covering of mohair, which does not grow very long. If the animal were to be shorn, possibly a half pound of hair of a very inferior grade might be yielded. If this hair were to be offered to a manufacturer, he would class it as noil, and refer it to a carpet manufacturer, who would possibly pay ten or twelve cents a pound for it. The skin of the animal will be a little fluffy, and not suitable for fine goat skin trade. It will not take a good polish after tanning, and it is not desirable 50
for shoe leather. It will be worth about half as much as common goat skin. The meat of the animal will be a little better than that of the common goat, but it will be inferior to Angora venison. The animal will still be as prolific as the common goat. Twins and triplets will be a common occurrence. The kids will also be hardy. If one were to stop at this stage in breeding, he would have decreased the value of the skin of his goat without increasing the value of the animal.

The second cross, or the three-quarter blood Angora, will have a covering of short coarse common hair, especially noticeable on the back, belly, neck and hips. The mohair will now be fairly thickly set upon the sides of the animal, and of medium length, about seven inches long for a year's growth. If the animal were to be examined by a novice, he would be called an Angora from his general appearance. If shorn, he will yield about one, or one and a half pounds of hair, and the mohair manufacturer will pay about twelve or fifteen cents a pound for the material. The skin is valueless for rug, robe or trimming purposes, because of the coarse back and the scanty covering of mohair. It is fit for glove leather after tanning, but its value for this purpose is less than that of the common goat. The meat is more like Angora venison, and can be sold on the market as mutton. The animal is still prolific. From the second cross on, the grade goat rapidly 51
assumes the characteristic of the Angora goat, but if for any reason poor bucks are used (an occasional animal without apparent reason retrogrades), the animal as rapidly resumes the characteristic of the common goat. Quite a percentage of colored kids will be dropped by does

which are themselves white.

The third cross, or seven-eighths blood Angora, will still have the coarse back, a partially bare belly, coarse hips, and the neck will be insufficiently covered. The sides will be covered with good quality, long staple mohair, comparatively free from the coarse, dead underhair, or kemp. The animal will shear about two or three pounds of fair mohair, which will be worth from twenty to thirty cents a pound. This mohair will be fit to run through the combs, and the "top," or long mohair, free from kemp, will be used in the manufacture of plushes, braids, etc. The skin will have some value for rug, robe and trimming purposes. The meat will be juicy, palatable and salable as mutton.

The fourth cross, or fifteen-sixteenths blood Angora, will be hardly distinguishable from the average thoroughbred Angora. The coarse back will persist to some extent, and the hip will be plentifully covered with kemp. A good many of this grade will be poorly covered on the belly, and an occasional bare necked or off colored animal will be dropped. The animal will shear from two 52
and a half to five pounds of mohair of good quality, which will be worth from twenty-five to thirty-five cents a pound. It will be from eight to twelve inches long at a year's growth, and it will be combed at the mill. It is fit for manufacturing into any of the goods for which mohair is used. The meat of the animal is rich, juicy, and free from the disagreeable qualities so often noticeable in mutton. If the animal be fed upon browse, the meat will have the flavor of venison. The tendency of the mothers to drop twins will be lessened, and it will be rather the exception for twins to be born. The kids will be rather delicate when dropped.

Subsequent crosses will tend to reduce the amount of kemp upon the animal and to improve the back. The question will now resolve itself into one of breeding for points. Bucks must be selected which cover the points the does need most, and by careful selection the grade flock will soon be indistinguishable from the thoroughbreds.

METHODS USED IN AMERICA TO-DAY.

By gradual steps the original Angoras imported into America have been so improved, and the cross-bloods have been so highly graded that some of the American flocks equal the best Turkish flocks. America has many high-grade flocks, which, if it were not for the remaining coarse hair of the common goat, would be upon a par with the Turkish flocks. There are enough good goats in 53
the country for a foundation stock, and a few years more of the careful, painstaking, selective breeding which is in progress throughout the United States to-day, will bring forth an Angora superior to the Turkish stock. Sections of the country modify the characteristics of the Angora. Probably climatic conditions, varieties of food and water, and certainly mental vigor of the owners is largely responsible for this. One man selects large, well formed, rapidly maturing goats and breeds for this type. It is surprising how soon his flocks assume this type. Another breeder works for fineness of fleece, regardless of size or shape of the animal, and he gets his points.

There has been much vagueness as to what points the breeder should try to produce. Some have claimed that the most profitable animal to raise was one producing heavy ringletty fleece, regardless of the quality of the fleece, except of course that it should be as free from kemp as possible. This day has passed. We know what the mohair is used for, and know how it is prepared for manufacturing. The future may change these uses or methods, but we know what we want now, and we know how to breed our goats to produce the most money per head for the present at least. Fashions vary, and the fashions vary the demand for certain grades of mohair. Coarse 54
fibered, long staple, fine luster mohair possessing a great amount of tensile strength and elasticity will make good braid yarns, but if braid yarns are not in demand, such fiber is not the best for plush or dress yarns. Fine fibered, long staple, pliable, lustrous, easily spun yarn can be used for braid stuff, or at least part of the fleece will be heavy enough for this purpose, and the finer parts have such a variety of uses that they spin yarns which are always in demand. Looking at the question from the manufacturing standpoint, we see that the most staple product is the fine-fibered mohair. But a producer might have animals which would shear two and a half pounds average (the average of the Turkish flocks) of very fine mohair, while another grower might have animals which would shear four or five pounds average of coarse mohair. And even though the value per pound of the coarse mohair may be considerably less than that of the fine mohair, the grower owning the coarse haired heavy shearing Angoras will realize more money per head for his clip. The value also of the carcass and skin of the Angora is of importance. A heavy carcass and a large skin are of more value than a light carcass and a small skin.

If the Angora breeder would produce the animal which will yield the most money per head, he should aim to produce an animal which will shear the heaviest fleece of the most marketable mohair, regardless of fashions, and one which, when put upon the market, will dress the most 55
possible pounds of desirable meat, and yield a readily marketable skin. There are not many such animals on the market to-day, but the time when there will be plenty is coming. We have the fineness of fiber; we have the density of weight of fleece; we have the covering of the animal and the size and stamina of the individual, and we have breeders who are endeavoring to unite combinations to produce the Angora of the future. But while we are without the ideal, one should choose that point which is hardest to attain, most necessary for the best paying animal, and work especially for that. That point is fineness of fiber, always remembering freeness from kemp. There are many large goats, many heavy shearing goats, but there are very few fine fibered comparatively free from kemp goats. One should not make the mistake of neglecting size and weight of fleece. There are few animals which will respond more rapidly to careful crossing than

the Angora goat. A buck will usually stamp his individuality upon every kid, hence the necessity of carefully selecting breeding stock.

GESTATION.

