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**SALVET**  
**SHEEP BOOK**

**ROSCOE M. WOOD**  
**HENRY L. WARDWELL**  
**SPECIAL CONTRIBUTORS**

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Published by  
**THE S. R. FEIL CO., M'f'g. Chemists,**  
**CLEVELAND, OHIO**



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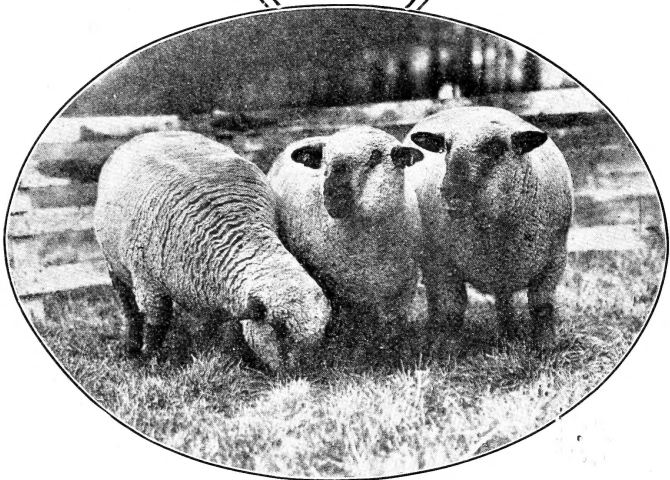


TRADE MARK

# SALVET

REG. U.S. PAT. OFF.

# SHEEP BOOK



**SPECIAL CONTRIBUTORS**  
**MR. ROSCOE M. WOOD**  
**MR. HENRY L. WARDWELL**

Published by  
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## PREFACE



There is much pleasure and profit in sheep husbandry for the man who will be patient, painstaking, and energetic enough to give them proper care.

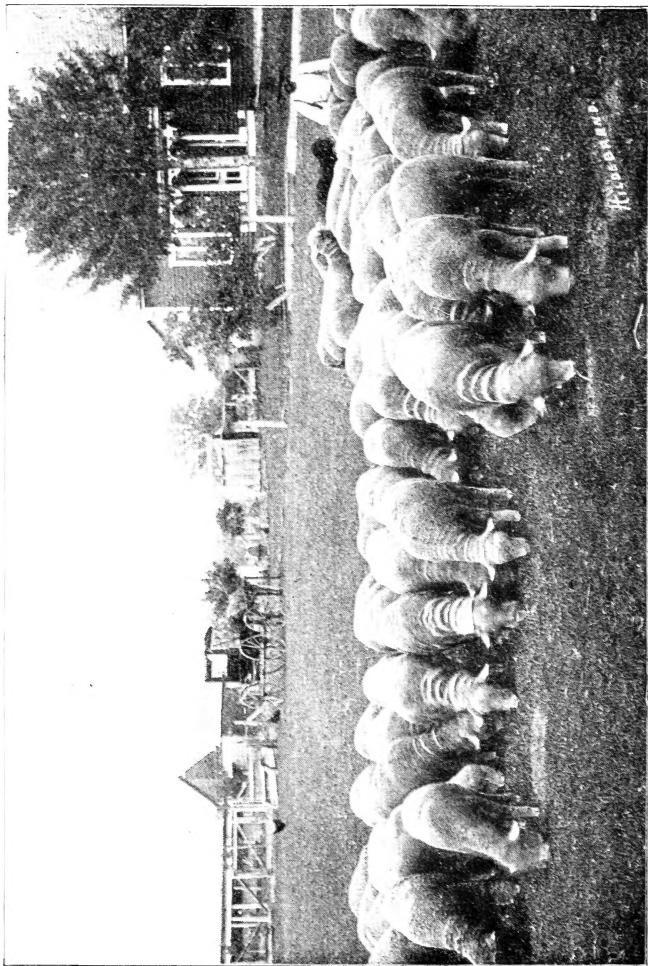
Every farm should have its flock of sheep just as much as its hogs, cattle and horses, for the sheep fills a place of its own, among farm animals.

Their rapid increase in numbers, quick maturity, ability to pick a living almost anywhere, the value of their fleece, and the benefit of their droppings in fertilizing land together with an usually good market price, make them a sure source

of profit to the man who faithfully sticks to them.

The greatest drawback to the sheep raising business in times past, has been the deadly worms which infest the pastures and find their way with the animals' food, into the stomach and intestines. I am glad that it has fallen to my lot to deal the death blow to these destructive parasites, and I appreciate keenly the words of commendation of such men as Henry L. Wardwell, J. C. Duncan, Robert Blastock, Geo. McKerrow, Jas. Leet, C. O. Judd and thousands of other sheep breeders, who unite in saying that in "Sal-Vet" lies the salvation of the sheep business in America.

Sidney R. Feil, Pres.,  
The S. R. Feil Co., Cleveland, Ohio.



Profit and pleasure.



# Successful Sheep Raising

By ROSCOE M. WOOD, Saline, Mich.



IT OCCURRED to us that a practical everyday treatise on the care and handling of sheep, that would appeal to the general farmer who keeps a flock of sheep, as a part of his general farm curriculum, and which will be of real service to him in making that flock a source of profit and pleasure, would be appreciated by American farmers, who believe sheep are necessary to the proper conduct of a twentieth century American farm. With that idea in mind this article has been written. Concise and practical, we have aimed to present nothing here, but what any farmer with good common sense can do, and which we have learned from our own experience, has been profitable. Much of it may be trite to the experienced shepherd, but we would say that we are not writing this for his benefit; we are weaving no fine spun theories, neither are we presenting methods possible only to the specialty sheep breeder or the wealthy faddist. This is for the plain everyday farmer, who may perhaps learn something new, or, at least, have the old recalled and forcibly impressed upon his mind.

The plan of the book is based on the care of a flock of ewes during the year, beginning with their selection in the fall, their breeding, care during the winter, the raising of the lambs, the handling of the flock during the summer, until we again come to the fall, with its culling and the starting of operations for another year. Methods described are practical and applicable to general



Mr. ROSCOE M. WOOD

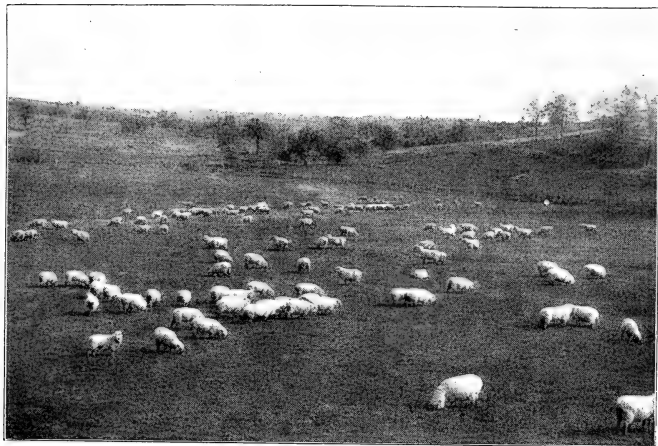
conditions as found on farms in the north central states; there are always special exceptions, which may only prove the rule.

This is intended for the farmer with a small flock of ewes, as such flocks are handled on the average farm in this country, not for sheep that are handled in large bands, under range conditions, for we feel sure that there are more men engaged in this branch of the sheep business than in any other, even if they do not handle as many sheep. And we venture to say that the development of the country will gradually bring an increasingly larger proportion of the business to the conditions of the farm and the small flock.

Statistics show that sheep are not increasing in numbers in the United States, while the population is increasing rapidly; in spite of this, prices of wool and mutton are lower at times than conditions of supply and demand would seem to warrant, and certainly below the cost of production. Then it seems as if the farmers are like their sheep, they see one go and all the rest want to follow. One sells and quits the business, everybody wants to sell; by the time many of them are out of the business, sheep advance in price, and there is a scramble to get back into sheep. Nothing can be accomplished by such methods. The only way to get the most profits from them, is to raise sheep all the time, sell your surplus every year at the market price; in the long run, such system will win.

Aside from the necessity of sticking to the business there are certain conditions which require sheep on the average American farm. The percentage of farmers who can specialize and devote all their time and energy to one branch of farming, is very small; the great majority must do general farming. These farmers keep

## SUCCESSFUL SHEEP RAISING



**A flock of sheep solve the problem of soil fertility.**

cattle and hogs and chickens, and raise grain for market; they carry numbers of each in proportion to the conditions of feed and market. With this other stock, sheep should hold just as important place in the economy and profit of the general farm curriculum.

One of the great problems of present day agriculture, is the maintenance of soil fertility, and there is no one factor that furnishes greater aid in its solution, than sheep. Nothing builds up the producing power of a farm so quickly, so cheaply, and so well, as sheep manure. But for the development of the sheep and lamb feeding industry, whereby the "woolies" came to the farms, converted grain and roughage into wool and mutton and manure, and the latter returned to the soil to feed and aid it in producing the next crop, many farms in

Michigan, Ohio and other states, worn out with wheat and grain growing, would now be in the same class as the abandoned farms of the far eastern states. The value of sheep manure as a fertilizer, has been shown so clearly and so forcibly, that now this erstwhile waste which accumulates at the big feeding stations around Chicago, is bought, pressed into small cakes by machinery and sold at a cent a pound, and even more, to the farmers who plant this with their corn. Sheep manure means rich soil. Show us a farmer who keeps sheep and tends them well, and we will show you a productive farm and a prosperous farmer.

In addition to the great value of the manure, sheep consume and convert into marketable form, a large amount of roughage which would otherwise be wasted or, at least, would not yield nearly as good returns, as when eaten by sheep. In fact, the feed of a sheep requires a very small proportion of grain, compared to the roughage, and it can be handled at the minimum cost for labor. For instance, how can corn stalks, or oat straw, or clover hay be marketed so cheaply and so advantageously and bring so great returns, as by feeding to sheep? The farmer thus sells his finished product in the shape of wool and meat, and returns the waste, in the form of manure, to enrich his farm, realizing the greatest possible returns from everything involved in the process. Likewise in summer, the sheep will eat the weeds in the stubble fields, and clean up any young brush which may have grown on the farm, and do well on such feed for a few days at a time. Thus they do good work in destroying this undesirable growth, and at the same time, turn to valuable use, an otherwise troublesome and obnoxious product.

The labor problem, which is perplexing and expensive on most farms, is simplified by sheep, for while there are certain seasons when they need close attention, as at lambing time, yet throughout a great part of the year they get their own feed, and what attention is required, can usually be given when convenient, or when other work is less pressing. In the busy summer months they do not have to be fed twice a day, nor do they require milking. When in the pasture they spread their own manure, and do it better than can any man or machine. They do their own work to a greater extent, than any other domestic animal.

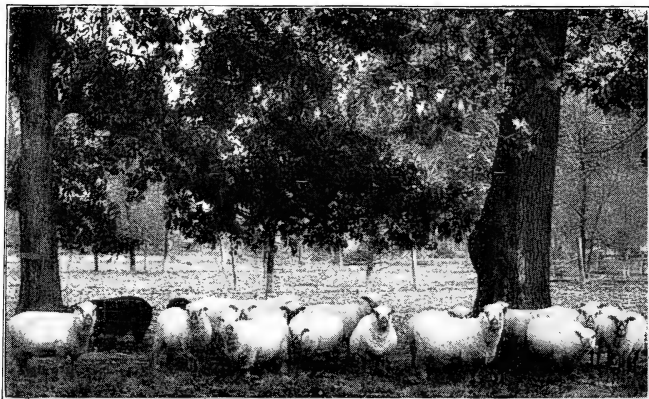
The amount of capital required to secure a flock of sheep is very small, while the returns come quickly. Often we have seen men buy ewes in the spring, and in less than six months, get enough from the wool and the lambs, to more than pay the cost of the ewes. The ewe is like a semi-annual interest-bearing bond, you can clip your coupons twice a year. In the spring you have a wool clip which ordinarily pays for the feed of the ewe, while in the fall you have a lamb, a large part of which should represent profit. Nor are expensive barns or sheds necessary; a building which will protect sheep from rain, snow and wind is the main requisite. Lightweight fences answer every purpose in keeping sheep where they belong on the farm. Expense for racks and troughs is also at a minimum.

These are but a few of the more prominent considerations and inducements, which sheep raising presents to the general farmer.

## The Ewe Flock

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“Well begun is half done,” is especially true in the sheep business. It is absolutely essential to have a good flock of ewes, if you expect to make them the most profitable. The best is always cheapest, so it is penny wise and pound foolish, to scrimp on the quality of the ewe flock with the vain idea that you are saving a few dollars. The extra money that you invest in securing



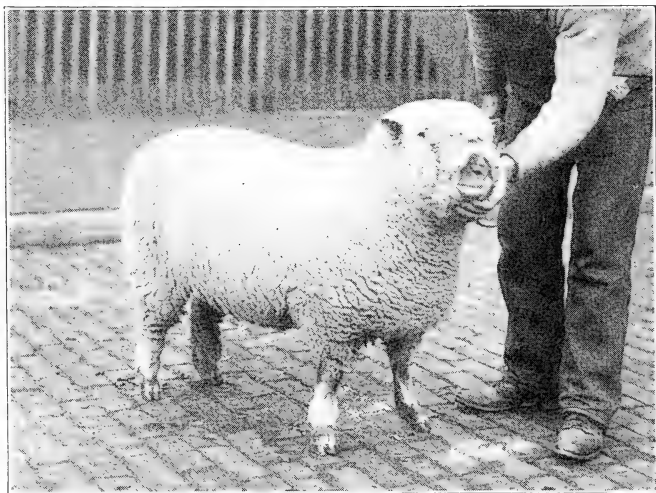
**Have a good flock with which to start.**

better quality of ewes, will be returned to you many times, by the increased returns on your investment. Make up your mind to have a good flock to start with. It costs no more to feed a good sheep, than a poor one, and the returns are infinitely greater.

Almost the first thing many farmers ask is, "What breed shall I buy?" The question of breed is not so material, provided it is adapted to the conditions of climate, soil and markets, under which you must run your flock. The main thing is for you to be satisfied with it, and feel that you can make the greatest success with it. Under general average conditions, good Merino ewes give very good results; the smooth, big-boned kind, that produce a good fleece of wool, and raise a marketable lamb. They are generally hardy, most resistant to disease and easiest to secure. If you prefer some of the mutton breeds, select the one you think best adapted to your conditions, and try to get ewes as nearly pure bred as possible.

The important thing about any farmer's flock of ewes, is that they be uniform, of one grade, of one line of breeding, of one size and the same quality. Too many farmers have an idea that the more breeds or the more mixtures that are represented in their flock, the better is the flock; nothing could be further from the truth. The flock in which every ewe appears to be the duplicate of the other, is the one which appeals to buyers, and which brings profit to its keeper. They produce a clip of wool in which the fleeces are all the same grade and quality, they raise a bunch of lambs that are all alike; this means an increase in the price over the mixed lot, when you are ready to sell.

Realizing the necessity of uniformity in your flock, it is important that you select the right type of an individual, as your ideal ewe. The first thing to avoid is extremes in any particular, either of size or fleece. Medium size and good form is essential. Constitution is very important; a heavy boned fore leg and a wide, deep chest indicate that. A good head, not



**A champion American-bred Shropshire, from the flock of Henry L. Wardwell, Springfield Center, N. Y.**

too long, with a clean cut nostril, a clear eye, a good neck, a little thin and long as compared to a ram, a good back with a full heart girth, strong shoulder and well sprung rib, a short, square rump and a straight hind leg. These are the main essentials in a typical ewe.

Satisfied as to the form, look to the fleece. Secure as heavy fleece as possible, without impairing the mutton faculties. A thick fleece carrying some oil and with as good staple as possible for the weight, should be required. Staple is especially important, but you can not sacrifice too much weight for staple; for the longer the staple, the lighter the fleece; the heavier the fleece, the shorter



## THE EWE FLOCK

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the staple; it is as near the happy medium as possible that you want. The fleece should be of even quality as possible, all over the body, generally with good head and leg covering; the latter indicates good breeding. Fineness of fiber is generally to be desired, as well as oil in the fleece; both add to its value and to its weight. A harsh, dry fleece, as well as a long, open one, are to be avoided. A healthy pink skin should be in evidence; too dark or too pale skins, indicate other faults.

Fine boned, ill-shaped, weakly constituted sheep should be rejected, regardless of any special excellencies; likewise the one with a thin, light fleece, of inferior quality. Sheep too long-legged, should find no place in



**Hampshire Ewe, at Walnut Hall Stock Farm, Donerail, Ky.**

the flock ; neither should the little, squatty, dumpy ewe, that is made in a mold two or more sizes too small, be chosen. Such ewes are often nice to look at, but seldom prove satisfactory breeders. Rather select the larger, broader, roomier kind, which convert much of their feed into milk for the lamb, at the proper time. In all things seek the happy medium ; it is the well-proportioned ewe, that has no pronounced defects, that will produce the best results. In this as in all things else, common sense and judgment must be used.

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## The Ram

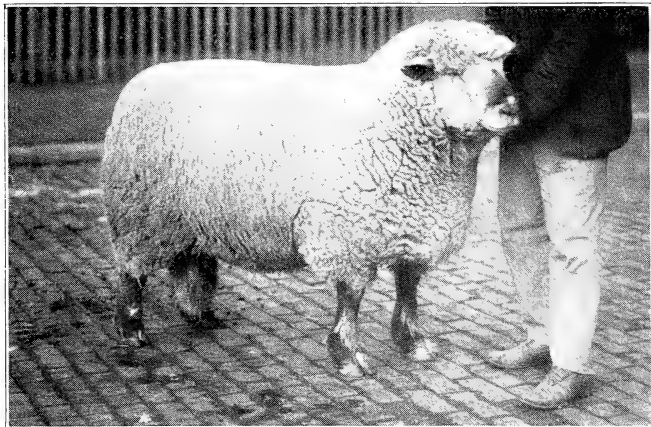
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**Rambouillet Ram, owned by King Bros., Laramie, Wyo.**

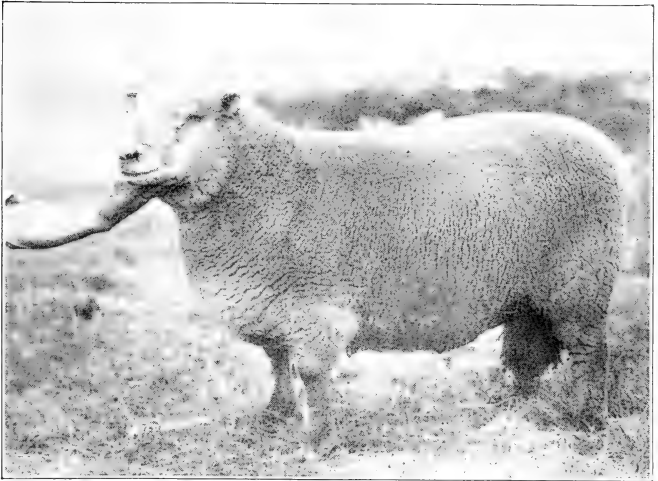
With a good flock of ewes, a good ram is required if you expect to raise a good crop of lambs. For the ram is half the flock, and, in many cases, he has proved to be nearly the whole flock. The reputations of many great live stock breeders have been made by their selection and use of animals which developed into great sires. An extraordinary good sire will so impress his good characteristics upon his progeny, that you can not estimate his value; likewise the damage of an inferior one, can not be computed. Too many fail to appreciate this fact. Often have we seen men buy the best ewes they could obtain, and then, for the sake of a few dollars, fail to buy the best ram they could get. The difference in value of the first crop of lambs, will far more than pay for the difference in cost of a good ram, and a poor one. Good things in this world cost. It has cost labor, brains, and time to produce that ram, and the breeder is entitled to compensation for his product. Remember that you are not buying the mere pounds of wool and mutton, which compose that particular individual ram, but the increased value you expect to obtain in the crop of lambs you will raise from him.

Having in your mind a picture of the type of ram you need, look for one that conforms closely to your ideal, and when you find it, do not let a few dollars stand in the way of your getting it. Do not wait until the day you are ready to use your ram, before you think about buying him. He should be bought, at least, a month before you need to use him, so he can become accustomed to the changes of feed and location; not only that, but the earlier in the season you look for him, the better selection you will find from which to choose, and the more probability of finding what you want.



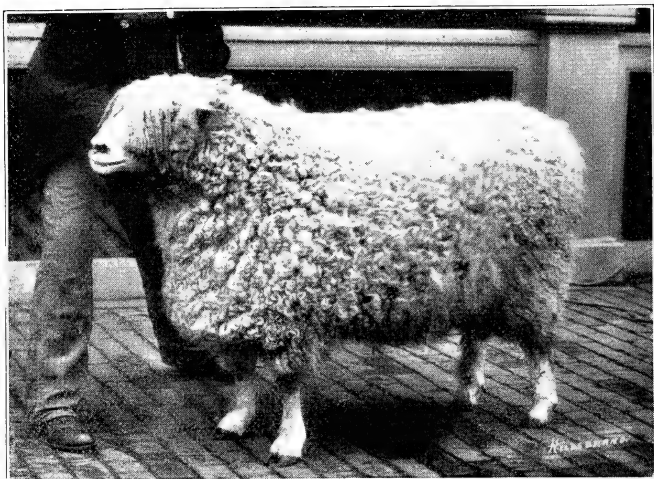
**Champion Ram, owned by Geo. McKerrow & Sons, Pewaukee, Wis.**

In selecting the ram, buy one that is all ram. A ram that looks like a ewe, or is effeminate in any way, will prove a worthless breeder. He should be active and vigorous, full of life and vim. A broad, strong head, not too long, a large foreleg, with a wide, deep chest, a broad shoulder, a well-sprung rib, good loin, square rump and straight hind leg, are all essential indications of a ram that will impress his characteristics upon his progeny. As to fleece characteristics, much that we have said about the ewes, applies with equal force to the ram. Select the square, well-made ram with broad front and straight hind quarters, well let down; the long-legged, loose-jointed, ill-shaped, hollow-backed rams, will do you no good.



**Southdown Ram, owned by Chas. Leet & Son, Mantua, Ohio**

In this connection we wish to impress on the trader the necessity of taking one breed and sticking to that breed. It matters not what the breed may be, you can not make headway in the improvement of your flock, by crossing breeds. Crossing is never permissible when one expects to maintain the flock from the ewe increase. Breeding sheep, or any live stock for that matter, is not like making a sandwich, as many farmers apparently think. To obtain improvement in any given characteristic, or in a harmonious combination, strict adherence to the laws of breeding must be observed. It does not stand to reason that any farmer, with a flock of sheep, can cross breeds, and in the course



**Cotswold Ram, owned by F. W. Harding, Waukesha, Wis.**

of two or three or four crosses, produce something better than anything that the best breeders of the world have produced, after having devoted years and years to breeding and improving their favorites. There are plenty of breeds, each having individual characteristics, particularly adapted to certain conditions of climate and soil. Determine which breed is best adapted to your conditions, buy good animals, and then stay with it.

Individual merit and good breeding to back it up, are absolutely essential in any ram you use; either one alone, loses much of its value without the other. Buy a purebred ram, for his breeding is your insurance of the ability of the ram to transmit his good characteristics. Experiment stations and private individuals have demonstrated in every possible way, that the purebred ram is vastly superior to "any old ram," in the quality of the

lambs he gets and the prices they bring. While we want the pedigree to show on his back, yet we want to know that his ancestors were good individuals, and good animals which have been worth keeping purebred and registered, are assured of that.

Buying of good, reliable breeders is safest in this respect, for rams bred by such men, are reasonably sure to be choicely bred and to give good results. Then, unless you know all there is to know about sheep, their judgment and opinions may be of value to you in making your selection. Many times an animal which may not be particularly prepossessing in appearance, may prove a better sire than one which appears better as an individual, due to the better breeding of the former; in fact many of the great sires have been far from being prize-winners. Good breeders have said that they wanted to see the dam when they were selecting a sire, as by her, they could judge much as to the value of her lamb, as a sire. So in the selection of a ram, the farmer will receive much aid from the honest breeder, who understands the breeding of his sheep, the value of good blood in a sire, and the peculiar excellencies of the various lines of breeding within his flock. If he knows the purposes for which the farmer wants a ram, he can many times make a distinction between individuals, from his knowledge of their breeding, which will prove valuable to the buyer.

It is generally not good policy to buy a ram that has been fitted for show, for it requires skill and time to reduce such rams to a breeding condition, and the average farmer has neither the time nor the experience to do this; besides, sometimes in the fitting, actual damage has been done to the ram, so that he is not a good breeder. A ram should be in good, thriving condition, so he can

show something of what he really is, but his usefulness to the farmer, depends upon how he has secured that condition. A ram that has run in the field, securing lots of exercise, and gaining condition from feeds which produce growth and muscle instead of fat, is far more valuable for service to the farmer, than a highly fitted ram, that has been kept in the barn. On the other hand, one should not buy a ram that is thin, and because the breeder recommends him as being hardy and being able to stand poor feed and privation. There may be a reason for the lamb being thin, which, if known, would make him valueless to the buyer. A serviceable, desirable ram should be in good, thriving condition, so he can beget good, strong lambs. One wants to know that a ram has certain desirable characteristics, and the best way to be sure of it, is to have the ram well developed and in good condition; they can not be brought out and the ram show what he really is, by starving him. Good blood is of little value without good care and plenty feed, and it requires a judicious combination of all these, to produce improvement. The good breeder will not be offering rams in thin, unserviceable condition.

In this connection comes the matter of weight. The first question many men ask is, "How much does he weigh?" The mere matter of pounds does not spell anything, for if it be fat, put on with fat-producing feeds, it is a detriment instead of a benefit, and it takes fat to weigh. Rather seek bone and good form and a growthy condition, obtained by proper methods and feed. Then if the ram has the proper conformation and breed characteristics, the matter of weight will take care of itself. The extremely large ram is not to be desired; the biggest rams are seldom the best. To be sure, one wants good size and strong constitution, but the medium



sized ram is more evenly balanced in all respects, and is more sure to transmit his good qualities to his produce. The very large ram, when bred on a flock of average good ewes of uniform quality, begets a more uneven lot of lambs, and many of the latter will show long legs and ill-shaped bodies, aside from other weaknesses, especially of fleece. The desire of many men for great size in their flock, goes beyond reasonable limits, and they overlook many other factors which are more important. Rather seek uniformity and good conformation; try to see how good a lamb you can produce and how cheaply. The more economically you can make a pound of wool, or of mutton, the more profit you will have. This has never been done with the biggest sheep.

When you have secured a good ram and he proves a satisfactory breeder, keep him just as long as you can. Many think it necessary to change rams every year, but this is not good business, unless the ram is a poor breeder, or gives only average results. A ram which is a good breeder and is imprinting his characteristics on his lambs, should be retained just as long as the ewes, to which he is being bred, are not related to him.



**Shropshire Rams.**

# The Breeding Season

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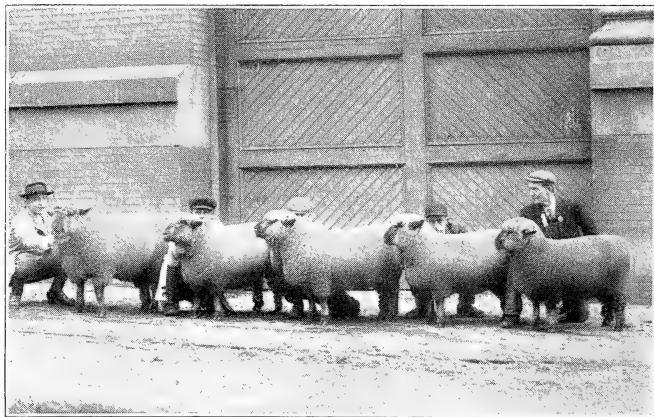
With a good flock of ewes and a ram of the proper quality and breeding to mate with them, you have a good start in the sheep business. But good sheep, no more than anything else, can live on their breeding; they must have good care and plenty feed, if you expect to secure maximum profits from them. They require the little attentions when they need them; not the day after, or the week after, but at the time. They can get along on short, unsuitable food if necessary, but they respond nobly to plenty, producing large returns upon the investment. Too many farmers have a mistaken idea that the sheep should live and thrive on what is left, after all other stock and crops have had the proper attention. They think any old thing is good enough for the sheep. No stock does best when it lacks proper care or the most suitable feed, and it requires the best of both, to produce the most profit. Sheep are no exception to this; and when given such care and feed, no animal returns greater profits from the labor and investment involved.

The beginning of a year's work with sheep is the breeding season, and no small degree of success depends upon the care and feed at this time. The ewes must be in good, thriving condition. Ewes that have suckled lambs during the preceding summer, are often liable to have become thin in flesh, and it is important that they be so handled, that they gain enough to get in good condition, even if it is necessary to feed them grain, previous to and during breeding. A mixture of corn and oats, equal parts by weight,  $\frac{1}{2}$  pound per head, fed in the troughs when the flock comes to the barn at night, will be a great help to them.

At least two weeks before you begin to breed, it is essential that the ewes be run on a timothy or blue grass

pasture; a new seeding or a clover pasture should be avoided, as the effect of such pasture, is to prevent the ewes from becoming settled in lamb.

The time of breeding depends upon when you wish to have your lambs come. In these northern states, breeders calculate to have their lambs come any time from February to April, according to the individual conditions and ideas. It depends upon how one is fixed to take care of the new-born lambs, both as to feed and shelter, and the necessity for the latter. There are advantages and disadvantages on both sides. Generally speaking, the earlier lambs bring higher prices, because as they require more labor and expense to produce; there are not so many of them, and they are ready for market before the big rush in the fall. They are also less liable to the ravages of stomach worms in the early part of the summer. They come at a time of the year when the general farmer has plenty time to care for them. But they require a warm barn; zero weather and an open shed do not agree with young lambs. The ewes demand more and better feed previous to lambing, and there is not the opportunity to make use of the roughage on the average farm, to as economical advantage. More roots and succulent feed are required, as well as more grain. It is much more difficult to keep the lambs growing under such conditions, than later in the season, when they can have green grass and sunshine and exercise. The best way is to strike as near a happy medium as possible; and this we have found to be about March, varying earlier or later, according to the climate and the individual conditions. This means breeding the ewes in October, inasmuch as the period of gestation in ewes is approximately five months, although scientists claim it is one hundred and forty-five days.



**Prize-winning Hampshires, from the flock of C. O. Judd, Kent, Ohio**

Before breeding, care should be taken that the ewes are well tagged, which is the shearing of all wet, dirty wool or tag locks, from the hind parts. Oftentimes a ewe has been scouring or the urine has dripped on the wool and made it filthy; all this should be trimmed off, and the ewe kept clean and healthy. This is most easily done by catching and throwing her on her side. Also where ewes lamb before shearing, it is best to tag them well before lambing begins, as it will save much trouble for the lamb in helping itself. Likewise ewes, which, for any reason, have become dirty during the summer or fall, should be well tagged, before going into winter quarters.

Here a word as to catching sheep: there is a right way and a wrong way, and too many do it the wrong way. Do not catch a sheep by the wool. Every time we see a man catch a sheep by the wool, we feel like

catching him by the hair; it is the same thing in both cases. The easiest and surest way to catch a sheep, is to grasp the hind leg just above the gambrel; in this way you are more sure of catching it if it be moving; it is easier for both man and sheep, and there is no danger of hurting either one. By catching below the gambrel, there is danger of breaking the leg, as there is only the bone, and a quick jerk or a throw, is liable to snap it. Grasped by the gambrel with one hand, you can pull the sheep back, throw the other hand around the neck, and easily set the animal on his rump or side, as you may wish, without injury or undue exertion. Of course, there is a little knack about it, which it takes practice to perfect. In handling ewes heavy with lamb, it is safer to grasp around the neck with one arm; if you wish to turn them down, grasp the hind leg nearest to you, pull forward and push under the ewe, at the same time pushing her body, with your other hand, toward yourself; thus she will lie down easily and without injury.

The general method of breeding, is to turn the ram with the flock of ewes and let them go without further care, which is very reprehensible conduct on the part of the shepherd. The most practical way we have found, with the least labor, is to turn the ram with the ewes during the day; take him out at night and put him by himself where he can be fed his grain, which should be considerably more than he would get if running with the flock all the time. Such method requires but little labor, for the ewes should come to the barn every night for their grain and shelter from the storms, at this season. It takes but a minute to take the ram out of the flock, and he soon learns where to go, when he learns there is a good feed of grain awaiting him. Then he will eat a

good feed of hay, rest during the night, having his morning mess of grain before going with the flock, and when they go to the pasture, he is rested and fresh for another day's work.

This is better than keeping the ram in the barn days, and putting with the ewes nights, for the ewes are all up and stirring during the day ; there is not as much chance of the ram missing any in heat, and the ram will work during the day, and rest at night. Otherwise he will be uneasy and restless during the day, and at night many of the ewes will be lying down. What little labor and feed that the method described demands, is paid for many times by the better condition of both ram and ewes, and the stronger lambs that you will get.

The breeding season should last from thirty to forty days ; for while the breeding period of a ewe should be every seventeen days, yet there often is one missed the first time around, and some do not settle at the first breeding. So that to insure that all are bred, this length of time is required.

One ram will breed from fifty to sixty ewes if properly and carefully handled in this way, and he is a strong, robust ram of mature age. Many farmers think it economy to use a lamb, because the first outlay is not so large. This is a great mistake, for the lamb can not breed nearly as many ewes as an older ram, and the lambs from him will not be as strong after the first few ewes bred; then there is much danger of seriously injuring the growth of the lamb, through over-service.

In the feed for the ram, we have found the best to be timothy hay, or hay mixed with a very little clover, for roughage, while the grain should be four parts oats, one part corn, about a quart to a feed, for an average ram, and to this add a handful of whole wheat. Clover,

which is the best roughage for sheep at all other seasons, either as pasture or hay, is strictly tabooed during the breeding season.

If it be desired to breed an unusually large number of ewes to one ram for any reason, more service can be obtained without damage to the ram or the lamb crop, by using the following method: Take another ram to "try out" the ewe flock every morning, which ram will find all that are in heat, put such ewes in a pen in the barn during the day, allowing the ram in service to serve one at stated periods during the day, but allowing but one service to a ewe. A record can thus be made of the ewes, and the date of breeding, so that when it comes lambing time, the shepherd will know closely when they will lamb. This method requires more labor, but is repaid by the greater service secured from a single ram.

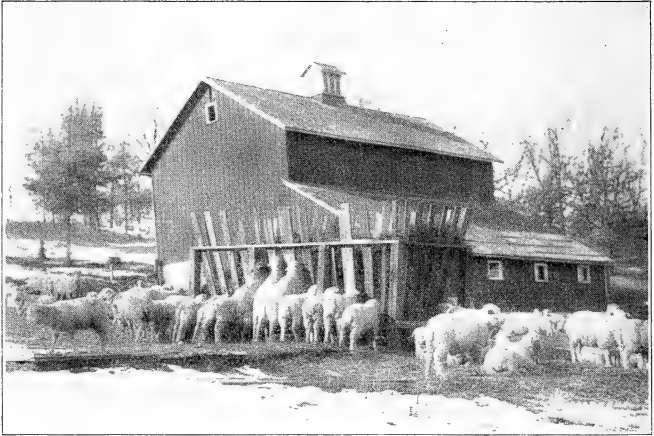
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### Winter Care

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After breeding, comes the care and feed of the ewe flock, during the winter previous to lambing, which is likewise important; for the proper care and feed are as necessary for the lamb before birth, as after, although not so close attention is required in its early stages.

Subsequent to breeding, the ewes can run on almost any pasture which furnishes ample feed, although a timothy or blue grass pasture is generally best, until snow or lack of grass forces their being kept at the barn and fed dry fodder. For this, good corn fodder and nice bright straw, form good roughage, especially for a morning feed, while good clover hay makes a palatable evening meal for them. A feed of grain, two parts oats,



**Large, dry, open yards are essential.**

one part corn, one part bran, by measure, one bushel per day, to fifty head, should be given until near lambing time. As to the amount of roughage, they should have all they will eat up clean; they should not be allowed to waste any, for it is waste that eats up the profits. Neither should they be stinted, for it takes feed to grow wool and mutton, and as long as the sheep make good use of it, they are making more money for you that way, than any other in which you can market your feed.

In addition to proper feed and plenty of it, there is another requisite to a good lamb crop, and that is, plenty exercise and fresh air for the ewes. Close warm barns are not good for the ewes; likewise is the large open yard essential. Here the ewes can get exercise, which they need, in order to insure a strong, healthy lamb in the



spring; the exercise is just as necessary as the feed. You cannot put a flock of ewes in lamb, into a small pen in a barn, feed them highly all winter, and expect to raise any lambs.

They should be protected from all storms, especially rains, and the pens or barns should be so situated that there are no draughts. But the barns should not be closed tightly unless it might be in extremely severe, stormy weather. Sheep have a good coat of wool which keeps them warm, even as clothes protect a man. Likewise do they want fresh air when they sleep. Keeping the door on the south side of the barn open, will accomplish this purpose very well.

In feeding the roughage, feed the corn stalks out in the yard, which every farmer should have adjacent to his sheep barn; likewise the straw if you prefer; or the latter can be put in the racks inside, in the morning; the ewes can pick it over during the day, and at evening, feed that is left, can be thrown out for bedding. Straw should be fed in racks, but the corn stalks can be fed on the ground where the ewes can pick at them. We have also found a very economical and satisfactory method, the early part of the season following breeding, to be to feed the ewes shock corn. Judgment must be used in feeding this, and care must be taken to scatter the corn thoroughly, so that no single sheep will get too much; also the ewes must be furnished abundant exercise. A very good method is to have their water some little distance from the feed, which necessitates their walking every day. But this feed should not be given during the latter part of the period of pregnancy. Good clover hay, with some grain, and a short time before lambing, the feeding of roots or other succulent feed, is

necessary in order to induce a sufficient flow of milk to properly nourish the lamb.

Fresh, clean water is absolutely necessary. No animals are so clean as sheep; especially are they particular about their water and their grain troughs. Dirt or filth will effectually keep them away; they will go hungry and thirsty, rather than suffer manure in their feed or water. Some farmers seem to think that sheep need water only occasionally, but it is just as necessary to them as to man; it is just as important as feed. Where there is not a running stream available, a half barrel or a common washtub, make the best watering tubs. They are cheap, convenient, and easily cleaned. Where there is a waterworks system on the farm, a small trough holding not to exceed a barrel of water and filled through a valve, attached to a float is a very convenient, labor-saving arrangement.

Salt is also necessary. This can be kept in a box where they may have access to it at their pleasure, and as their appetite demands, or it can be fed to them at stated intervals. With the former method, it is absolutely essential that it be kept there **all** the time; for if the box is allowed to become empty, when it is refilled some of them will get more than they need, and disastrous results will follow, even to absolute loss. With the other method, a proper amount can be scattered in the grain troughs once or twice a week. For salt, we use almost exclusively "Sal-Vet," a medicated stock salt. We feed it not only in the summer to the lambs, but we have found it economical and beneficial for the ewes in winter; it acts as a conditioner, and will drive out the stomach worms which may be present in their systems. Another good method of feeding salt where



**Let no other stock run in the sheep yard.**

straw is being fed, is to make a strong brine, all the salt that the water will dissolve, and spread on the straw. It makes the straw more palatable, and the sheep get salt in proper amount.

During the winter there are two requisites of sensible and successful care of breeding ewes; they must be kept dry, both underfoot and overhead, and other stock, such as horses, cattle, or hogs, must not run in the same yard with them. Wet, muddy yards, mean sore feet and wasted feed. Other stock in the yard, means injured ewes and loss of lambs; besides the ewes will be driven from their feed. Narrow doorways or gates must be avoided, as well as sharp corners. Nothing will injure

ewes and cause abortion, quicker than a little, narrow door, through which ewes have to crowd, or some sharp corner. Crowding is to be avoided at all times, either by scaring the flock by some unusual noise, or intentionally, and all obstructions must be prevented.

The sheep pen should be kept well bedded with straw or other roughage at all times, as a matter of cleanliness and of profit. It is not only much healthier for the sheep to have a clean place on which to stand and lie, but by keeping well bedded, more manure is made, and sheep manure is valuable on any farm. It is something of which you never get too much. The pen should be cleaned often enough during the winter, so that the manure does not become so deep that it heats or interferes with the sheep eating in the hay racks. It should be drawn and spread upon the land. This work can be conveniently and economically done in winter, instead of waiting until the rush of spring work. Especially important is it that the pen be cleaned just before lambing begins.

Exercise and fresh air at all times, proper feed, and sensible care of the breeding ewes, will do much to insure a good lamb crop.

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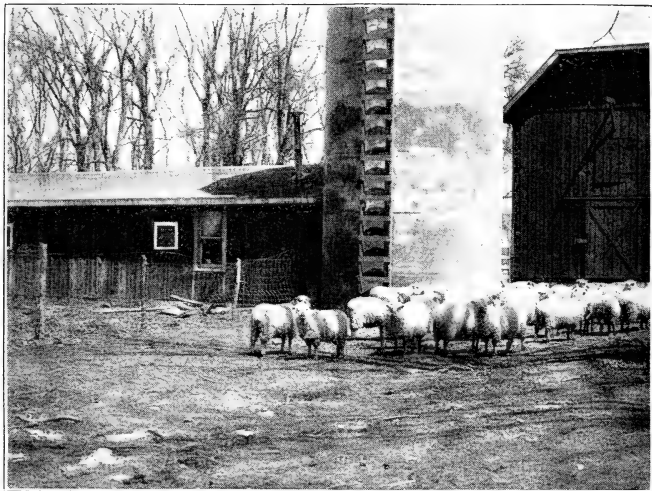
## **Preparations for Lambing**

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About two weeks before the ewes are due to begin to lamb, a change in feed is due them. They should have more grain, and clover hay twice a day. Roots are also essential, or some succulent feed. Grass is the best known milk producer, and when that is not obtainable, some substitute must be provided, in the form of a succulent feed. We have found roots in the form of sugar

## PREPARATIONS FOR LAMBING

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**Keep the ewes quiet and undisturbed.**

mangels, or stock feeding beets, as they are known, to be the best for this purpose. They are cheap and easy to raise. A little batch of one half to one acre on one side of your corn field, well tended, will raise a large amount of cheap feed. The main labor of hoeing and thinning can be done in the damp of the mornings in haying time, while the necessary cultivating can be done at the proper times, just as you would tend a patch of potatoes or corn. If you have never tried them, the yield will surprise you. For feeding the ewes they should be cut into slices, which can be done with a root cutter made for the purpose. They can be fed either as a separate feed at noon, or they can be mixed with the other

grain, and fed with it morning and night. We believe the latter the better system, especially when the ewes are not used to eating the roots.

In the absence of roots, dried beet pulp, where available, is a good feed; wheat bran is necessary in any case. Feed corn sparingly, or not at all. Oats, bran, and roots, with all the clover or alfalfa hay they want, makes an ideal ration, and is practically essential to secure best results. Use judgment in feeding it. Start with an amount equal to that which the ewes have been accustomed during the winter, gradually increase it, so that by the time the lamb is a week old, the ewe is eating about all she wants.

Before lambing, especial care should be taken to keep the ewes quiet and free from scares which cause crowding and danger of injury. When anyone goes among them, he should go slowly, keeping to the outside of the pen, thus giving the ewes a chance to move out of his way, without becoming scared or crowding. All yelling or other unusual noises, should be avoided.

Small pens about 3x5 feet should be provided, so that when a ewe does not own her lamb, or has twins, or you want to make a ewe adopt a lamb, you have a place already for such conditions. These can be made alongside the hay rack, thus making a rack for them, while old pans make good grain dishes for such pens.

Immediately preceding lambing, not so much exercise is needed, but even a little, such as can be secured in a good sized yard adjacent to the pen, is very desirable. In fact, a properly located, well drained yard, is just as essential for a good sheep equipment, as is a barn or shed. Here the flock should always go for its grain, except it might be in a storm, and while the ewes

are eating their grain, the farmer can be feeding them their hay. Crowding is thus avoided, as is the danger of getting chaff in the wool, while all are eating grain at the same time, and each getting its share. Care should be taken to spread the grain in the trough evenly, not a lot and then a little as some do, which causes crowding and the weaker sheep, which needs the grain most, is pushed away, while others get too much.

By feeding in the yard, the feeder readily notices any sheep that may be indisposed or off feed. He is wasting no time waiting for the sheep to eat their grain, for he is busy feeding the hay, and in doing this, keeps all dirt and chaff out of the wool. This matter of keeping chaff out of the wool is important, for a clip of chaffy wool, means a reduction of two to four cents a pound, from the price of a clean clip. Neither hay nor straw should be fed over the backs of the sheep, nor should they be allowed to run to a straw stack as they want, and while doing it be filling their heads, necks, and backs with chaff. Put it in the racks or in small piles around the yard, so that the chaff will not get into the wool.

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### Lambing

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Lambing is the sheepman's harvest, and it behooves him to look well to his business. It is close work, night and day for a little while, but it is necessary to success. The life or death of every lamb means the addition or subtraction of so many dollars from the year's work. When you look at that dead lamb and then calculate how many dollars that represents, your ambition may be spurred to greater effort with the next one.

When a ewe looks gaunt and hollow, stands off in one corner by herself, and occasionally draws up her hips, you may know if all is well, there will soon be a new lamb, within six to eighteen hours. As her time approaches, she will become uneasy, lying down and getting up quite often, and occasionally straining. When the labor pains come on and the water sacs pass, the lamb should come soon, at the most, in not more than six hours; if not, there is something wrong, and unless you know how to help her, assistance of an experienced shepherd or of a veterinary should be secured at once. Do not wait, for time means a lamb, and, perhaps, a ewe.

But if everything is well and the lamb is presented all right, it is best to help the ewe, especially if she is young and it is her first lamb; pull on the feet and push the head forward; you can help her much, and avoid any danger of injury to the lamb. As soon as the lamb comes, take care that the little thin skin which covers his face and nose is removed, and that he begins to breathe; if he does not breathe, hold his mouth open and blow into it, also rub him on the sides with your hands; the lungs soon act. In breaking the naval chord, be careful to break the chords by drawing toward the lamb and away from the ewe. Do not cut, but tear apart, by drawing between thumb and forefinger.

Everything well so far, the next thing is to see that the milk is started, so the lamb can get his feed. Do this with moistened thumb and forefinger, and put the lamb where he can take hold of the teat; if he is lively and hungry, there is no more trouble. But sometimes a lamb is a little dumpish or slow to take hold, or it might be that he has gone without feed too long, due to some mishap, and he does not suck. In such cases it becomes



necessary to hold the lamb with the teat in his mouth, and if he does not draw the milk himself, to draw it with thumb and finger, from the teat, into his mouth; when he gets a taste of the milk, he will do his own milking. In these cases the lamb should be put with the ewe in one of the small pens provided, and care taken that the lamb is suckled every two or three hours, until he helps himself. In all cases it is better to take the ewe, with her lamb, from the flock of unlambd ewes, and put with those that have their lambs. Thus the latter can be given more feed and better care, while the little lambs will not annoy the ewes about to lamb.

Any ewe which refuses to own her lamb, a ewe with twins, or a ewe which has lost her lamb, and which you want to make raise a lamb, should be put in one of these small pens. If a ewe loses her lamb, she will adopt some ill-fed twin in a few days, if thus put by herself with him; for every ewe should raise a lamb, either her own, or some other ewe's. Occasionally it becomes necessary to feed a lamb cow's milk, in order to save him. This should not be done until he is two or three days old, even if you have to steal a little ewe's milk away from some other lamb. Care must be taken not to overfeed him on cow's milk. Give him a little at a time, but often. This can be done with a bottle and a rubber nipple. The milk must be the right temperature, neither too hot, nor too cold. It must be fresh milk, just as it comes from the cow. No dilution is necessary, for ewe's milk is even richer. The bottle must be kept sweet and clean. The lamb must not go too long without feed, and he must have his milk regularly. The first two or three weeks is the important time when he requires close attention, and after that he is not so

particular. Then the young boy or girl can take an interest in the flock by feeding the pet.

With the ewes just lambled, care must be taken that the lambs are sucking both sides of the udder, and taking all that the ewe gives. Often, for the first two or three days, a ewe will give more milk than the lamb needs, and then it is important that the ewe be milked out; this is best done by letting some older lamb, either a twin or some lamb whose mother is not feeding him well, do this. Milking with the hand should only be resorted to when there is no other way, for it is a waste of the choicest lambs' feed, and it tends to dry up the ewe. Care must be taken to see that the ewe's udder is clean, and that her teats do not become sore, for then she will refuse to let her lamb suck. Very close attention must, at all times, be given to this matter of the lambs sucking both sides, and the ewes owning their lambs. It means the growth of the lamb and the health of the ewe.

Immediately following lambing, the ewe should not be fed too heavily, especially if she be in a small pen; generally, in a flock, she is so anxious about her lamb for the first three or four feeds of grain, that she will not eat too much; she will spend half her time running between the grain trough and her lamb. You should notice if her bowels are moving regularly; and if she is costive or feverish, give her two tablespoonfuls of castor oil, or an equal amount of Epsom salts. Sometimes the newborn lamb takes his nourishment well for the first day, and then refuses. In such cases, note if his bowels are in working order; if they have not moved, give a rectal injection of lukewarm soapsuds, made of pure soap and rain water; use a small syringe. This is generally sufficient, but in severe cases, a teaspoonful of castor oil may be given internally.

Sometimes a ewe will develop a caked udder, generally in one side only, but often in both; it may come anytime while the ewe is suckling, more often appearing in ewes that are heavy milkers, and when the lamb is from three weeks to two months old. The part affected becomes swollen and hard, which causes a stiffness in the entire hind parts. Instead of milk, there is a thin, watery fluid, sometimes gargety, which the lamb refuses to take. Rub the udder well with the hand and force out as much of this fluid as possible. In rubbing, which is the main treatment, it is essential that the hand be kept moistened while you are rubbing; also when through rubbing, apply some camphorated sweet oil. Such rubbing should be done for twenty to thirty minutes two or three times a day until the soreness has disappeared. The main purpose is to soften the udder and to keep it milked out. This trouble is generally attended by constipation, and as soon as noticed, a large dose of castor oil, three to four tablespoonfuls, or Epsom salts, should be given. Generally the ewe loses further use of the affected side; in some cases, it causes death. In any event it means the market for her in the fall.

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### The Lambs

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Three factors are necessary to a place to best raise young lambs, viz., it should be dry warm, and light. Good ventilation is necessary in order to avoid dampness as well as draughts, both of which are death to young lambs, as well as to old sheep. Many times in trying to keep a shed warm, it is kept closed so tightly, that a vapor



is created from the breaths of the sheep, with a resultant dampness and moisture, which is very disagreeable and even dangerous. The air must be kept pure and dry. A great aid to this is sunlight. To procure this, it is essential that the sheep shed be so located, that the broadside of it is toward the south, and built with plenty windows and glass in the doors, if the latter must be closed. Next to the mother's milk, there is no one

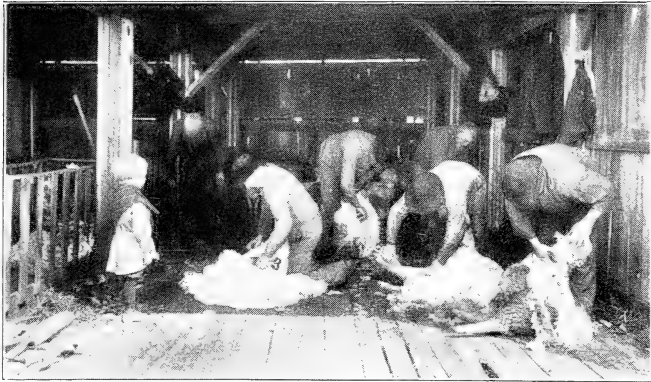
thing that does a little lamb more good, nor which he enjoys more, than an abundance of sunlight. Did you ever see a bunch of young lambs gathered together, lying in the sun, sleeping and enjoying those warm rays to the full, when, perhaps, outside the wind may be blowing and the thermometer hovering around the zero mark? If not you have missed one of the finest pictures Nature has ever painted for man's instruction and pleasure. When the lamb is sleeping in that sunlight he is growing, and this means profit to the farmer.

Like all other young animals a lamb must be kept growing, and he must learn to assimilate foods other than his mother's milk. The earlier in life he does this, the better. To help him, fix a creep. What's that? A small pen, where he can crawl away from the ewes and find grain and the choicest, tenderest hay for himself, and a drink of fresh, clean water, and a nibble of "Sal-Vet." Have this pen adjoining, or within the sheep pen proper, and make the openings into it just large enough for the little lamb to crawl through, without the ewe being able to get in. The pen need only be large enough so that a number of the little fellows can get into it at once. Here have a trough, in which you keep a mixture of bran with a little oats and just a sprinkle of oil meal; also a rack in which you keep a little choice clover hay. Keep this feed and water clean and fresh all the time, and so the lambs can get it. Do not worry about the lambs going in there; they will find it and learn to eat, without any further help.

When the lambs are about ten days to three weeks old, two operations become necessary in order to make them the most profitable, viz.: docking and castrating. To do this, they are best put in a small pen before start-

ing, and as soon as done with one, put him in the pen with the ewes, thus not disturbing the lambs after operated upon, this is quite important, as the less they move, the less liable they are to bleed. The best time to do this, is at evening after feeding, and just before dark, as the flock will then be quiet for several hours. The only tool necessary is a sharp pocket knife, which must be properly disinfected with carbolic acid or any good disinfectant; this latter is very important.

Where both operations are necessary, the castration is done first. See that both testicles are down, cut off the end of the scrotum or sac, and pull out the testicles with the thumb and forefinger, or, as many prefer, with the teeth, until the cord breaks; do not cut the cord. A little disinfectant, such as Zenoleum well diluted, acts as a healer and disinfectant. To dock, simply cut the tail off with the sharp knife. Care should be taken to hit one of the small joints in the tail, which can be easily located by the operator with the thumb of his left hand; for, hitting the joint, it does not shock the lamb nearly as much, nor is he so apt to bleed. In case of over-bleeding, from which there is occasional danger of death, the best preventive is searing with a hot iron. Cording and the use of cobwebs, is also effective. Some even advocate the use of hot pincers for docking, but we have always found the sharp knife the handiest and most effective, with very little danger.



Shear them before they go to grass.

## Shearing.

Shearing time depends somewhat upon the time when the lambs come; if the lambs come early, shearing follows lambing, if later, the shearing often comes first. In the northern states, shearing generally comes the latter part of March and during April, depending upon the weather and the local conditions, as to shearers and sheep. Shearing too early is not advisable, because there is not as much oil, and consequently, not as much weight in the fleece. Unless you have a very warm place for them, cold weather will necessitate more feed, and the ewes will not furnish as much milk. Shearing before lambing, requires careful handling of the ewes by the shearers, or there is danger of turning the lamb inside the ewe, thus causing trouble. Shorn ewes, however, are much easier to handle after they lamb, and

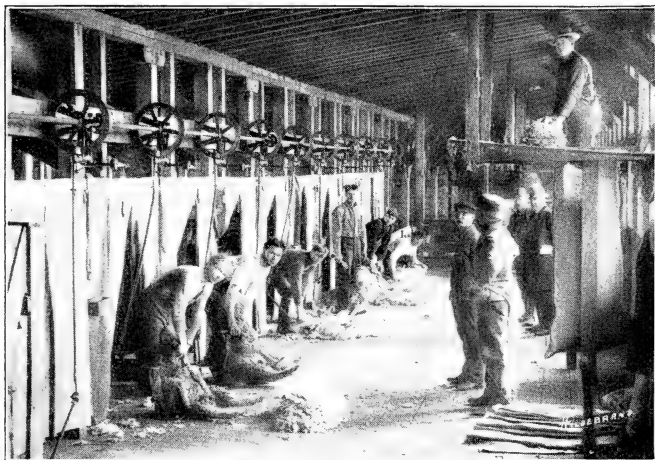
generally it is easier for the lamb to help himself, as there is no wool nor tags to bother him. No set rule can be given; a man must determine this for himself. Only one thing is sure, they should be shorn before they go to grass.

General custom is to hire local shearers, who make that their business at that time of the year; many farmers are learning to do their own shearing. Some use machines, but the great majority use blades. Many men have an idea they can learn to shear sheep with a machine, when they could not with a pair of shears; this is wrong, for the knack is not so much in holding the shears or the machine, but in holding the sheep so as to run the shears or machine to advantage. There is not room here to explain fully about shearing; it must suffice to say, that sheep must always be held in a comfortable position, and the hide kept smooth and tight. Pull the hide and not the fleece, and then the shears or clippers will run smoothly and close to the hide.

Having shorn the fleece, the main thing is to tie it up properly. This is best done by the aid of a common folding wool-box, such as every farmer has or knows about. Thread with the proper twine, which is the common wool twine, lay the fleece upon this, shorn side down, smooth and arrange so that the shorn ends will all appear on the outside of the fleece, put in all the trimmings and dry tags, fold the box, and tie the fleece. If you do a good job of tying, no black ends will appear. With the use of the box, all fleeces will appear uniform and will be packed a little so that the ends do not show, all of which adds to the attractiveness and salability of your clip, when the buyer comes. Never use sisal nor manila binding twine; if you do, it will cost you two to four cents a pound on your clip. Better not tie at all



## SHEARING



**Sheep shearing by machinery.**

than use it. Some are using a new paper twine; others a small hard cord. These are both good. The main thing, is to have a twine not too heavy, and especially one free from any loose fibers which may attach to the wool, and so cause trouble for the manufacturer when he makes the fleece into cloth; such fibers can not be separated from the wool, and they cause a flaw in the goods.

Care should be taken that each fleece is tied separately, and with no more twine than necessary. Two or more fleeces or parts of fleeces, should not be tied together. Do not put wet tags, sweat locks, dead wool, dirt, nor foreign matter of any description, inside the fleece. You are selling wool, not real estate nor fertilizer,

and just because the buyer can not see everything, do not think he will not know about any filling of fleeces with other than wool; those fleeces must be opened, and the men who open it, will know whence it comes. The reason Australian wools open up in such good condition and are so satisfactory to the manufacturer, is that the growers use great care in doing up their wools and try to maintain a reputation for the good condition of their clips. The carelessness of American farmers in this respect, has cost them much.

Properly tied, the wool should be put in some place where rats and mice, dirt and dust can not reach; neatly piled and covered with canvas, it is ready to show to the buyer, when he comes. Piling it in as it comes from the flock, any variation of the fleeces will show so that it is not necessary to pull the pile to pieces, in order to show the wool. Here is where the value of a uniform flock shows in dollars. The time to sell wool is when it is ready for market, and that is when it is shorn. Too many make the mistake of holding wool for a higher price, because it appears easy to hold, eating nothing, and taking but little room; they forget there is a shrinkage and a risk involved in carrying, aside from the interest on the money invested, which makes a profit from holding of very doubtful value. The local buyer generally furnishes the best market, as he has enough competition as an incentive to pay you its value.

After shearing and before going to grass, both ewes and lambs should be marked. The best way to do this is with a small metallic ear label, which should have the owner's name or initials on one side, and a series of numbers on the other; in this way the farmer can keep a

## SHEARING

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record of his lambs and of their breeding, each year. Such labeling lasts during the life of the sheep, as very few of them become lost. In addition to this, many use a paint mark on the wool, which can be readily distinguished at a distance. This should be made of linseed oil and lamp black or venetian red, with a little flour, to give body to the paint. It can be put on any part of the body, with a wooden marker, preferably the rump or back. Tar should never be used for marking.

Ticks should be the only condition necessitating the dipping of sheep, unless scab has broken out through accident by shipping the sheep from other sections. Dipping should be done in the spring, soon after shearing; a good warm, sunny day is the best. Use a small dipping vat, such as any of the larger tank factories make; a small draining pen, made with a tight bottom so that the dripping from the sheep when they first come out, can run back into the vat, some good coal-tar dip, water, and plenty help to handle the sheep; these will make a short job of dipping, and effectively rid your sheep of all ticks, at a very small cost. By doing this soon after shearing, it will take much less dip, the sheep are easier to handle, and you do a better job of killing the ticks. With a coal-tar dip, there is no danger of poisoning nor injuring the sheep.

If for any reason there are many ticks on your sheep in the fall, dip them before very cold weather comes. Ticks live on the sheep's blood, and if sheep's feed must support numbers of these pests, it is not producing wool and mutton, and so is lost to the farmer. We have seen sheep absolutely poor, because so infested with ticks. There is no excuse for such negligence. Dipping is cheap and effective.

## Going to Grass.

Shearing done and lambing well through, the farmer anxiously awaits the day in spring when he can turn his flock of ewes and little lambs out to grass, for green grass is the greatest feed known to produce milk and to grow young animals, and especially lambs. Calculation should be made to have a field of green pasture for the little lambs, just as early as it is possible. A field of fall-sown rye, furnishes very early feed, as also does a good clover meadow or a fresh blue grass pasture. Care should be taken that the pastures are comparatively new seedings, or have not had sheep on them before; for old pastures are the great breeding place for stomach worms, and they are the bane of the farmer, who raises lambs.

Get the lambs out to grass just as early as possible, but do not expect them and their mothers to get all their living from the grass. At first it must be considered as a relish, and not the main feed, as it becomes a little later. When they first go to grass, it is just as important for them to have their hay and grain, as it was before. One of the greatest mistakes made by the average farmer in handling his flock of sheep, is this turning from dry feed to grass in a single day, and then wondering why his sheep get thin and his lambs do not thrive and grow. It is a great change, and should not be made suddenly, as it throws the digestive organs out of order. Rather should it be made gradually, in two to three weeks, instead of a single day. At first turning them out two or three hours in the afternoon, then all the afternoon, then in the middle of the forenoon for the balance of the day, and so on, all the time gradually reducing the hay ration, and after it the grain,

until at the end of a month, and sometimes less, depending upon the weather and the growth of the grass, the flock is entirely on grass.

As the grass grows and takes on more substance, so that there is strength in it, and you reduce the hay feeding, you will note that you reduce the hay feed in the morning, and that even after they seem to be nearly on grass, they will eat a good feed of hay at night. Likewise with the grain, the reduction comes first in the morning feed, and when but one feed a day is necessary, it should be given at evening. And while the ewes are coming to the barn at night to get their feed, the little lambs can crawl into their creep, and get their grain and Sal-Vet; care should be taken to keep their trough and salt box full.

It is very important that the ewes and lambs should be sheltered from any long, cold rains, such as often occur at this time of the year, in this northern climate. Warm showers of short duration do not hurt them, but one of those cold rains, that last a day or two, do more damage and take off more flesh, than good feed can put on in two weeks. See that the sheep are in the barn at such times.

Before going to grass, the ewes should have their feet trimmed if they need it, and most sheep do; for after a winter on warm manure, or at least where there is no chance to wear off the hard hoof, they have become long and generally turned over, so that often the sheep become lame, and, if not properly tended, will permanently cripple the feet by turning them out of place. Take a good pair of hoof shears, such as you can buy at any good hardware store, and trim the feet, by cutting off this overgrowth, and putting the feet into their natural

shape, as they should be, to enable the sheep to walk naturally and comfortably. Do not cut the toe squarely, but on a slant, so that both toe and heel will press the ground when the sheep walks. Also be careful not to cut the toe vein, which is done by cutting too short.

Also, often in the spring when there is much rain and the yards become muddy, in spite of all that one can do the sheep will get lame, due to mud and manure sticking between the hoofs, which together with the warm weather, scald the feet. We have seen a whole flock come down this way inside of 48 hours. Sometimes, if the weather turns dry or cold, or both, they will heal themselves without any further attention. But the better way is to treat them at once, and thus prevent any danger of more serious trouble. Hoof shears and a good sharp knife, are the essential tools. Clean the feet well, and pare off all hoof over any infected or sore part, and put on the sore part and down between the claws, blue vitriol, either in powdered form, or dissolved in vinegar. The main thing is to clean and pare well; do not be afraid to expose all sore parts as long as there is any sore part covered with hoof, it will not heal and dry up. It is also best to put some of the vitriol in every foot, whether sore or not, and thus prevent any infection. If a stronger remedy is desired, the vitriol can be mixed with butyr of antimony to form a thick paste, but this is necessary only in bad cases.

## Springtime and Pasture.

Spring is the busy and important time for the farmer, and among other things which he must do, is to make provision for feed in the latter part of the summer, when grass gets short and dry, and to provide his succulent feed for the next winter. For the former we have found rape the best feed. This should be sown as early in the spring as possible. The ground should be well fitted, and the seed can be sown broadcast and covered with a weeder or harrow, or it can be sown in rows with a garden drill, 28 to 36 inches apart. While the latter requires a little more work we have found it more satisfactory, as the rape can then be cultivated and the weeds kept out of it; the sheep can walk between the rows and not tramp it down, and it grows enough better, to pay for the extra expense.

You can turn the sheep or lambs on to this when it gets about 20 to 24 inches high; let them pick it down, and it will soon grow up ready for them again. It is best sown next to a good grass pasture, so that the sheep can have access to both rape and grass. This will furnish much green feed in the late summer when pastures are often short. For a late fall feed, rape sown in the corn just behind the cultivator the last time through the corn, furnishes much good feed. Dwarf Essex is the best variety, and three to five pounds per acre, is plenty seed.

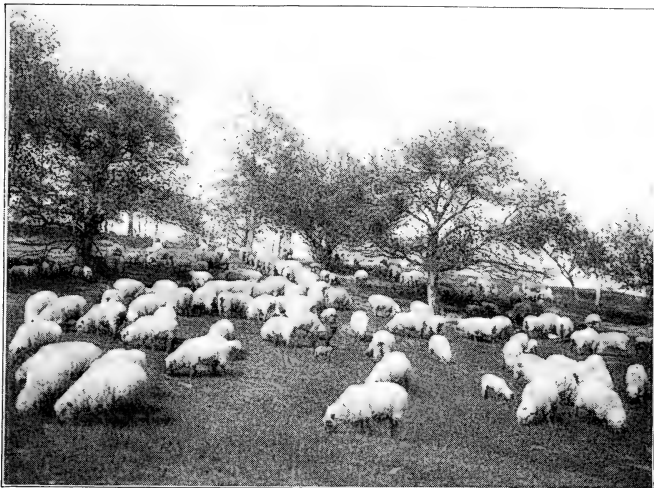
For the late winter and early spring feed, the beets should be sown about cornplanting time. A small patch, a half acre or a little more on one side of the corn field, should be well prepared, and the beets drilled with a garden drill, in rows three feet apart, so that they can be easily worked with a cultivator. Thinned and hoed

when two or three inches high, and properly tended with a cultivator, they will produce a large amount of feed; with a reasonable amount of labor, on a small piece of ground. Sugar mangels, or stock feeding sugar beets, are the best for the purpose. Turnips or rutabagas sown in the corn at the time of the last cultivating, will produce much succulent feed for the early part of the winter, at a minimum expense.

There are some considerations as to pasture, which are essential to the growth of the lambs and the maintenance of the ewes in good condition. Upland pastures are best, in fact, almost necessary. Often we have seen farmers put the sheep on a low, marshy pasture and then wonder why they did not do well. Sheep want high, dry land, and they do best on the rich, sweet, tender grasses that grow on such land. Turn a flock of sheep into a field where there is a hill, and you will see they go upon the hill every time, other conditions being equal. They do not like wet feet, nor do they like the coarse, rank grasses that grow in low, wet places. Wood-lot pastures are seldom good for sheep, altho they will trim up any brush that may appear; but the grass is not so good as that which grows in the sunlight.

Clover, both red and alsyke, furnish the best pasture for sheep, but owing to the difficulty of maintaining these, timothy and bluegrass are also necessary; in seeding, the latter can be sown with the clovers, and will come in just right when the clovers are gone. Pastures should not be allowed to become too old; new seedings are better, as there is not the danger from the worms. Grass should not be allowed to become too high for good sheep pasture; they like the short, tender shoots. This does not mean that a field should be picked bare by other stock





**Good shade is an essential part of good sheep pasture.**

and then the sheep turned in, thinking they will do well, where there is nothing. But they do not like tall, coarse grasses, like timothy that is full grown. Change of pasture is necessary, even if only between two fields which may be very similar. Sheep like a change, just as a man does; also a variety; thus the need of several grasses, in the same field. The ewes and lambs should be furnished the pasture best suited to them; for only by giving them the best feed, can they earn you the most profits.

Good shade is an essential part of a good sheep pasture. Large trees are the best for this purpose, and where there are none of these natural shades, the good

shepherd will furnish a covering under which the sheep can find shelter, from the hot sun, during the heat of the day. Their better growth will more than pay for such shelter. If you have ever noticed a flock of lambs, fighting flies and the heat, in the shade of a wire fence, and on the next farm saw another flock resting and chewing their cuds under a spreading oak tree, you may have been able to tell why the one flock grew better and made more money for their owner. You may be so situated that it is necessary for the flock to come to the barn for water, and then they can stay there during the heat of the day. But we prefer the shade tree out in the open field.

Water is as essential as grass and shade. The ideal water is a small brook of running water, or a spring. Failing this, any source which supplies clean, fresh water answers this purpose. The important thing is that the sheep have it some time during the day. And that does not mean from some muddy, stagnant pool.

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## Worms.

When once the ewes and lambs are entirely on pasture, the close attention in the barn is not required, but they will not look after themselves at all times. While they can secure their own feed without help, yet the flock should be seen at least once a day, to guard against accidents and unforeseen contingencies. Sometimes an accident befalls a ewe, such as becoming fast in a depression, of a dead-furrow; or, a little lamb gets into trouble with the fence or something else; these

and many more, which have happened to us in our experience, and have cost us dearly, remind us that it pays to look after the sheep once a day.

It is also during the spring and summer when sheep are on pasture, that the great enemy of the sheep on the average American farm, gets in his deadly work. This probably has caused more loss to sheep farmers, than any other one thing. That enemy is worms; worms inside the sheep and outside also, altho they are not at all similar. The outside worm, which is called maggot, comes only occasionally, is easily discerned, and is destroyed without injurious effect upon the sheep. But the inside worm, the deadly stomach worm, is the one which does the damage. How, when, and whence he comes, are not always known to the most expert shepherds, but heroic measures are generally necessary, to drive him from a sheep's stomach, when once installed.

In damp, rainy, muggy weather, such as we often have in the spring and summer, one must watch for maggots. It seems as if there were certain times when those obnoxious green flies, which deposit the blows from which come the maggots, are busier than at any other time; and they keep a good shepherd busy with the shears and a can of good coal-tar dip. These flies are busiest about the hind parts of the ewe or lamb, especially if there should be some dirty wet wool, but we have seen them work under the eyes, on the belly, and even right on the side of the sheep, where there seemed to be no apparent cause for it. At such times they work with incredible rapidity, for we have known sheep to be killed with them, in two or three days. You can easily discern them when they are present, for the sheep will bite the part where they are, and the wool will appear wet and dirty. Shear off all the wool where they are,

pour on some coal-tar dip, diluted about one part to twenty-five parts water, and in ordinary cases there will be no more trouble. If the maggots should have eaten into the flesh so that it is raw and sore, it is best to put on some clean pine tar, which will heal the wound, and at the same time, keep the flies away. Such sheep should be closely watched for two or three days, until the affected part is thoroughly healed or dried.

In summer, when a farmer is busiest with his farm work, the deadly stomach worm likewise gets busy in his lamb flock. Unless he is watchful, his first knowledge of their presence, will be a dead lamb, and unless there is some other evident cause, he may be pretty safe in attributing the cause of death to worms. If he wants to be sure, let him open the lamb in the fourth stomach, and there he will find a mass of reddish like worms, about three-quarters inch long and the size of a hair. These are stomach worms; and if this lamb has them, he may be sure that every other lamb in that flock has them to a greater or less degree, and it is his turn to get busy.

Our method in such case is to take the flock to the barn at night, keep them there over night, away from all feed and drink, from twelve to eighteen hours, and give each lamb a dose of one tablespoonful of gasoline in one-third teacupful milk, fresh from the cow, mixing each dose separately, and giving it by means of a long-necked bottle. Give this treatment three successive mornings. Then keep a medicated salt, like Sal-Vet by them all the time, and no other salt. Even with this treatment some may be so badly infected, that nothing can save them, but they are worth the trial. Prevention, however, is always cheaper and better, than a cure and we have found a preventive in Sal-Vet, when prop-

er conditions of pasture are maintained and it is kept constantly before the flock, so they can eat all they want, and have no other salt. We have found this economical to use, under all conditions.

To the watchful farmer, the first indication of worms will be some of the younger lambs lagging behind when the flock moves; on examination it will be found to have pale, bloodless skin, the eye will be dull and listless, and very pale; the lamb will be thin and weak, perhaps scouring, and in some, the lips and under the jaw will swell and fill with a watery fluid, which appears just before death. Any time the lambs do not appear fat and thriving, when they have apparently good feed, you may be quite sure that worms are there. The younger lambs are generally first affected, as they are least able to withstand the ravages of worms.

We have also known many cases in which the worms did not prove fatal until the following winter and spring. Taking in these worms in the summer, the lambs may have been strong and offered such resistance to the worms, as to have shown little or no effects of them, and while starting into winter in rather thin flesh, the unsuspecting farmer attributes their lack of condition to short feed or perhaps his own negligence and thinks by good feeding, to gain what they should have had in the fall. Instead, however, the lambs remain thin, often concealing their real condition from the average man, by their long fleece, until some day, one is found dead; then the farmer wonders what was the cause. Nine times out of ten it is the same old trouble, stomach worms. Likewise, we have known flocks in which the pests had appeared in the lambs during the summer, apparently been driven out by thorough treatment, further preventive measures neglected, and the next spring some of

those same lambs would grow thin and die, even after going to grass.

Extensive experiments, observations, and experience have demonstrated some things about stomach worms. Briefly they are this: that they are carried and develop in mature sheep, pass from them in their droppings, in which the larvae are deposited; in warm, wet weather these hatch and live in the droppings, until the young worms attain enough life and strength to move; then they crawl up and fasten themselves to the blades of grass, and with them, are taken into the lamb's stomach. Old pastures, especially blue grass and timothy, are thus most liable to be infected, and lambs should be kept off them. New seedings of grass and fresh crops like rape, are not infected. It also requires warm weather and considerable moisture to enable the worm to hatch in the dropping and live on the grass. Thus we see that a hot summer with abundant rain, or a low, moist field where the grass grows freely, is conducive to worms.

It is claimed that ten days is the minimum time in which a worm can pass from one sheep and be reproduced in another, but of course, under conditions unfavorable to them, more time is required. A young lamb is born uninfected, and the only way for him to become infected, is by taking the worm from the grass, into his system. Some therefore advocate a complete change of pasture every ten days or two weeks, to keep the lamb from becoming infected. Such method does not seem practical for the average farmer, as he has not sufficient pasture to do this. Others advocate keeping the lamb in the barn and the feeding of soiling crops, such as rape, green corn, and grass on which no sheep have pastured; but this is too expensive in this land of high-priced labor.

Eternal vigilance on the part of the shepherd, is the price of the healthy lambs. Not for one instant may he relax his guard in this great struggle with his arch enemy. In search of the most efficient weapon to keep off this pest, we have tried many things. Some do one thing, some another, but there are so many varying conditions and various symptoms and results, and with all must enter in the factors of practicability and economy, that we have found most of them wanting. All factors considered, we have found Sal-Vet the most satisfactory preventive, but with it some things are necessary. It must be kept before the sheep and lambs, where they can have easy and constant access to it all the time, and should not be mixed with other salt. In case of apparent and severe infection, it should be given in good sized doses, by force; for in such cases the lamb will not eat enough of his own volition, to produce the desired results. Keep the lambs off the old pastures, put them on new seedings and rape, give them good grain feed and Sal-Vet, and much of the worm troubles of the lambs, will be prevented.

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## Summer Care.

Besides watching the worm pests, it is necessary to furnish the flock proper and plenty pasture, with its necessary attendants of water, shade and salt. For the latter, a box one by two feet, four to six inches deep, twelve to sixteen inches from the ground, with a proper cover to protect from rain and sun, should be furnished, and in this should always be kept an ample supply of



**Southdown lambs on an English estate**

‘Sal-Vet.’ This box should never be empty, and the lambs should always have access to it.

If it is intended to sell the lambs at weaning time, they should be fed grain in the field every day, by means of a creep built in the field. A few good panels, wired to posts, will easily make such pen, while openings just large enough for the lambs, can be made so they can get to the grain. They should be fed all the oats they will eat, so that at weaning time, they should be fat and ready for market.

Weaning time should come when the lamb is four to five months old, depending somewhat upon conditions of weather and feed. If going to market, the lamb ought to go there direct from the ewe to prevent any unnecessary shrinkage attendant upon weaning.



If not, the lambs should be taken from the ewes and put on the freshest and best pasture possible; this is generally a new-mown clover meadow, where the grass is short and tender. The rape patch should also be ready by this time; here they can go in the afternoon, after the dew is off the rape and they have filled themselves in the morning with grass, until they have become used to going into the rape. Otherwise there is much danger of bloating and loss. As soon as they are accustomed to the rape, in a week or ten days, they can be let to run in it at will, provided there is plenty grass, to which they can go when they wish.

In case of bloating, a mild case can be relieved by putting pine tar in the mouth and on the nose; or better, a heaping teaspoonful of common baking soda, dissolved in a little warm water, given as soon as seen, and another dose in a few minutes, if relief is not apparent. Another good way is to tie a stick in the mouth, bit-fashion. Exercise is also necessary; keep the animal moving, so that the gas will move and escape. If none of these afford relief, it is necessary to tap the animal on the left side on the paunch at a point equidistant from the backbone and the end of the last rib. This can be done with a small, sharp knife, or better with a small trocar. We have seldom found this latter necessary.

After weaning, we have found that the lambs need a daily feed of oats, even if not very heavy. A little grain thus keeps them growing and in good condition, aids in retaining that lamb fat, and helps to take the place of the ewe's milk; they will gain more than enough to pay the cost. From now on they need good sensible care, feeding them such feeds and in such quantities as is necessary to put them in the best condition for the purpose for which you want them, whether it be to

market them at Christmas time, or later in the winter, or in the spring after shearing, or to retain in the breeding flock. Well bred sheep, given plenty feed and good care, will bring substantial profits to their owner.

As for the ewes, they should be watched for a few days after weaning, and about the second morning, any which show large, full udders, should be caught and milked by hand; doing this once or twice, generally finds them dried up. For a time now they can run on rather short feed and do well. Stubble fields furnish good feed, and the ewes will do a good job of weed cleaning. At this time they will require probably less attention than at any other time of the year.

The one thing that is necessary, is that they have such feed as will put them in good condition for the breeding season; a thin ewe is liable not to settle in lamb, and in any case it is much more difficult and more expensive to fatten a ewe properly after she is bred, than before. Also by good condition, we mean what many farmers call fat; no ewe will become too fat for breeding on good pasture. Heavy grain feeding is the only dangerous fattener, but few farmers think of that when the ewes are on grass. But if the ewes should be thin after weaning, and they are to be bred soon, some grain may be necessary to put them in proper condition.

This is the proper time to cull out any that are not wanted in the breeding flock for another year. Ewes that have proven barren, that have lost one or both sides of their udder, those that have broken mouths, or for any other reason you wish to dispose of them, this is the time to cull them out and sell. Or if you are feeding a bunch for market sometime during the winter, you can put them with those, and fatten them before selling, and thus get more from them. None but good breeders that

raise their lambs well should be retained; old ewes should likewise go, unless they are very good breeders. Only by thus culling, and putting in their places good young ewes, can improvement be made.

In determining the age of a sheep, if you have no record, the only way is by the teeth. A lamb has all small or milk teeth, and at the age of fifteen to eighteen months, the two middle teeth will drop out and two larger, wider teeth take their places; at about 21 to 24 months, two more large teeth will appear, one on each side of those already in; at about 30 to 33 months, two more appear in the same manner, and about 3½ years the last ones show; then we say that the sheep is full-mouthed.

Two large teeth indicate a yearling, four a two-year old, six a three-year old. After they are full-mouthed there is no way of determining exactly. When the teeth begin to wear off and to spread apart, it is generally time for the ewe to be traveling to market.

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## The Shepherd and His Flock

For thousands of years, back to the days of ancient mythology, the sheep has ever held prominent place. The first man's son was a shepherd, while "from the firstlings of his flock" came the first sacrificial offering, acceptable to the Creator. The ancient legends of the Greeks tell us of the famed ram and his Golden Fleece, and their poets sang of the beauties of the pastoral life, as well as the dignities of the spinning of wool in their households. The scholarly historians of Rome at the zenith of her power, tell us of the sheep in Asia and southern Europe, while the first

work of her rulers who invaded Britain, was to set up mills to spin and weave the fleece of the sheep.

No possession of the kings and nobles of Spain, during the long years of her supremacy on both land and sea, was more highly prized, more zealously guarded, nor more eagerly sought, by the strong rulers of Britain and continental Europe, than were her famous cabanas of Merino sheep. Columbus brought sheep to the New World; so did many other of the early explorers, while all the early colonists brought small flocks with them from their native lands. Of no possession on their broad Virginia estates, were George Washington and Thomas Jefferson more proud than of their sheep, while no work of the early envoys of America to foreign lands, produced greater results, than that in connection with the importation of Merino sheep. And today rulers and men high in the councils of the state, in every part of the world, point with pride to their flocks.

From time immemorial, in every clime, sheep husbandry has been the favored occupation of men in every station of life, producing the two essential necessities of civilized mankind, food and clothing. No meat finds its way to any man's table, which is so clean and so healthful, so juicy and so savory, as the mutton chop and the leg of lamb. No product has yet been found which is at once so universal, so useful, and so ornamental, as wool. Produced in every country, hot or cold, barren or fertile, in Australia and in Siberia, in Africa and in Argentine, it travels the commercial highways of land and sea, to the trade and manufacturing centers of the world, is there transformed into clothes which protect the laborer from the elements, as well as into fabrics which adorn the fashionable lady, and thus ultimately, finds its way to those for whom it is intended.

In this long process of transferring wool from the back of the sheep, to that of man, is involved the labor and skill and capital of many men. But whoever comes in contact with wool in its globe-encircling journey, finds himself dealing and associating with the ablest, shrewdest, and most intelligent men in the commercial world, while the men of no trade, business, nor profession, take higher rank, nor attain greater prestige.

Humble and meek and timid though they may be, yet by sheep, have men of all ages and all nations, won the way to dignified positions of honor, wealth, and power. In sheep, the master livestock breeders of the world, have found material which was worthy of their best efforts, not only in the molding of form, but also in influencing different characteristics of fleece and in addition to these, such combinations as are best adapted to varying conditions of environment. In the improvement of sheep have American breeders shown their greatest skill, and their product has been sought by the breeders of foreign lands, as has no other class of live stock. In a century they have doubled the average weight of carcass, and more than trebled the average weight of fleece, besides having made great improvements in form and in character of fleece.

The farmer who raises sheep should take great pride in his flock, and give it his best efforts. He should be proud of the fact that no man's calling rests on more ancient, more universal, or more noble foundation, serves a more necessary, more useful, nor more beneficial purpose, nor provides greater profit, pleasure, or prestige.

# Lamb Feeding

From "Modern Sheep; