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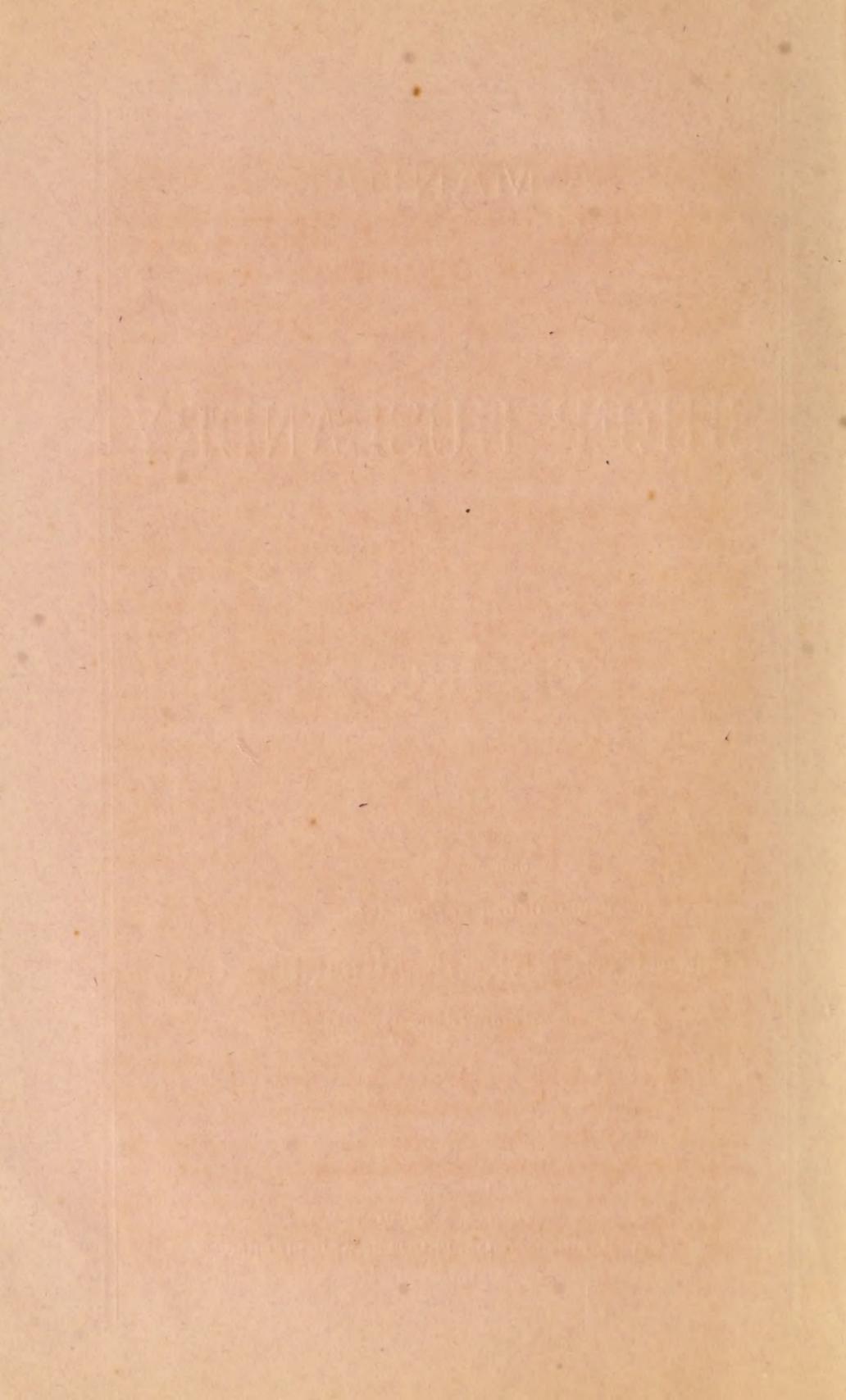
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A MANUAL
OF
SHEEP HUSBANDRY
IN
GEORGIA.

PREPARED UNDER THE DIRECTION OF THE
COMMISSIONER OF AGRICULTURE
OF THE STATE OF GEORGIA.

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A MANUAL OF SHEEP HUSBANDRY IN GEORGIA.

Circular No. 19.]

STATE OF GEORGIA,
DEPARTMENT OF AGRICULTURE,
Atlanta, October 15, 1875.

The act establishing a Department of Agriculture for the State of Georgia, defining the duties of the Commissioner of Agriculture, says :

“ It shall be the especial duty of said Commissioner to investigate and report, as is hereinbefore set forth, upon the culture of wool, the utility and profits of sheep raising, and all the information upon this important subject, that he may deem of interest to the people of this State.”

In order to carry out practically this specific requirement of the law, the regular correspondents of this Departments, in all parts of the State, were requested to give with their August returns, the names and Post-office address of three of the principal sheep raisers in their respective counties.

Having thus learned the address of those actually engaged in the business, the following catechism was sent to each in Special Circular No. 9.

“ Please answer the following questions, basing your replies upon your personal experience and observation in sheep husbandry :

- “ 1. What breed or breeds have you tested ?
- “ 2. Which has proved most profitable ?
- “ 3. What crosses have you tested ?
- “ 4. Which have proved most profitable ?
- “ 5. When did you commence keeping sheep ?
- “ 6. How many have you in your flock ?
- “ 7. What variety do you breed at this time ?

"8. What variety do you recommend for general purposes —for wool and mutton?

"9. What is the annual cost per head of keeping sheep?

"10. What per cent. per annum on investment do your sheep pay?

"11. What is the average annual clip per sheep in unwashed wool?

"12. What is the average price received per pound for unwashed wool?

"13. What is the cost of a pound of wool after charging the sheep with all the expenses, and crediting them with lambs, mutton, manure, &c.?

"14. What is the average number of lambs raised annually compared with the number of ewes kept?

"15. What is the average price per head received for lambs sold to the butcher?

"16. What is the average value of sheep per head in your section?

"17. What is the average price per head received for mutton sheep?

"18. What summer pasturage have your sheep?

"19. What winter pasturage?

"20. Is it necessary to feed them in winter?

"21. If so, on what do you feed them?

"22. How long do they require it?

"23. What disease or diseases have proved most destructive?

"24. State the remedy or remedies successfully used?

"25. What are the principal obstacles to sheep raising?

"26. What remedies do you suggest?

"27. Have you utilized the manure from your sheep?

"28. Give the result of your experience as to its value?

"29. Give facts as to area annually fertilized by a given number of sheep?

"30. Give facts as to results in crops raised on lands so fertilized?

"31. Give any other information of value."

From the answers returned to the above questions the following information is gathered.

Of those who have tested crosses in Georgia 98 per cent., report the cross of the merino and the native most profitable.

The average annual profit on the capital invested in sheep in Georgia is 63 per cent. This presents a very marked contrast between the profits of *sheep raising* and *cotton growing*.

The average annual cost per head of keeping sheep is only *fifty-four* cents. In answer to Question No. 13, the average cost of raising a pound of wool is only *six cents*, while the average price for which the unwashed wool is sold is $33\frac{1}{3}$ cents, or $27\frac{1}{3}$ cents net.

An average of seventy-four lambs are raised for every hundred ewes, notwithstanding the ravages of dogs.

The average yield of unwashed wool to the sheep is 3.44 pounds, which, at $27\frac{1}{3}$ cents net, gives an average clear income in wool from each sheep of 94 cents.

The average price received for lambs sold to the butcher in Georgia is \$1 87. The average price of stock sheep is \$2.58 per head.

The average price of muttons is reported at \$2.75 per head. 90 per cent. of the correspondents report *dogs* the *principal*, and generally, the *only* obstacle to sheep husbandry.

75 per cent. of the correspondents recommend the protection of sheep against the ravages of dogs, by some appropriate legislation. Many report the enterprise generally abandoned, on account of the absence of such protection.

There were in Georgia, in 1860, according to the U. S. census, 512,618 sheep.

The U. S. census of 1870, gives the number of sheep in Georgia, as 419,465.

According to the returns of the Tax Receivers, collected under the auspices of this Department, the number now in the State is 319,323. This shows a decrease from 1860 to 1870, of 93,153, and from 1870 to 1875, of 100,142 sheep in the State, or a decrease, in fifteen years, of 193,295, or 38 per cent. decrease during a period in which there should have been 100 per cent. increase.

These are startling facts which demand the careful consideration of the statesman and legislator.

Why is it that a branch of industry which, according to the

verdict of those engaged in it, pays an annual profit of 63 per cent. on the capital invested, should be languishing, and, in many instances, entirely abandoned?

From the same source from which the number of sheep in the State is obtained, we learn that there are 99,415 dogs in Georgia, and that they destroyed between April 1st, 1874, and April 1st, 1875, 28,625 sheep. May we not find an explanation of the decrease in the number of sheep in the above figures?

In the June reports, three-fourths of the regular crop reporters represent the ravages of dogs as the principal obstacle to sheep-raising, and estimate that 15 per cent. of the sheep in the State are annually killed by dogs, and that 6 per cent. are lost by disease and other causes.

The special correspondents on sheep-husbandry—those actually engaged in the business, and hence more familiar with the subject—were asked to state the principal obstacles to sheep-husbandry. 90 per cent. of the whole number report the ravages of dogs as the *principal*, and generally the *only*, obstacle.

The statistics collected by the Tax Receivers seem to corroborate the reports of these two sets of correspondents, since there are *thirty-one* dogs for every *one hundred* sheep, or nearly *one to three*, and since these dogs are allowed to destroy in one year 28,625 sheep, worth \$73,852, or 9 per cent. of the value of all the sheep in the State. Notwithstanding this loss, the annual profits are 63 per cent. Remove the cause of the loss, and the profits will be 72 per cent. on the capital at present invested in sheep, and the amount so invested would, in a very few years, be quadrupled, when the clear profits, at the above rates, would be \$2,372,687, per annum—more than the total receipts into the treasury of the State in the year 1874, and more than one-fourth the State debt.

The value of the sheep annually killed by dogs, \$73,852, would more than pay the per diem and mileage of the members of the House of Representatives of Georgia.

Correspondents report that 100 sheep regularly folded will fertilize, so as to double the yield of crops, *eight acres* a year.

At this rate, even the number at present in Georgia will fertilize annually 25,544 acres.

We will suppose this area to be planted in cotton, and that without the sheep manure it would produce one half of a bale of cotton per acre. The increase on that area would be 12,772 bales of cotton, worth, at \$50 net per bale, \$638,600.

If there were 2,000,000 sheep in Georgia, as there would be if properly protected, the increased production from the effects of their manure, at the above rates, would be worth \$4,000,000 per annum, or one half the amount of the State debt.

It is hoped and believed that the Legislature will, at its next session, adopt such measures as will remove the present obstacles to this most important enterprise.

If this is done, thousands of farmers in Georgia will immediately embark in sheep husbandry, and millions of acres of land now idle and an expense to their owners will be rendered profitable as sheep walks, and gradually improved in fertility. It will open the way for a tide of immigration into Georgia of thousands of the best, most quiet, peaceable, industrious and profitable laborers, who nearly double their number annually, demand no wages, do not steal or commit other crimes, labor assiduously throughout the year, feed and clothe themselves and their masters, make no strikes, utter no complaints, and never "die in debt to man."

Such a laborer is the sheep, the best and cheapest in the world.

Is it not remarkable that such laborers can not lie down to rest at night in a civilized community without risking their lives at the hands (or rather, the mouths) of their idle and lawless neighbors, the dogs, who spend the day in idleness or sleep, and the night in murder and theft?

Farmers who read the above facts, derived as they are, from the experience of practical herdsmen will very naturally ask themselves the question,

SHALL I BUY SHEEP?

The answer to this question in the face of all the obstacles which at present exist in Georgia is rather difficult, especially to the small farmer who cannot afford to keep a number suffi-

cient to justify the employment of a shepherd to watch and protect his flock.

The small farmer, who would keep only from fifty to one hundred sheep, cannot thus safely invest his money unless his farm is so arranged that his flock can be kept near his house and securely penned at night.

This necessity generally prevents the utilization of his best pasture lands and greatly increases the expense of keeping sheep.

It is therefore the small farmers, constituting the great mass of the agriculturalists of Georgia, who suffer from the neglect of our law-makers to afford the necessary protection to this most profitable branch of their legitimate business. The first question then for his consideration is, as to the requisite pasturage or range. If this is abundant, he must consider well if with his surroundings, the probable loss by dogs and stealage will leave a margin for profit. If his sheep can be protected from rogues, both *quadruped and biped*, without too much cramping the pasturage or increasing the expense, a handsome profit is assured. The keeper of as many as 400 or 500 sheep is independent of dogs and rogues since he can afford to employ a herdsman to accompany the flock, and not only protect them, but economise by herding them on uncultivated lands that could not be otherwise utilized.

Hoping that many farmers, and especially the *young men* in Georgia, will be induced by the above facts to engage in sheep raising a short manual will be furnished to serve as a guide to the inexperienced, and perhaps be serviceable to many who, though engaged in the business, have given but little attention to either its principles or its practice.

The first question which demands attention is the adaptation of Georgia to sheep husbandry.

THE CLIMATE

of Georgia corresponds with that of the best wool growing regions of the world. Spain, once so famous for its merinos, is warmer on its southern coast than Southern Georgia. Australia, now one of the principal wool-growing regions of the world, embraces the latitude of Georgia, but a maximum tem-

perature in December—their mid-summer month—of 112° Fahrenheit.

From Mr. Randall, on "sheep husbandry in the South," we get some idea of the progress of wool growing in Australia and Van Dieman's Land. He says: "In 1810 the export of wool from Australia and Van Dieman's Land was 167 pounds; in 1833 it had reached 3,516,869 pounds. In 1843 it amounted to 16,226,400 pounds." In 1848 it had increased to 30,034,567 pounds. In 1871 the crop of Australia, Tasmania and New Zealand was 168,785,993 pounds. There is no reason why, with proper protection, Georgia may not show a proportionate increase in the next decade.

The effects of warm climates and their perennial herbage upon wool, bear a marked analogy to those of warm climates upon vegetation, giving increased vigor of growth, length, uniformity and strength of fibre, and consequently greater weight to the wool.

Consider in this connection the difference in the cost of keeping sheep in warm and cold climates, and we find that warm climates have decidedly the advantage.

On this subject correspondents shall speak from their experience.

Mr. David Ayers, of Camilla, Mitchell county, in South-western Georgia, where snow never falls and the ground seldom freezes, and where the original pine forest is carpeted with native grass, says his sheep—3,500 in number—cost him annually *fourteen* cents per head, clip *three* pounds of unwashed wool, which sells at *thirty* cents per pound, giving a *clear profit of ninety* per cent. on the money and labor invested in sheep. Lands suited to sheep raising can be purchased in this section of the State for from \$1.50 to \$10 per acre according to location. Mr. Ayers does not feed his sheep at any time during the year, neither has he introduced the improved breeds, using only what is known as the native sheep.

Of course the cross of the Spanish merino on this stock would give better results in both quantity and quality of wool. These sheep receive little care except to be gathered up once a year to be sheared and marked.

Mr. Ayers complains of the ravages of dogs on the sheep, and of hogs and eagles on lambs.

Mr. John McDowell, of Washington county, Pennsylvania, keeps 650 highly improved sheep, which cost annually, \$1.54 per head to keep them. He aims to make his *wool clip clear*, which averages 4 lbs. of brook-washed wool* per sheep, and sold this year at *fifty-six* cents per lb., or \$2.24 for each sheep sheared; but the last crop cost, on account of the severe winter, fifteen cents per lb., which makes his net income per sheep, \$1.60. His sheep are worth \$3.50 per head, and his net profits are *forty-six* per cent. on the capital invested in them.

The land on which Mr. McDowell pastures his sheep is worth about fifty dollars per acre, or fully ten times the value of that on which Mr. Ayers' flocks feed.

In other words, Mr. McDowell, in the fine farming regions of Pennsylvania, must invest, supposing that he keeps two sheep to the acre and Mr. Ayers one, five times as much in land as Mr. Ayers, to make one-half the profit on the money invested in sheep.

It will thus appear, that where sheep-husbandry is made a specialty, Southern Georgia has a decided advantage over Pennsylvania.

Mr. Rob't. C. Humber, of Putnam county, in Middle Georgia, furnishes some interesting facts from his experience in sheep raising as a factor of mixed husbandry, in which the famous and much dreaded Bermuda grass is utilized.

He keeps 138 sheep of the cross between the Merino and the common stock.

He says they cost "nothing except the salt they eat," while they pay 100 *per cent.* on the investment, in mutton, lambs and wool.

They yield an average of 3 lbs. of wool per head, which he sells at the very low price of *twenty-five cents*—less than the market price. It costs him nothing except the shearing. His sheep range on *Bermuda* grass old fields in summer, and the

* Owing to its freedom from hay seed, and the fact that the heavy spring rains wash out the yolk and dirt, just before shearing time, Georgia unwashed wool is as clean as Pennsylvania brook-washed.

plantation at large, embracing the fields from which crops have been gathered, and the cane bottoms, in winter. They are never fed at any season.

No diseases of consequence are reported in the flocks in Georgia.

Having selected a representative report from each of the lower sections of Georgia, we will now put Mr. Richard Peters, who is, perhaps, better informed on the subject in hand, than any other gentleman in Georgia--on the witness stand, and have his testimony on the subject of sheep husbandry in North Georgia. Mr. Peters has tested the "Spanish Merino, French Merino, South-Down, Oxfordshire-Down, Leicester, Asiatic Broad-tail or Tunisian, Improved Kentucky, Cotswold and native sheep."

Of these, the Spanish Merino and natives proved most profitable, the other pure breeds proving unhealthy with him.

He has tested the crosses between the South-Down and Cotswold, South-Down and native, Cotswold and native, and Spanish Merino and native.

The crosses between the Spanish Merino and native, and the Cotswold and native, have proved most profitable. Of these two crosses he, in common with nearly every other Georgia correspondent, gives the decided preference to the cross of the Spanish Merino and native.

Mr. Peters' experience and experiments, extending through twenty-seven years, are of great value; and while they must have been very expensive to him, they will save others the expense and time of ascertaining, by experiment, what he has already done for them.

"For general purposes, for wool and mutton," he recommends, "most decidedly, the cross from native ewes and Spanish Merino bucks--the progeny showing marked improvement, having constitution, fattening properties, thriftiness, and a compact close fleece."

"Where the pasturage is very good and more size is desired, a Cotswold buck may then be used to advantage, with the one-half or three-fourths blood Merino ewes. A first cross between the Cotswold and native is seldom successful; the pure bred Cotswold begins to decline after the first season, and their

progeny seldom do well unless the pasturage is extra good and in small flocks, with constant care and attention."

While he raises only seventy lambs to the hundred ewes of the pure merinos, he raises a lamb for every ewe of the cross-bred native and merinos.

During mild winters in Gordon county, his sheep require feeding only thirty days; in cold, wet winters, twice that length of time.

Speaking of the remedies for worms in the head, foot-rot and diseased livers and intestines of the lambs, caused by parasitic worms, he says: "Change of pasturage and a liberal use of tar on the noses of the sheep during the summer months will check the fly during the time of depositing its eggs on the nostrils of the sheep. This disease shows itself by a running at the nose, and is much more prevalent among the native sheep than the Merino.

"The 'Foot Rot' generally yields to blue stone and spirits of turpentine, after a free use of the knife. It can readily be eradicated from a flock by the use of nitrate of silver and burnt alum. The disease caused by worms in the internal viscera of lambs has shown itself, to some extent, in the flocks of upper Georgia. Change of pasture, and keeping the lambs from wet low-ground pastures during the summer months, and especially at weaning time, will prevent a spread of the disease.

"When lambs are in good order and run on upland pastures this disease does not show itself to any injurious extent."

Speaking of the value of the manure of the sheep, he says: "I can only judge of its value by the compact sod of grass on my sheep pastures, capable of sustaining ten head to one, as compared to twenty years ago."

He further says: "I have found that the native sheep can be rapidly improved by proper attention, and by *separating the ewe lambs from the buck until a year old*. This is the *basis of any successful attempt at improving the native sheep*, and unless it is attended to *no great change can be made*. One of the advantages attending the merino, is the fact that the ewes seldom breed until they are two years old." He says: "The best combination flock for mutton and wool, suited to our climate,

can readily be built up on the natives as the basis, using the merino buck for the first cross, and then the Cotswold to give more size and a longer staple to the fleece."

Lengthy extracts have been given from Mr. Peter's replies to the foregoing questions, in order that others may avail themselves of his large practical experience and observation.

It will be seen that his experience agrees with that of nearly every other sheep raiser in the State, as to the crosses most profitable in Georgia. It is a well established fact that the large, long woolled Leicesters and Cotswolds are not adapted to our climate or pasturage. They require a cool climate and a full bite of grass. Even if we had both of these requisites it is plain that *wool growing* must, for many years, be the leading object of the sheep husbandry of Georgia, since we have not home markets for mutton.

INCREASE OF LAMBS IS INCREASE OF WOOL.

A first principle, which every sheep raiser should lay down as the foundation of successful husbandry is, that "increase of lambs is increase of wool," and, hence, especial attention should be given to the ewes at lambing time, and the necessary means employed to have the lambs to come as early in the season as possible.

In all of Middle and Lower Georgia the lambs should commence coming by the first of January. In North Georgia, either in November, or last of February and first of March. It is an old maxim, that "one January is worth two March lambs."

To regulate this, the bucks should not be allowed to run through the year with the ewes, but should be separated from them as soon as they have finished service in the fall, and kept from them until their services are again needed.

The period of gestation of the ewe is 151 to 152 days, so that to have the lambs commence coming by the first of January the bucks should be turned with the ewes by the first of August. January lambs make better carcasses, and, of course, yield more wool than late ones.

During the lambing season, the breeding ewes should be kept in a flock to themselves, seen daily, and unless there is an abundance of green pasturage, should be fed moderately, but

regularly. Cotton seed afford a cheap and excellent food for sheep. These, with oat or rye pastures, sown early in the fall, will afford sufficient food to induce an abundant flow of milk for the lambs, and, at the same time, keep the ewes in a healthy, thriving condition, and increase the clip of wool for the next season. It is important for the health of the sheep, and for the quantity as well as the quality of the wool, that they should not grow thin during the winter; and, indeed, that they should continue in a uniformly good condition throughout the year. It is a recognized fact among wool-growers, that fat sheep produce more, though perhaps coarser wool, than thin ones, and that the strength, as well as the length of the fibre, is improved by continued health and good condition of the sheep. The part of the fibre grown during periods of low condition or health, will be weaker than that grown when an abundance of food is supplied, and these weak points in the fibre injure its quality, and, of course, its sale.

It is on this principle that the wool grown in warm climates, where the sheep have a continuous supply of green food, is heavier and of better quality than that grown in colder climates, where the sheep grow thin during severe winters.

BUCKS.

One buck in vigorous condition will serve fifty ewes, if allowed to run with them—more, if kept up and the ewes turned out as soon as they have been served *once*. To avoid unnatural excitement and undue worry by running from ewe to ewe, and by fighting, each buck should, if possible, be placed in a separate enclosure, with the ewes intended for him. If an expensive buck is used, and it is desired that he shall serve a large number of ewes, he may be kept in a pen into which fifteen or twenty ewes may be turned at a time. The brisket of the buck may be rubbed with Venetian red and lard, or common lampblack and lard. Have an active shepherd constantly present, who, with as little excitement as possible; will remove the ewes as fast as the buck marks them with the coloring matter on his brisket.

By this means a buck may serve an hundred ewes with as

little injury to himself, and with as much certainty as to results, as he will fity when allowed to run with the flock.

Bucks should be fed on oats during the period of their service.

Ram lambs should not be admitted to service under any circumstances.

Yearling bucks should not be allowed to serve more than thirty ewes. At two years old they may be admitted to full service.

SELECTION.

In the selection of bucks, or in turning out lambs for that purpose, "form, size, and covering" are the three points to be considered.

If the buck is to be coupled to a promiscuous flock of ewes his form should be symmetrical, and well developed at every point.

If he is intended to serve ewes that are defective in any one point, the buck should, if possible, be selected with a special development in *opposition* to the *defects of the ewes*, so that such defect may be *neutralized* in the *progeny*. Lambs intended for service as bucks, besides the requisites of form, size, and covering, should have evidences of health and thrift, care being taken that no impediments be placed in the way of their full development.

Bucks should neither be small, or should they be large, at the expense of symmetry, hardiness and compactness. The covering, or fleece, should be compact, uniform, and envelope the whole body. The selection of bucks is of especial importance to the Georgia husbandman, since his first object must be to "grade up" the native stock by the use of pure or nearly pure bred *Spanish merino* bucks, with a special view to the development of their *wool producing* properties, improving at the same time the *weight* and *quality* of the fleece. Twenty dollars seems to our people a large price to be paid for a buck, but when the fact that such a cross will add a pound or more to the weight of the fleece and several cents to its value, the advantages of such an investment will be too apparent to require further comment

SUMMER MANAGEMENT.

Whether sheep-raising be made a factor of mixed husbandry or a specialty, the herdsman should remember that for sheep "change is more important than range." In the extensive sheep-walks of extreme North, or the wire grass region of South Georgia, the flocks find the necessary change by extending their walk.

If they are kept within inclosures, they should have frequent change of pasture to secure health and the necessary variety of food.

If a given number of sheep are to be grazed upon 100 acres, they will thrive better if this is divided into two fields of 50 acres each, and the flock alternated monthly between them, than if they are allowed to run constantly on the whole area. Besides having fresh shading ground during the day and fresh beds at night, there are certain pungent plants which seem necessary to the health of the sheep, and which become exhausted or exterminated on permanent sheep-walks.

SALT, FRESH WATER AND SHADE.

Salt should be either made constantly accessible to sheep in their pasture by placing the rock salt in boxes, in sufficient number to prevent scuffling and fighting over them, or they should be salted regularly twice a week in boxes or troughs, or on clean rocks provided for the purpose, selecting the evening in preference to the morning to avoid too free use of water after the salt and its consequent bad effects on the health of the sheep. Troughs dug in ordinary pine poles, filled with common tar and this kept regularly sprinkled with salt and placed at a convenient point in the sheep-walk, serve the double purpose of supplying salt and inducing a moderate consumption of the tar which acts as a disinfectant, and conduces to health.

While there are advantages in having the salt always accessible, the semi-weekly inspection of the flock by the master at salting time, and the constant renewal of acquaintance between the master and his flock, is exceedingly valuable to both. The eye of the master is the safeguard of the flock.

The sheep is exceedingly neat, and even fastidious about its

food and drink, and hence, should have clean grass and clear running water. Though they use less water than other animals, often passing some days without, it is none the less necessary for their comfort and health that it should be accessible.

During our summer months sheep feed early in the morning and late in the evening, spending the rest of the day in the shade.

This fact is enough to show the necessity of an abundance of good shade in every pasture. They seek the same sheltering places day after day until they become very foul and injurious to the health of the flock.

Unless a change of pasturage is practicable, these resting places should be occasionally cleaned off, and the manure from them saved. Flocks should never be disturbed in the heat of the day; all changes from pasture to pasture, from pasture to pen, and *vice versa*, being made either early in the morning or in the cool of the evening, giving a decided preference to the morning.

The flock should be closely watched in spring and early summer for indications of maggots in the wool, and spirits of turpentine promptly used on the infected part. A sheep thus affected usually separates itself from the rest of the flock and mopes about alone.

The presence of maggots in the wool will be indicated by a dingy bluish appearance. If prompt attention is not given, the flesh will be penetrated, and serious injury, if not death, ensue.

If not salted regularly in wet spells, diarrhea is apt to follow, with a fouling of the wool in the rear. These "tags" should be promptly removed with the shears, and if the disease is obstinate, the sheep fed for a few days on meal with a little salt in it, and other dry food if the patient can be induced to take it.

SHEARING.

As the leading object of sheep husbandry in Georgia must for years be the growth of wool, next in importance to breeding to the highest development of the fleece, is its judicious gathering and management after it is grown, to secure the best profits.

The great object to be looked to then, is to secure the maximum uniform clip of marketable wool, with minimum risk of health and comfort to the sheep. No better rule as to the time of shearing can be given, than that clear warm weather should be selected, not so early as to risk the health of the sheep by cool spells following the removal of its winter coat, nor so late that the winter coat has become oppressive, or has commenced to waste to make room for another. In the selection of this appropriate season each owner must exercise a sound judgment.

HOW TO CATCH A SHEEP

is a matter of more importance than would appear at first glance. The usual practice of catching them by the wool is cruel—not to say barbarous. Any one who wishes to see the bad effects of such a practice can do so by catching a sheep intended for the butcher by the wool and then noticing the inflamed places on the pelt, caused by pulling the wool, when it is removed, say in twenty-four hours after it is caught. Having the sheep in a pen, the shepherd advances, placing his left arm around the neck of the sheep and the right hand upon the rump to prevent its backing. After raising the fore legs from the ground he passes first the right and then the left hand around, just behind the fore legs, and the sheep is at his mercy to be removed to a smooth grass plat adjacent to the pen, on which a canvas or some green leaves have been spread. The shearer places the sheep on its *right side*, bringing its head under his left leg beneath the bend of the knee, and its hind legs under the right leg, he being in a *sitting position on the ground*. Commencing near the middle of the belly-wool, pass the shears smoothly but rapidly forward, pressing the wool towards the back gently, but not with sufficient tension to risk raising the pelt in the way of the shears. When the wool has been clipped a little beyond the ridge of the back, the fleece is tucked well under the sheep, which is simply rolled over from the shearer, and at the same time drawn towards him, the part of the fleece already clipped being kept rolled over without separating it from that remaining on the sheep. When the entire fleece has been removed, it is spread on a clean sheet or floor with the clipped side down. The scraps are thrown in, the wool from the neck, legs and

sides folded over, and commencing with the rump end, the whole is rolled towards the shoulders, applying sufficient pressure to *compress* but not *wad* the fleece. Two threads of twine, each four inches from the ends of the roll, confine it and finish its preparation for market.

MARKING AND DOCKING.

Before the weather grows very warm in spring, and before the lambs are old enough to render the operation very painful or dangerous, marking, castration and docking should be attended to. Castration is a very simple process, and if done when the lambs are not more than a month old, a perfectly safe one. A little tar and grease, or simply common salt rubbed on the wound will prove advantageous.

Docking should never be omitted, since it improves the appearance of the sheep and prevents much trouble, both to the sheep and the shepherd when purging takes place. In performing this operation the skin of the tail should be pulled with the finger and thumb towards the body, and a smooth cut made with a chisel and mallet on a block prepared for the purpose.

The object in pulling the skin forward is, that after the cut is made it may return and cover the stump, and not only facilitate healing, but prevent an unsightly appearance.

DATING THE BIRTH OF LAMBS.

Marking should serve the double purpose of indicating the ownership, and the year on which the lamb is dropped.

To indicate the latter, the following plan is suggested. It is not often profitable to suffer sheep to attain a greater age than ten years. Nine distinctive marks, therefore, to indicate the year of birth, is all that will be needed, since all should be scaled off for the butcher before or at the tenth year.

Take the present decade to illustrate the plan. Lambs born at the beginning of a decade, shall have only the mark of ownership. Those born the first year, or in 1871, shall have a round hole in the right ear; those dropped in 1872, will have two round holes in the right ear; in 1873, an underbit in the right ear; in 1874, an overbit in the right ear; in 1875, a swallowfork in the right; in 1876, a round hole in the left ear;

in 1877, two holes in the left; in 1878, an underbit in the left; in 1879, an overbit in the left; in 1880, only the mark of ownership again. It will be seen that the first five years of the decade are indicated on the right ear, and the remainder on the left. The advantages of such a system will be readily understood by those who have kept sheep, and have been compelled to resort to the troublesome expedient of examining the teeth of every sheep in a large flock to learn which had reached the age for scaling off. While the lamb is in hand receiving the mark of ownership, the time and trouble required to date its birth, will be a mere trifle compared to the advantage of knowing by an inspection of the ears, the age of each sheep in the flock.

If this system was adopted by every herdsman in the State, besides preventing much loss by the death of the superannuated, purchasers of flocks could start with a full knowledge of the age of their sheep, and know which to scale off.

TO DETERMINE THE AGE BY THE TEETH.

This cannot be better presented than by a partial quotation from "Randall on Sheep Husbandry in the South;" a very valuable book, which should be in the library of every farmer in Georgia who keeps sheep. Occasion is here taken to acknowledge its superior merit, and to heartily recommend it to Georgia farmers.

On the subject of teeth he says:

"The sheep has 24 *molar* teeth, and eight *incisors*. The latter are confined to the lower jaw, being opposed by a firm, hard, elastic pad or cushion on the upper jaw. The incisors are *gouge*-shaped—i. e., concave within and convex without. The lamb is born without incisor teeth, or it has but two. In three or four weeks it has eight small short ones.

"When not far from a year old—though sometimes not until fourteen, fifteen, or sixteen months old—the two central incisors are shed, and their place is supplied by two longer and broader teeth. The sheep is then termed, in this country, a *yearling* or *yearling pasu*.

"Two of the 'lamb teeth' continue to be shed annually, and their places supplied with the permanent ones, until the sheep becomes '*full-mouthed*' at five years old.

“At six years old the incisors begin to diminish in breadth. At seven they have lost their fan-like shape, becoming equilateral, long and narrow. At eight, they are still more narrow; and, this year or the next, reversing the flaring or divergent position, they begin to point *in* toward the two central ones. Their narrowness and inward direction increases for a year or two more, when they begin to drop out.”

They should be prepared for the butcher before they lose their teeth—say from the eighth to the tenth year of their age, according to the value and vigor of the animal. This is for merinos and their crosses. The long-wools lose their teeth earlier.

WEANING LAMBS.

At shearing season, the lambs being now four or five months old, should be separated from the ewes, and placed in company with a few barren or “turned off” ewes, to guide and gentle them, in a field sufficiently distant from their mothers to prevent them from hearing each other’s bleatings.

The lambs should have fresh and tender pasturage for the first few weeks, and the ewes dry and short food, to reduce the flow of milk. As soon as assured of the safety of their bags from “garget,” the ewes should be placed on good pastures, to prepare them for winter.

Bells should be placed on a few of the strongest and boldest of each flock, to give warning of danger. They serve, also, to help the herdsman to find his band if in woods or in foggy weather, and some claim that they serve to frighten off dogs and wolves.

The diseases to which sheep in Georgia are subject, and their remedies, are so well presented in the extracts from the replies of Mr. Peters, that it is not deemed necessary to make further comment upon them.

BUTCHERING.

The impression is very prevalent, even among experienced sheep-raisers, that the peculiar “sheepy” odor and taste sometimes found in mutton, is due to the contact of the wool with the meat. This is a mistake which has occasioned much prejudice against mutton as food.

The *true cause* of this taste or odor is to be found in *delay in disemboweling the carcass.*

The intestines should be removed at the earliest possible moment after life is extinct, and *before the removal of the pelt.*

If the intestines are allowed to remain until the pelt is removed, the gasses emitted from them are disseminated through the flesh and produce the objectionable taste and odor. If proper attention is paid to butchering well fattened muttoms, there will be nothing, either in the odor or taste, to offend the most fastidious.

Properly served lamb or mutton furnishes at once a most wholesome, delicate, delicious and nutritious food, which should largely supplant the gross hog meat usually consumed in Georgia.

CONCLUDING REMARKS.

The most remarkable fact developed in the foregoing circular is the handsome profit derived from sheep husbandry in the face of the most adverse circumstances. It is a notorious fact that very few of those who keep sheep in Georgia, pay more attention to them than to mark and shear them, except in the more Northern portions of the State, where they are fed a little in severe weather in winter. In view, too, of the fact, that so large a per cent. of the number in the State is annually destroyed by dogs, the profits under the "let alone" system, so generally adopted, are unparalleled. What other investment will declare such dividends under similar circumstances?

NATURAL PASTURES.

There are about 10,000,000 acres of practically unoccupied lands in Georgia, nearly all of which might be profitably utilized as sheep walks. A vast region in Southeastern and Southern Georgia, extending from the Savannah to the Chattahoochee, is a natural pasture, on which a million of sheep could be raised with trifling expense, on the native wire-grass which grows up luxuriantly, affording excellent pasturage in summer, and a subsistence on the undermath (which remains green) in winter. The most valuable spontaneous grass, however, is the Bermuda, which is peculiarly adapted to the purposes of sheep pasturage, forming an impenetrable sod of exceedingly nutritious grass, equal to the best blue-grass pastures of Kentucky, from early spring until frost. It will also supply winter pas-

turage where partially protected by pine trees, under which it remains green through the entire winter, and is relished by all kinds of stock.

A sod of Bermuda on lands *unprofitable for cultivation, will support five sheep to the acre for nine months in the year.*

There are other natural grasses which afford good pasturage during the summer months. So much for spontaneous pasturage which will keep the sheep in thriving condition for nine months, and will, in the southern portion of the State, subsist them for the other three.

Admitting, that to preserve a uniform condition of health and thrift during the other three months, some

ARTIFICIAL PASTURAGE

Will be necessary. They can be readily and cheaply supplied.

From the summer pasture they are turned upon the pea-fields, from which the corn has been gathered, care being taken to accustom them gradually to the consumption of the pea, to prevent injury by overfeeding.

On these they will grow fat, and be either ready for the butcher, or for entrance into winter.

From the pea field they go to the cotton field, which was sown in rye or oats in August or September, and is now green and succulent. These with the aid of the turnip crop, which was also sown in August and September, will furnish abundant green food until the return of early spring vegetation. If it is desired to reap a harvest from the grain fields, the turnips can be reserved for early spring feeding, as grain from which a crop is expected should not be grazed later than the 1st of February.

By the employing of moveable fence panels—several kinds of which are in successful use, the flock can be herded on just sufficient area of turnips to last them twenty-four hours, and this continued until the whole crop is consumed. While consuming the turnips they will heavily fertilize the soil.

Our climate has this great advantage over those with more severe winters.

In Middle and Southern Georgia, small grain furnishes green pasturage all winter, and a remunerating crop the next summer.

Turnips need no protection, and can be utilized with no more labor than is required to change the movable fence as often as necessary to give fresh pasturage.

Another advantage, both in economy and to the health of the sheep, which we have over more northern climates, is derived from the fact that, in the larger portion of Georgia, sheep do not need shelter in winter. This enables the husbandman to avoid, not only the expense of building shelters, but of hauling the manure from the shelters to the field, since, under the system suggested, the sheep will deposit all the winter droppings, either on the grain or turnip fields, where it is needed.

If the farmer wishes dry food for winter use, the pea vine, German Millet, sorghum or sugar cane fodder may be made to furnish an abundance of very nutritious and cheap forage.

No country in the world affords as cheap or better *grain* food for sheep than Georgia. Cotton seed, a surplus product from the cotton crop, which can be purchased at *fifteen cents per bushel*, has proved an excellent winter food for sheep.

If the Bermuda grass and wire grass were properly utilized for summer pasturage, and small grain pastures and turnips for winter, Georgia could sustain 4,000,000 sheep, and largely increase her agricultural products by converting much wasting vegetable matter into a superior fertilizer.

PROTECTION NEEDED.

The annoyance at present, attending sheep-raising in Georgia, to say nothing of the losses, deters many from engaging in it even under the stimulus of the large profits realized. The herdsman is compelled to protect his flocks with gun or poison against the ravages of dogs. He thus often incurs the ill-will of neighbors, which may manifest itself in resentment or retaliation; or perhaps the death of a worthless cur may kindle the torch of the incendiary, or speed the bullet of the assassin. Tennessee has imposed a tax upon dogs as a means of protection to sheep husbandry. Some additional legislation for its protection is needed in Georgia. To secure this, the presentation of facts, and the expressed wish of the people, will probably meet a prompt response at the hands of an intelligent and patriotic General Assembly.

Until the necessary protection can be secured, a resort must be had, either to inclosed pastures adjacent to dwellings, or to the employment of shepherds and shepherd dogs, where the flock is sufficiently large to justify the expense.

The latter expedient will enable the farmer to utilize much valuable pasturage otherwise inaccessible, by herding his sheep on uncultivated tracts in cultivated fields.

The shepherd, furnished with an axe or briar hook, can employ his time, while the sheep are shading during the greater part of the day, in cleaning off brush and briars, and thus improving and increasing the pasture ground. Grass also, on commons, where it would not be safe to risk the flock alone, can thus be converted into mutton and wool.

INFLUENCE ON LABOR.

Labor is the vexed question which stands in the way of the solution of every other problem in Southern agriculture. At present, all the marketable products of the Southern farm are made by the employment of expensive human muscle.

Under existing circumstances, neither brains nor capital, nor both combined, can sufficiently control labor to render it either reliable or profitable. The large introduction of sheep as laborers or manufacturers of wool and manure, will, to a great extent, diminish the demand for human labor, proportionately reduce its cost, and increase its efficiency by bringing it under better control.

It will thus be seen that, as sheep husbandry is increased in Georgia, the difficulties of the labor question will diminish.

Another difficulty of Southern agriculture is the fact that the products from a very large portion of the land in cultivation, do not pay the cost of cultivation.

All such lands can be made profitable as sheep walks, and gradually improved by the droppings of the flock, and kept clear of noxious weeds and shrubbery, thus saving much labor when it is desired to bring them again into cultivation.

An agricultural community is usually stable, conservative, and averse to changes of policy or practice.

Farmers adapt themselves slowly to changes of circumstances, adhere tenaciously to habitudes of thought, yield with reluctance their allegiance to traditionary practice before the

advancing wheel of progress, and demand the *practical demonstration* of the correctness of each theory, before it is accepted.

No theories untried by the touch-stone of practical experience are presented in this circular.

The facts given are derived from the experience and observations of practical men, who are surrounded by the same circumstances and difficulties as those who are here advised to "go and do likewise." The facts that have been presented remove all doubt as to the profit of sheep husbandry in Georgia, and present a remarkable contrast between cotton and wool-growing in the State—the one selling at less than the cost of production, the other at $27\frac{1}{3}$ cents profit per pound.

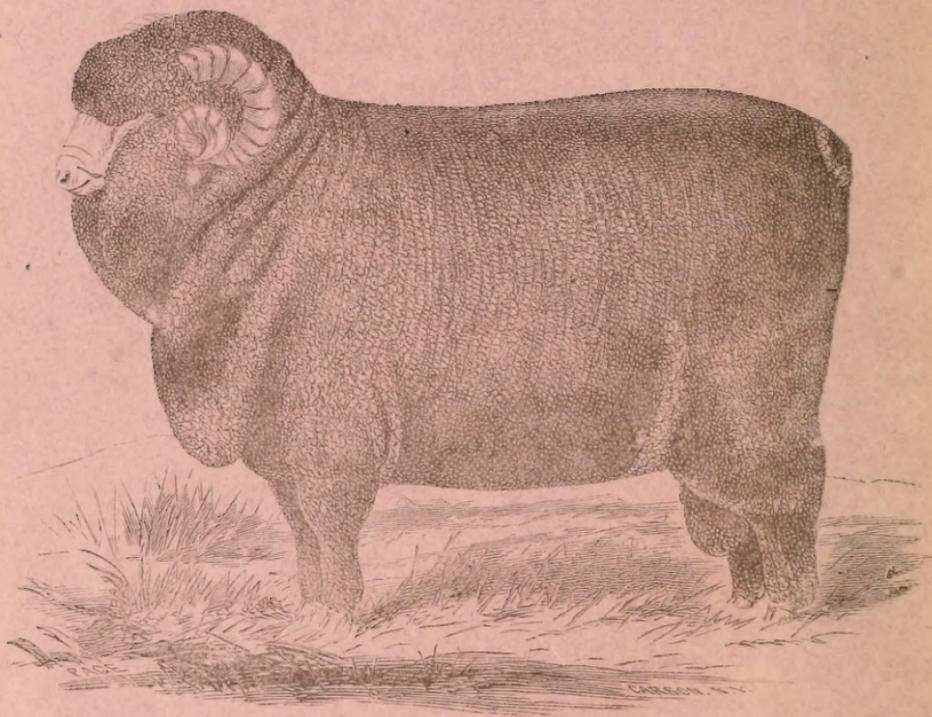
All farmers in Georgia are, therefore, urged to embark, to the extent of their pasturage facilities, in raising sheep for wool.

There are many millions of pounds of wool annually imported into the United States. There need be no fear, therefore, of the supply exceeding the demand, since the consumption of mutton and wool must increase with the increase of population.

Sheep husbandry in Georgia offers a wide field of usefulness, independence and profit to young men. It is to them that Georgia must look for the development of her resources. They are not trammelled by habits of thought and routine of practice. Let them survey well the field of enterprise before casting their lots in positions of dependence upon unreliable uncontrollable labor.

It is to them that Georgia must look to build up her waste places, and restore, with their flocks, the lands which their fathers have exhausted with cotton.

Very Respectfully
 Thomas P. Jones
 Commissioner of Agriculture





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