The period of gestation varies slightly with the individual, but the average may be approximately stated as one hundred and forty-seven days, or about five months. Both the bucks and the does have a breeding season, but this season may be changed or varied by different elements. As a 56
rule the bucks commence to rut about July or August here in America, and the does soon after the time the bucks commence. Some bucks which have been allowed to run with the does all of the time, never cease rutting, and the does conceive about every six months. The does come in heat about every fourteen days, and remain in this condition for about three days. If the bucks are allowed to run with the does, one buck should be used for about every fifty does. If the buck is only allowed to serve the doe once, a grown animal will serve one hundred and fifty does in forty days without permanent injury to himself. The does conceive at about the age of seven months, and the bucks breed at about the same age, but the wise breeder will not sacrifice the individual by interfering with its development. Both the buck and the doe should not be bred until they are at least a year old. The bucks should be fed at breeding season, and if one has a sufficient number of bucks, it is well to turn the bucks with the does in relays. It is advisable to have the kids start coming slowly, so that one may get new men trained to handle them properly. One or two bucks turned with a flock of a thousand does for a few days, and then removed and allowed to rest, and a new relay of three or more bucks turned with the does, to be removed in a
few days, and a new relay being introduced into the flock, will do more satisfactory work than 58
they would if all of the bucks were turned in at one time. The same principle can be applied to smaller flocks. The does should be protected from cold storms or rough handling when they are heavy with kid, else they are liable to abort. If for any unusual cause the doe aborts one season, there is no reason why she will not carry her kid until full term another time, and experience has proven that she will.

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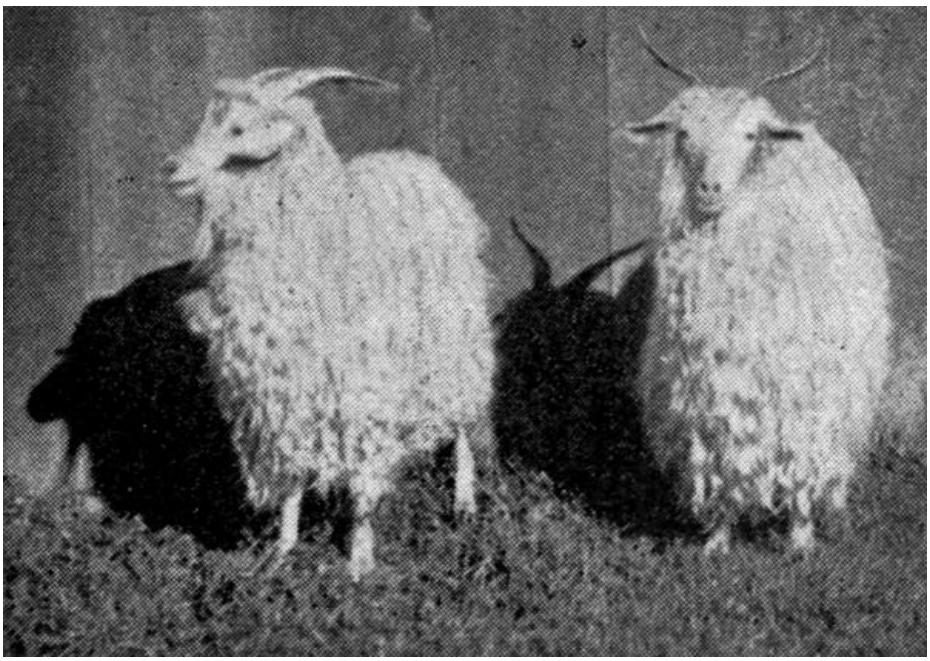
PASHA V AND BISMARCK.

American bred bucks, Bismarck shearing 12 pounds, was the sire of the grand champion buck at the St. Louis World's Fair, 1904.

BREEDING OF REGISTERED STOCK.

The breeding of registered stock, or stock of known ancestry, requires much care and quite different handling. Both the does and the bucks must be marked with an ear tag, brand, tattoo number, or some other permanent individual mark, and the kids should be marked at birth. Fifty known does may be put in a pasture or pen and a known buck put with them. He should be allowed to run with them at least forty days. After this the does may be collected into a flock and several bucks turned with them, but only the kids which are dropped from a known buck are fit for record.

A more accurate method, and one which can be used with a large flock, is to place the bucks in a corral adjoining the one used by the does at night. The does should be brought into their corral early in the evening, and all of those in heat will work along the fence next to the bucks. The doe 59
in heat can be caught and the number taken and recorded in a book. She is then placed in a small pen with a buck and his number is recorded with hers, together with the date. If the doe does not conceive, she can be put with the same buck again at a later date, and one has approximate knowledge of when she should drop her kid. In this manner a buck will serve about two or three does in the evening, and one or two in the morning. The kid is marked at birth and the number recorded after that of the mother. The breeding of recorded stock is of value only for special reasons, and is not advisable with large flocks, as it is expensive.



ANGORA VENISON.

Angora venison is the name which should be given to the flesh of the Angora goat. At the present time it is usually sold in the markets as mutton. The term goat meat should be applied to meat of the common goat, and the term mutton belongs to sheep. Because the Angora goat feeds largely upon that material which nourishes the deer, the meat of the Angora is flavored like venison. The fat is well distributed, and the healthfulness of the animal renders this an especially desirable meat. The Turk has long recognized Angora venison as an important element in his diet. Angora kid is above comparison, and it occupies the principle place on the menu at private as well as state affairs in the Orient. As one passes through the market places in Asia Minor he sees the carcasses of the Angora hanging in every shop. There is no mistaking the animal, as the skin still remains on the goat. One takes his choice, and as a rule more Angora venison than mutton is sold. Some of the Turks keep their wethers until they become coarse-haired and too old to pay to keep longer, eight or ten years old. This class of meat ranks with old mutton, and sells at a discount. Young wethers and does are in good demand. There has existed in America some prejudice against the flesh of the goat. To-day thousands of goats are being consumed annually, but most of them are sold as mutton. Packers and butchers still insist that Angora venison must be sold as mutton. They pay about one-half a cent to a cent a pound less for the goat than for sheep.

The goat never fattens as well along the back as the sheep, and hence the carcass does not look so well. The fat is more evenly distributed throughout the animal in the goat. An expert once said that to know whether a goat was fat one should feel the brisket, and if there was a considerable layer of adipose tissue between the skin and the breast bone, the animal was fat.

Some of the American breeders do not send their wethers to market until they get too old to produce valuable fleeces. The animals are then slaughtered when they have grown a half year's fleece, and the skins are reserved by the breeder. These skins are valuable, and help to bring up the average price of the goat.

At present some of the packers recognize no difference between shorn and unshorn goats. The price is the same, so it pays to shear the goats before bringing them to market. There is absolutely no strong flavor in prime Angora venison, and this is where the meat differs from that of the common goat.

The goat is a slow grower, and not until the second year do the bones ossify. Therefore, a two-year-old can be sold for lamb, as he has a "soft joint." Grown Angora wethers do not average much more than one hundred pounds as a rule, although there are occasional bands sold which average one hundred and fifteen pounds.

It is safe to say that Angora venison will never supplant mutton, but it will have its place among the edible meats.

ANGORA BUCK—Early Importation.

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ANGORA GOAT SKINS.

An Angora goat skin differs considerably from the skin of the common goat. In the first place the Angora skin is covered with more or less mohair; and in the second place, the texture of the skin itself is different. The skin of the common goat is firm, and the different layers are so closely united that they cannot be separated. The layers of the Angora skin are not so closely united, and the skin is slightly fluffy. The outer layer of this skin peels off when it is used. The Angora skin is valuable both with the fleece on and without it. Its principle value, however, is with the fleece on. After the skins have been properly tanned, they are used for rugs, robes, trimmings, and imitating various furs. When ladies' and children's Angora furs are in style, these skins become very valuable for this purpose. One skin has cut $17.00 worth of trimming at wholesale. Of course, the value of the skins depends upon the quality and character of the mohair with which the skins are covered, and their size. Large, well covered skins are always scarce and command good prices. They are worth from $1.00 to $2.00 each. Most of the Asia Minor skins are 64
sent to Austria, and the prices paid for the raw skins are about the same as in America. The skins which have had the mohair removed are valuable for the manufacture of gloves and morocco leather. They do not make as fine leather as the common goat skins, but they are as extensively used. All skins should be carefully handled.

The skin should be carefully removed from the carcass. Goats do not skin as easily as sheep, and the careless operator is liable to cut the inner layers of the skin if he is not careful. These cuts are called "flesh-cuts," and skins badly "flesh-cut" are comparatively valueless, because "flesh-cuts" can not be removed by the tanner. A sharp knife should be used, and the operator should avoid cutting the skin.

The skin should be well salted, care being taken to see that the salt penetrates every portion of the raw surface. The skins can be cured in the shade without the use of salt, but sun-dried skins

are worthless. If the edges of the skin are allowed to roll, so that raw surfaces come together, the part so affected will heat and the hair pull out. It is not necessary to stretch the skins while curing them.

Goats should be killed when their fleece is suitable for robe and rug purposes. Those carrying a six month's fleece, if it is six inches long, have about the right kind of skins. There are some Angora skins imported from Turkey and South Africa. 65

Prize winners at the Columbian Exposition, Chicago, 1893.

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BY-PRODUCTS OF ANGORA GOATS.

The Angora goat should not be classed with milch animals. As a rule the does give a sufficient amount of milk to nourish the kid or kids. The more common blood there is in the goat the better milch animal she is. However, some Angoras have been milked, and the milk is as rich as that of the common goat. A quart of milk a day may be considered a fair average for a fresh milch Angora doe. It has been suggested that because the milk of the goat contains a heavy percentage of fat, it is a proper substitute for mothers' milk for babies. This is probably a mistake, as that part of the milk which is the hardest for the baby to digest is the protein, and it will be observed that in the following table of analysis submitted, the percentage of protein in goat's milk and in cow's milk is about the same, and that it is considerably larger than in mother's milk. A very desirable feature in goat's milk is that the fat is distributed throughout the milk, and that it does not readily separate from the milk. This would assist in the assimilation of the fat by an infant. Some experiments made with coffee demonstrate that it requires half the quantity of goat's milk to produce the same effect upon this beverage which cow's milk produces. This may 67 be partially explained by the quantity of fat in goat's milk, and partially by the fact that the fat does not readily separate from the milk. The bottom of the can is as good as the top.

ANALYSIS OF MILK.

	MOTHER'S AVERAGE	COW'S AVERAGE	GOAT'S AVERAGE
Fat	4.00	3.50	7.30
Sugar	7.00	4.30	4.10
Proteid	1.50	4.00	4.18
Salts	.20	.70	1.21
Water	87.30	87.50	83.21
	——	——	——
	100.00	100.00	100.00

Persons in poor health have been greatly benefitted by the use of goat's milk. This is probably due to the fact that the fat in the milk is so distributed that a large percentage of it is taken up by the digestive apparatus. Angora goats are docile, and it is possible that some of them could be developed into good milch animals.

FERTILIZER.

It is a known fact that packers of the present day utilize all of the carcass of most food animals, but it is not the fertilizer which the packer makes from the blood and offal of the goat which we shall consider here.

Sheep's manure has been used for years on orchards and vegetable gardens, and in the last few years goats' manure has been in demand, selling at from $6 to $7.50 a ton, depending upon the purity of the fertilizer. It must be remembered that only a small portion of this manure is dropped at the night bed-ground, the balance is evenly distributed over the land upon which the goats are feeding. The goats not only rid the farm of objectionable weeds and brush, but they help to furnish a rich soil in which grass will grow. This fact has been so thoroughly demonstrated that western farmers, who have large tracts of wheat or barley stubble to rent during the summer, are always anxious to get goats upon this land.

OTHER PRODUCTS.

The horns of the goats are used to make handles for pocket knives, etc. The hoofs are used in the manufacture of glue.

FOOD, CLIMATE AND PROTECTION.

In the mountains and in the valleys of the United States the Angora has had a variety of food. He is a natural browser, and will live almost entirely on brush, if this kind of food is to be found, but he readily adapts himself to circumstances, and will live and do well upon an exclusively grass diet. The fact that the goat is a browser has been made use of in clearing farms of brush and objectional weeds. If a sufficient number of goats are confined upon a limited area for a period of time, they will kill most of the brush upon this land. They will eat almost every kind of brush, but they have their preferences and enjoy especially blackberry vines and those kinds of brush which contain tannic acid, such as scrub oak. They do not poison easily, and if there is a variety of food they rarely eat enough of any kind of poisonous plant to prove fatal. If, however, they are hungry, and have access to places where there are poisonous plants, they will eat enough to kill themselves.

KILLING BRUSH.

If one wishes to clear brush land, he should confine the goats to a comparatively small tract. The goats kill the shrubs by eating the leaves and by peeling the bark from the branches and trunks of the trees. The brush thus deprived of lungs, soon dies and the roots rot. As fast as the leaves

grow they must be consumed, so it is well to allow the goats to eat most of the leaves off of a limited tract, and then in order to give the goats plenty of feed, they should be moved to another field. As soon as the leaves on the first tract have regrown the goats should be again confined to this land. In this way the leaves are continually destroyed. This process can be continued as fast as the leaves regrow. By this method it is estimated that a bunch of one hundred to one hundred and fifty goats will clear forty acres of thick brush in about two years. In countries where the grass grows as the brush dies, goats will eat some of this grass, but they prefer the browse.

On some of the older goat ranches, where the Angora has been raised exclusively for the mohair and mutton, it has become quite a problem to prevent the goats from killing out the brush. The goats have done well where other kinds of livestock would have starved, but as soon as the brush is killed the land produces almost nothing, and even the goats cannot make a living. To prevent as far as possible their killing the brush the flocks are moved frequently from one range to another, so that the shrubs have a chance to recuperate between visits. In this way brush can be 71
kept almost indefinitely for the goats. On some of the western ranges, where cattle and sheep have, by continual cropping, killed much of the grass, good browse remains. These ranges would have to be abandoned if it were not for the goat. Goats do not in any way interfere with the pasturage of cattle or other livestock. Cattle feed contentedly on the same range with the goats, and this fact has led many southern cattle men to invest in goats. The goats are herded on the brushy lands, and the cattle range over the same territory and eat the grass. Horses have a great fondness for goats.

SALT.

Goats, like other livestock, should have a small amount of salt. The salt should be kept where they can get it at liberty, or else it should be fed at regular intervals. If ground salt is given, care should be taken to see that individuals do not eat an oversupply of the salt.

WATER.

While Angoras do not require as much water as sheep, yet they should be given a quantity sufficient at least once a day. In winter goats will live upon snow. Men have reported that their goats have gone for a week at a time, and all summer long, without any more moisture than they could get from browse and weeds, but even if Angoras should stand this treatment, they will 72
thrive better with water once daily. It is estimated that under normal conditions a goat will consume about one-ninetieth of its body weight (about a pint of water for a grown animal) in a day. On hot days, when the animals are on dry feed, they will frequently drink two quarts of water.

SHEDS.

To raise Angora goats most profitably one should really be provided with sheds. These sheds should be about the same as those which are provided for sheep in the same locality. For years southern and western breeders have made a success of the Angora industry, and very few of them have had any artificial protection for their goats. But even these breeders find that they can raise a larger percentage of increase, and get through the year with a smaller percentage of loss if they have sheds. Grown goats rarely need much shelter, even in the winter, if the weather is dry, but during cold, damp storms the fleece wets through and the animal chills. Just after shearing, or just before kidding season, one is liable to lose some grown animals, or to have many kids slunk, if the goats are not protected from cold storms. Young kids also require attention, and proper sheds more than pay for themselves by preventing excessive mortality. Whether the shed should be closed on all sides, or whether it may be left open, depends upon the locality. Do as one 73
would for sheep, under the same conditions, will be a fairly safe rule to follow. Allow at least four or five square feet of shed room to each mature animal, and the danger of the goats crowding together in the corners and smothering the animals on the underside of the pile, should never be forgotten. On very cold nights large numbers, especially of the kids, may be killed by smothering, if they are not carefully watched.

FENCES.

The question of fencing for the Angora goat is not such a serious matter as the beginner would imagine. If the goats have not been raised as pets and taught to jump, there will be little trouble with the animals going over a perpendicular fence of ordinary height. They will, however, go through or under the fence, if it is possible. They are natural climbers, and if the fence offers projecting steps, upon which they can climb, they will soon find their way to the outside of the enclosure. Some of the old stone and rail fences will not hold goats. Any perpendicular fence, three feet high, with transverse spaces not wider than three or four inches for the lower two feet, and not wider than six inches for the upper foot, will hold goats. If the spaces in the fence are perpendicular, they will necessarily have to be narrower, as small kids will crawl through the 74
spaces. A woven-wire fence, two feet high, with a perpendicular stay, at least twelve inches apart, so that the goats will not get their heads caught in the fence, surmounted by a couple of plain or barbed wires, six inches apart, will hold goats, and if barbed wire is used, will prevent cattle from breaking the fence. If plain or barbed wire is used, the first three wires nearest the ground should be placed not more than three inches apart, and close enough to the ground to

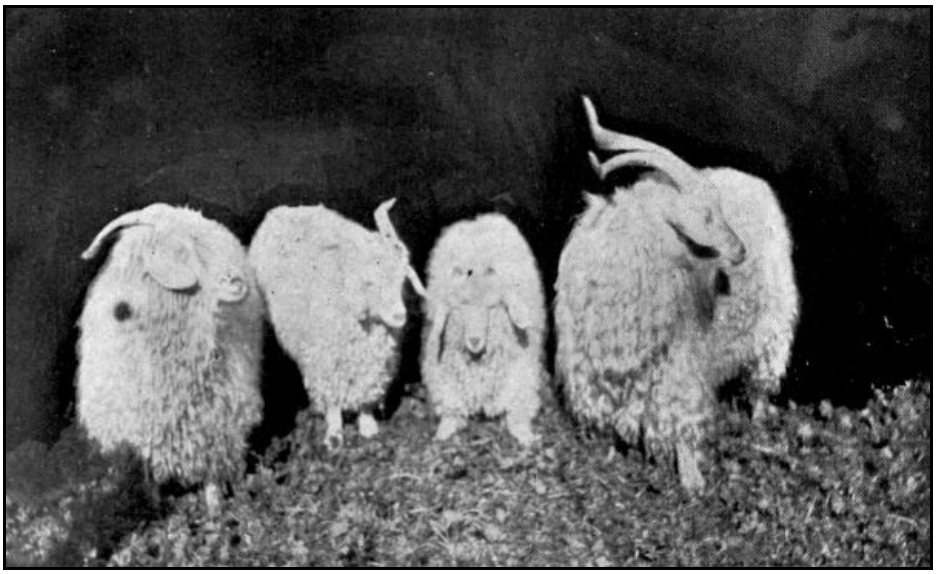
prevent kids from crawling under the lowest wire. The space between the next wires may be increased to four, five and six inches, and so on to the desired height of the fence. A board fence composed of three boards four inches wide, with a space between the ground and the first board of about three inches, and a three or four inch space between the boards, the whole being surmounted by a barbed or plain wire or two makes a very satisfactory goat fence. If pickets or posts are used, they should be set closely enough together, say about two inches apart, to prevent small kids from crawling between them. An objection has been raised to barbed wire, on account of the mohair which the barbs pull out. The amount of mohair lost in this way is inconsiderable. As has been stated, it hurts the goat to pull the mohair, and the goat soon learns to avoid the barbs. Many breeders use barbed wire corrals and find them satisfactory. Probably 75
woven wire is the best fence under ordinary conditions.

HERDING.

In mountainous countries, where it is not practical to fence the range, the flocks should be watched by herders. The Angora has a natural tendency to return home, or to a known camping ground at night, and in some places this tendency is relied upon to bring the flock home, and they are not herded. Of course, in countries where there is no danger from loss by depredations of wild animals, and where food is so plentiful that the goats must find a sufficient amount, the flock may be turned loose.

One shepherd should tend from one to two thousand head, as goats flock together well. Of course, during kidding season the flocks will have to be more closely watched. Goats travel rapidly and cover a considerable amount of territory in a day. A flock may travel from ten to twelve miles from the time they leave camp in the morning until they return to camp in the evening. The herder should walk ahead of the leaders of the flock, so that they will not travel too fast, or he may walk upon a nearby elevation, so that he can see that the flock does not separate. A flock will sometimes string out over a mile. The goats should be given freedom. Too often a zealous herder overworks himself and keeps his flock poor by crowding them together. A good 77
sheep herder soon learns the nature of the goat, and when he understands the animal he would rather herd goats than sheep.

76



Prize winners at the St. Louis World's Fair, 1904.

DOGS.

In some sections of the country sheep-killing dogs have proven a great nuisance to sheep-breeders. To say that the Angora goat will prevent dogs from killing sheep, and that they will drive the dogs away, would be a misstatement. Bucks and grown goats will protect themselves to some extent. If a strange dog attacks a flock in a field, the goats will usually huddle together and the bucks and grown animals will keep the dog at bay. A mother will fight bravely to protect her kid.

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KIDDING ANGORAS.

An experience of years has taught the Turk that if he wishes to save many kids, he must have them come late in the season. The changeable weather of the Turkish spring, the frequent cold rains and the lack of proper shed accommodations, have more than once not only destroyed the increase, but also killed the grown goats. The Turkish methods of handling kids are of little practical value. They know how delicate the kids are when they are born, and they usually bring the kid and its mother to the house as soon as it is dropped.

The Turkish Angora goat men usually range small flocks, and they also have a surplus of help, so that this is a comparatively easy method. The kids are allowed to go with the flocks as soon as they are old enough to travel. The principal objection to letting young kids go with the flock is that the kids go to sleep, and sleep so soundly that the flock feed away from them. When the youngsters awake they are lost. If there be wild animals about, the kids may be killed, or they may starve before they are found. The Turk, however, has so many herders with one flock that 79
they usually discover the kids before the flock has strayed.

In America the kidding season is the most important time of the year for the Angora breeder. If he would raise a large increase, he must be properly prepared, and he must be constantly alert. If the weather be fair, with bright sunshiny days and temperate nights, the kids will do well without much care, but if it be cold, stormy and muddy, some of the kids will be lost in spite of all care. After the kids are born the mothers should have such food as will produce the greatest amount of milk. Well-fed mothers make strong healthy kids. Green feed is desirable.

The proper season, then, for the kids to come will depend upon the climate and range conditions. Allowing for the period of gestation, which is about five months, the bucks can run with the does as early or as late as one wishes. One can be guided somewhat by the time sheep men allow ewes to lamb. When the first warm weather comes the goats usually commence to shed their mohair, and as it is too early in the season for the kids to be dropped, the does must be shorn before kidding or the mohair lost. Care should be exercised in handling the does heavy with kid. For the first few days after shearing the doe should not be allowed to chill, as she may abort. In some countries it is possible to kid before shearing, but there is no practical objection to shearing 80
before kidding, provided proper care be exercised.

HANDLING OF KIDS.

There are various methods in use of handling the young kids, and all of them are intended to save as large a percentage of increase as possible with the least possible expense. Almost every man who has handled goats has some individual idea which experience has taught him. The locality and surroundings of the flock make a vast difference in the way they should be kidded. The method which works best with fifty or one hundred does in a fenced brush pasture in Oregon or Iowa, would be useless with a flock of a thousand or fifteen hundred in the mountains of Nevada or New Mexico, where there is often no corral to hold the goats.

With a bunch of from fifty, to two hundred and fifty, and a shed big enough to hold the entire lot, it is not difficult to raise a very large percentage of kids. If the does are kept in a ten or twenty-acre pasture, they should be allowed to run out and take care of themselves as much as possible.

The doe may drop her kid wherever she may happen to be, and she will almost invariably take care of it and coax it to the shed at night. The refusal of a young doe to own her kid must be overcome, especially if the weather is unfavorable. The mother must be caught and the milk forced into the kid's mouth until he learns to suckle. After he has been sufficiently fed, place them together in a box stall and leave them for a day or two. Then, in all probability, the mother will take care of her kid.

The box stall is about three feet square and three feet high, with a little door on hinges to save lifting the animal. A row along the inside of the shed next to the wall is a great convenience. A doe with her kid should be disturbed as little as possible, because, as a rule, she knows how to care for her kid better than a herder.

When goats are handled on a larger scale, with no pasture available, entirely different methods should be adopted—for the mother must go out to feed every day and the kid cannot go.

Probably the most extensively used methods are the "corral method" and the "staking method," either used individually or combined.

THE CORRAL METHOD.

In the corral method, two or three large corrals and numerous smaller ones are necessary. First, the does should be separated from the wethers, if they have been running together, and a "wether band" made. Then every morning the "doe band" must be looked over carefully for does that will kid during the day. Such does must be put in a corral by themselves and allowed to kid in this corral. They should be fed some hay, or if that is not possible, they should be herded near by for a few hours. It has been our experience that most of the kids will come between the hours of ten in the morning and four in the afternoon. The more does which one can pick out in the morning the better it is, for the doe, after dropping her kid, is allowed to stay with it the rest of the day and all night. In this way she learns to know it. If one has hay to feed the doe, so that she may be left with her kid for one or two days, it is a great advantage.

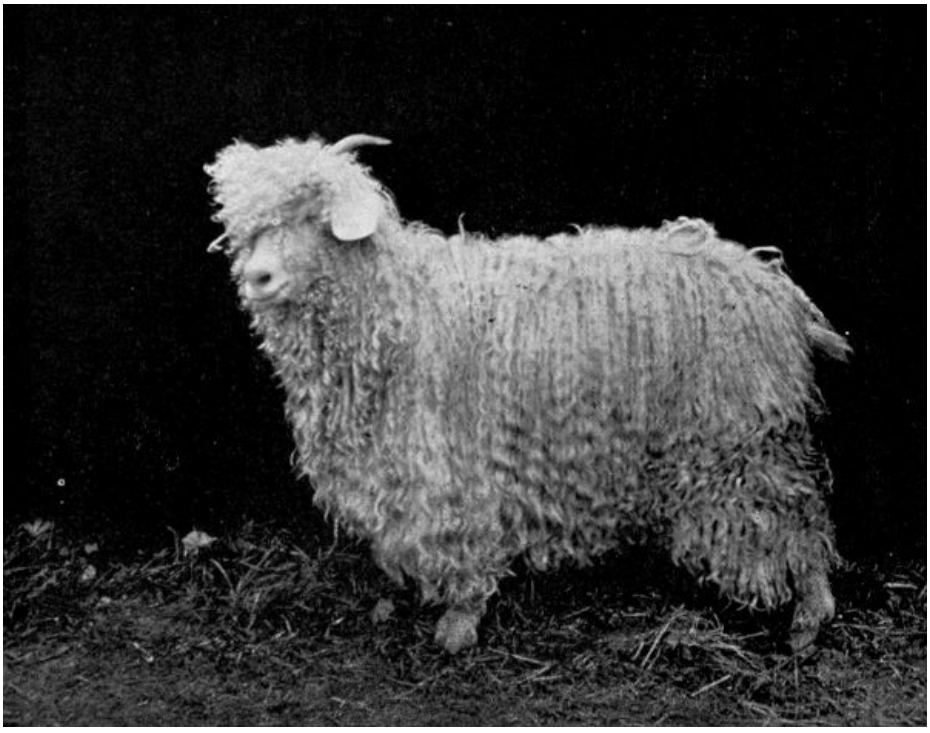
After all the does have been selected which can be found, still some will be overlooked, and they will go out on the range with the rest. The best way to handle these is to have the herder make a straight drive to a certain point where the feed is good, and then stay around this one place, allowing the kids to come within as small a radius as possible without starving the goats. If it is necessary, quite a distance can be covered in this way, and yet the kids will not be scattered over a large section of the country.

As a kid is dropped, the doe should be allowed to remain with her kid and take care of it until evening. The herd will gradually feed from them, but it should be kept as near as possible to protect the kids from wild animals. Towards evening one must go out and gather up the kids and drive the mothers to the corral. The large herd should be driven home in advance, keeping a little apart from the does with kids so as not to coax the "wet does" away with the "dry herd."

When the wagon with the kids reaches the ranch, the kids should be put in a small corral. They should be placed a few feet apart, and the mothers should be allowed to select their own kids. They also should be allowed to remain in the corral for the night at least. In case a doe will not take her kid she should be placed in one of the box stalls and a kid which has no mother placed with her and fed.

When plenty of small corrals and good hay are available, each day's kids should be left in a separate corral until the mothers have been with the kids one or two days. It will be found that the kids are always given a very good start in this way. When it is deemed advisable, the kids are put together in a large corral, and as soon as the mothers in the smaller corrals are thought to know their kids sufficiently well, they are added to this wet band in the large corral. Thus the round is completed from the dry band to the wet band, the small corral being simply an intermediate step to insure familiarity between the doe and her kid. The dry band rapidly diminishes while the wet band increases.

The mothers are now ready to go on the range during the day to feed, but the kids should be kept in the corral until they are at least six weeks old. The does may be turned out over a "jump board" placed across the gate. A jump board is a two-inch plank, eighteen inches high, with a four-inch strip nailed on the top for the does to put their feet on as they jump over. The kids come to the board but cannot get over. If some of the larger kids bother by trying to get over, some one can stand at the gate to scare them back by pounding on the board with a stick. The does will soon learn to pay no attention to the noise.



THOROUGHBRED ANGORA DOE.

Even now there will be a few kids which will not be mothered. Every morning, before the wet band is allowed to go over the jump board, one should walk through the herd, pick out the kids that have not been nourished during the night, and select does that are not suckling kids. These does should be held until the kids have been fed. A row of small stantions is a convenient thing for holding them. After a kid gets a good start he will steal a living from different does if necessary.

To kid a band of from one thousand to fifteen hundred does by the corral method, will require at least three men—one man to herd the dry band, one the wet band, and a man to look after the kids and assist where needed. Often the wet band is divided, or when one wet band has reached the number of from five hundred to seven hundred animals, another is started. 86

THE STAKING METHOD.

The staking method is quite commonly used, and in certain localities it is probably the best way to handle kids. The apparatus necessary is a smooth piece of half-inch board, two inches wide and four inches long, with a hole bored in each end. Through the hole in one end a piece of rope eight inches long is passed, and knotted so that it cannot pull out. The loose end of this rope is then made fast to a stout stake which is to be driven into the ground. Through the hole in the other end a piece of rope eighteen inches long is passed and knotted as in the first end, in such a way that the loose end of the rope, which is to be fastened to the kid's leg, draws away from the stake. When the apparatus is in use the small stick with the holes in the ends acts as a swivel to keep the rope from tangling.

It is important to select a proper place to tie the kid. He is to stay in this place for about six weeks, and he needs protection from winds and wild animals, and should have some sunshine and some shade. Usually a small tree, a bush, a fence, or a post will offer a good place to stake. The does which are expected to kid during the day are separated from the flock as in the corral method. The balance of the band are herded, so that the kids dropped on the range can be more easily handled. Just as soon as a kid is dropped, it is taken to a convenient place to stake, and the 87 mother coaxed to follow. One of the kid's legs is securely fastened to the loose end of the rope, and the kid and its mother are left together. The mother is thus free to go and feed, and on returning will know exactly where to find her kid.

Many owners allow the does which have kidded to herd themselves, as they usually return to their kids, often coming in several times during the day. Of course this necessitates having plenty of food and water within access of the staking ground. The wet band could be herded as in the corral method.

In this staking method if a mother refuses to own her kid, or if she dies, the kid has no chance to steal milk from some other wet doe, and unless closely watched, quite a number of kids will starve. The rope should be changed from one leg to the other occasionally to allow symmetry of development. The preparation of ropes and stakes for a thousand kids is quite a task, and it keeps the energetic herder busy during his spare moments getting ready for kidding time.

For the first few days the Angora kid is full of life and vigor as any animal of like age. If he be well nourished, he will frisk and play at all kinds of antics, until he is so tired that he must forget everything. The sleep which comes is so sound that any usual amount of noise does not disturb him. It is this characteristic which makes it unsafe to take kids on to the range with a flock. The 88 kids are liable to hide behind some bush, go to sleep and be lost.

CASTRATING.

Before the kids are allowed to go out with the flock the males should be castrated. The Turk does not alter the males until they have developed sexuality and the male horn, *i. e.*, the heavy characteristic buck horn. He then castrates by either removing the testicles, or by twisting or destroying the spermatic cord. When the latter method is used the testicles and cord undergo an inflammatory process which destroys the regenerative power of the animal. The testicles remain in the scrotum apparently unchanged. The animal thus treated presents to the casual observer the physical characteristics of a buck. The Turk claims that an animal treated in this manner is less liable to die than one whose testicles are removed. This is probably true, as the initial lesion produced by the operation is very small, and there is less liability of infection.

The usual method employed in this country is to remove the testicles before the regenerative power of the animal is developed. This gives the wether a feminine appearance, and there is comparatively little danger of death if the operation is properly performed. It will be easiest to castrate the kids between the age of two and four weeks. The kids should be driven into a small 89
clean corral, and after undergoing the operation they should be turned into a large clean enclosure.

The operator stands on the outside of the small corral, and the assistant catches the kids and turns them belly up before the operator, onto a board which has been fastened to the fence. A pair of clean scissors, or a sharp knife, which may be kept in a five per cent. carbolic acid solution when not in use, serve to cut off the distal end of the scrotum. The testicles are then seized with the fingers and drawn out. The operator drops the castrated kid into the large enclosure and the assistant presents another kid. Two men can operate on sixty kids an hour. The testicles are slippery and some herders prefer to use the teeth instead of the fingers to extract the testicles. Under no circumstances should any unclean thing be put into the scrotum. Death usually results from infection, and infection from uncleanliness. A little boracic acid might be sprinkled over the cut surface as an additional precaution, but this is unnecessary if ordinary cleanliness is observed. If after a few days the kid's scrotum swells, and does not discharge, the scrotum should be opened with a clean instrument. Less than one-half of one per cent. of the kids will die from this operation. 90

RIDGLINGS.

While castrating the kids the operator will discover that some of the kids have but one descended testicle. When these animals are found the descended testicle should be removed, and they should be recognized by some distinctive ear mark or brand. These animals will develop like bucks. It is a disputed question as to whether they are able to exercise regenerative power, but they will cover the does, and in some cases they probably get kids. The undescended testicle can be removed, but as the testicle usually lies close to the kidney, and is hard to distinguish from that organ in the young animal, it is best to delay the operation until the ridgling is at least six months old. The instruments necessary for this operation are a stout rope to suspend the animal, a clean sharp knife, scissors to remove the mohair from the place to be incised, and sharp needles threaded with silk. The knife, scissors and silk should be immersed in a hot 5% carbolic acid solution, and they should be kept in this solution except when actually in use.

The rope is fastened to the hind legs of the animal and he is suspended in midair. An assistant steadies the body of the goat. The operator selects a place on the loin of the goat, about two or three inches away from the backbone, below the ribs and above the hip bone, on the side opposite to that which the descended testicle occupied. He then shears the mohair from this part 91
of the goat. The mohair should be removed from a space at least eight inches square. A lengthwise incision is then made through the skin and muscles, or after the skin is cut, the muscles can be separated with the fingers and the testicle is found. It usually lies close to the backbone, to the lower and inner side of the kidney. It is usually undeveloped and much smaller than the kidney. Its surface is smooth and not indented like the kidney. When it is discovered it can be withdrawn through the opening, and adherent tissue clipped with the scissors. The muscles and skin should be brought together with the silk thread. The needles should pierce the muscles as well as the skin, and the edges of the skin should approximate. No hair should be allowed to remain between the cut surfaces, as the wound will not heal rapidly. After the wound is closed some boracic acid powder may be dusted over the wound, and the goat allowed his freedom. After ten days or two weeks the silk threads should be cut and drawn out, as they will not absorb, and they will irritate the wound. If this operation is carefully performed, and strict cleanliness adhered to, less than 2% of the animals operated upon will die.

GROWTH.

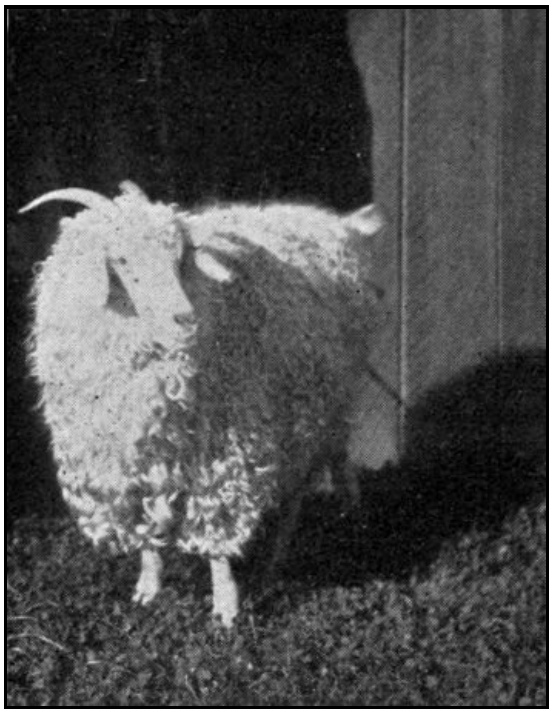
A kid at birth is usually small and weak, possibly weighing from four to six pounds. For the first 92
few days of life he grows slowly, but as the organs adapt themselves to the new life, the kid becomes strong and grows rapidly. When the kid is born he is covered with a coarse hair, and it is not until he is from three to five weeks old that the fine mohair fibers appear growing between the coarser hairs. The kid continues to grow gradually, and at three or four months he weighs from twenty to forty pounds. The mohair may now be from two to four inches long. At a year old the Angora goat will weigh from fifty to eighty pounds, and the mohair may be as long as twelve inches, or sometimes longer.

WEANING.

When does are bred once a year the kid should be weaned before the doe is rebred. This allows the doe time to recuperate before her maternal powers are again brought into active service. Then, too, a doe nursing a kid through the winter, enters the spring with a depleted system and produces a poor quality and small quantity of mohair. The kids should be weaned when they are about five months old, as this allows the mother at least two months rest before she is rebred.

MARKING.

There are various reasons for marking goats, and the methods employed vary as widely as the reasons therefor. The object in view is to put some mark of identification either permanent or temporary upon the animal. The ears may be cropped in certain ways, a brand may be placed upon the nose, or tags or buttons placed in the ears, or characters tattooed into the ears. Probably the most permanent mark is the tattoo, and if it be placed on the inner hairless surface of the ear, it is as lasting as the tattoo so often seen in a man's arm.



DISEASES.

Some of the older breeders supposed that the Angora was not subject to any disease, but as goats have been introduced into new territory, they have become affected by some of the same troubles which bother sheep, but usually to a less degree. Some of the worst sheep diseases, such as scab, do not bother goats, but the goat has some special complaints which do not affect sheep. Very few carcasses are condemned by the government meat inspectors at the large packing centers. Tuberculosis is almost unknown.

LICE.

Nearly all goats are infested with lice, a small reddish louse, a goat louse. Lice rarely kills the animal infested, but they do annoy the goat greatly. Goats will not fatten readily, and the mohair is usually dead (lusterless), if the animals are badly infested. It is an easy matter to discover the

lice. The goats scratch their bodies with their horns and make the fleece appear a little ragged. On separating the mohair the lice can easily be seen with the naked eye. The best means of ridding the goats of this annoyance is with almost any of the sheep dips. A dip which does not 95
stain the mohair should be selected. The goats should be dipped after shearing, as it does not take much dip then to penetrate to the skin. One dipping will usually kill the lice, but the albuminous coat covering the nits (eggs of the louse), are not easily penetrated, and it is usually necessary to dip again within ten days, so that the nits, which have hatched since the first dipping, will not have a chance to mature and deposit more eggs. Goats can be dipped at almost any time, but if in full fleece they will require a larger quantity of liquid, and if the weather is very cold, there is some danger.

STOMACH WORMS.

Stomach worms affect goats, and in some instances their ravages prove fatal. There are a variety of these worms, but the general effect on the animal is about the same. They are usually worse in wet years. The goats affected become thin and weak. They usually scour. Sometimes the worm, or part of the worm, can be found in the feces. These same symptoms are caused by starvation, so the two should not be confounded. There are many drenches in use for the treatment of this trouble, and some of the proprietary remedies have given some relief. Goats running on dry, high land are rarely affected.

Verminous pneumonia of sheep may also occur in goats. 96

FOOT ROT.

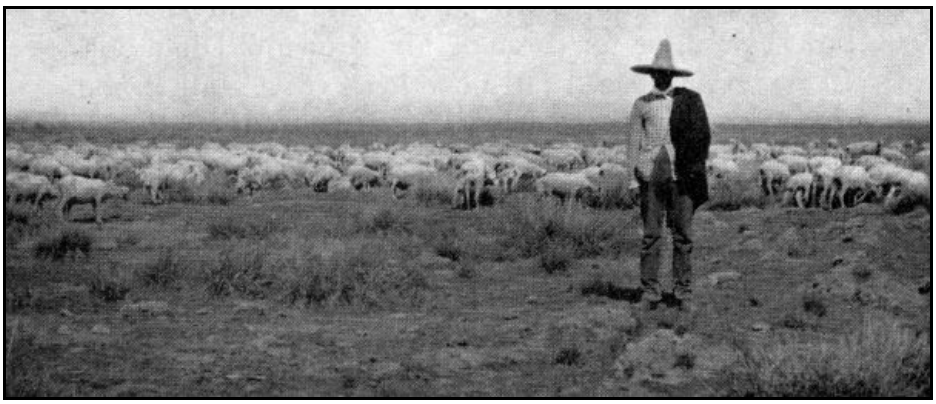
Foot rot is a disease which affects both goats and sheep, if they are kept on low wet land. It rarely proves fatal, and can be cured if the cause is removed, but it sometimes causes a good deal of trouble. The goats' feet swell between the toes and become so sore that the animals are compelled to walk on their knees. It can be cured by carefully trimming the feet and using solutions of blue stone. Goats should not be put on wet land.

Sometimes the glands of the neck enlarge, a condition known as goitre. This is sometimes fatal with kids, but usually cures itself. There is no known remedy for it, but it is comparatively rare.

Anthrax, tuberculosis, pleuro-pneumonia and meningitis, will affect goats, but these diseases are very rare. Some of the southern goats have swollen ears, but what the cause of this trouble is no one has yet determined.

POISONS.

There are several plants which will poison goats, but very little is known about them. Some of the laurel family are responsible for the death of a good many goats yearly, and some milk-weeds will kill if taken in sufficient amount at certain times of the year. These plants should be avoided as much as possible. Treatment has been rather unsatisfactory. If the poisoned animal is treated at once, an active purgative may rid the system of the irritant. Epsom salts and crotin oil have given 97
relief.



Mr. Schreiner describes an epidemic of pleuro-pneumonia which destroyed many flocks of Angora goats in South Africa. The disease was effectually stamped out in that country, and it has never appeared in American flocks. Mr. Thompson has described a disease called Takosis, which was supposed to have caused the death of many goats in the Eastern States, and along the Missouri River Valley. Some claimed that this trouble was caused by change of climate, others thought that it was starvation or lack of proper care. There is very little evidence of it now in the United States. All in all, the Angora goat is the healthiest of domestic animals.

98

Flocks.

In 1865, Mr. C. P. Bailey started in the Angora goat industry. There were then very few Angora goats in the United States, and those in California had originated from two thoroughbred bucks secured from Col. Peters of Atlanta, Georgia.

In 1866, Mr. Bailey secured a pair of Angoras from W. W. Chenery of Boston, Mass. There were two other pairs secured at this time for other parties, and these three does were the *first thoroughbred does* brought to California. The first two goats cost Mr. Bailey $1000. *The first thoroughbred Angora kid* dropped in California was by Mr. Bailey's doe.

In 1869, Mr. Bailey furnished money to bring the Brown & Diehl importation to California, with the understanding that he was to have first choice. The Angoras secured from this lot were *the best goats* which had been brought to California up to that time.

In 1876, Mr. Bailey selected the best buck of the Hall & Harris importation, and paid seventy-five dollars service fee for three of his Brown & Diehl does. Later he purchased forty-one head from Hall & Harris. Some of these were the Brown & Diehl goats, and some from the Hall & Harris importation of 1876.

Twelve years after Mr. Bailey commenced breeding Angoras, he moved his entire grade-flock, consisting of about 1000 animals, to Nevada, and maintained his thoroughbred flocks in California. By careful selection, rigid culling, and strict attention given his flocks, Mr. Bailey had 99
brought them by 1892, to an excellence beyond any of the imported stock.

In 1893, Mr. Bailey imported two fine bucks from South Africa. An account of the buck Pasha will be found in this book.

In 1899, another direct importation from South Africa was made, and the great sire Capetown was secured.

In 1901, Dr. W. C. Bailey secured four of the best Angoras obtainable in Asia Minor, by personal selection, and added them to the Bailey flocks. This was the first importation made in America from Asia Minor for twenty-five years.

During all these years, since 1865, Mr. Bailey had been constantly at work with his Angora flocks. There were many hardships to overcome, and most of the original Angora breeders gave up the struggle. We honestly believe that if it had not been for his perseverance the Angora industry would not be in its present prosperous condition.

Register.

We have been keeping a register of our stock, and this register is the oldest in the United States, or the world. Animals registered in the Bailey Angora Goat Record have a universal standing.

Manufacturers of Gloves, Robes and Trimmings.

The Angora Robe and Glove Company was established in 1875, with C. P. Bailey as president. Later Mr. Bailey secured sole control of this company. We have been using goat skins and mohair in large quantities for the last thirty years, and to-day

WE PAY THE HIGHEST CASH PRICES FOR GOAT SKINS AND MOHAIR.

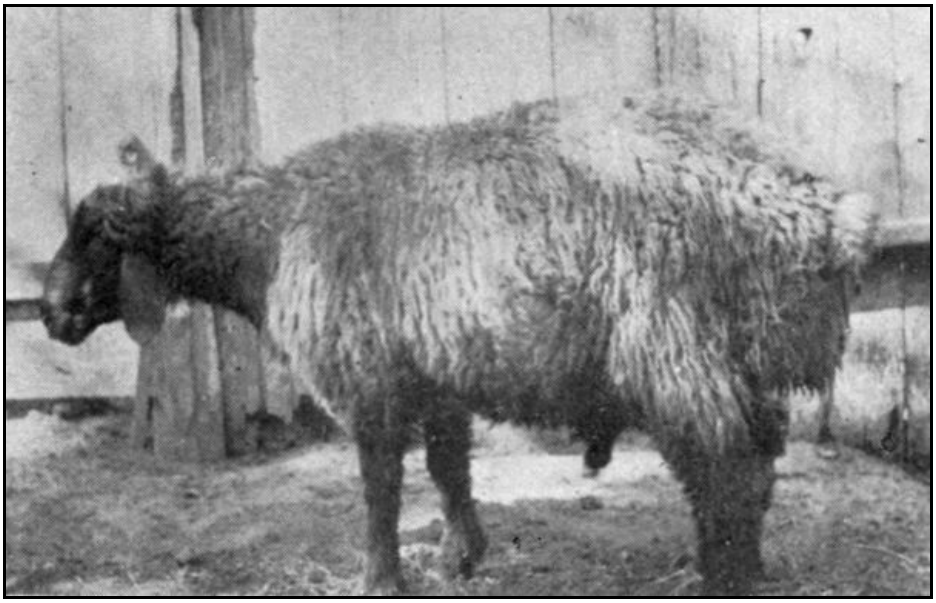
Buck Selections. 100

From the above history it will be seen that we have several different strains of bucks to offer, and the fact that we have taken the Grand Prizes and highest awards at the New Orleans World's Fair, 1885, Chicago World's Fair, 1893, St. Louis World's Fair, 1904, and sweep stakes at State Fairs and National Meetings for the last thirty years, should put these bucks on the top. We have sold thousands in United States, and they have given almost universal satisfaction.

Does.

Our thoroughbred does trace their ancestry to the best stock obtainable. We always have a good many grade Angora does on the range, and we are prepared to quote prices on carloads, or small lots. We gladly furnish information.

C. P. BAILEY & SONS CO.,
San Jose, California.



PERSIAN FAT TAIL SHEEP

In 1892, we received the first importation of Persian Fat-Tailed Sheep. They are very hardy, rapid growers (the lambs often gaining a pound a day for the first one hundred days,) good rangers almost free from disease, and to cross onto fine wooled sheep for mutton and wool, we consider them of much value.

*** END OF THE PROJECT GUTENBERG EBOOK PRACTICAL ANGORA GOAT RAISING ***

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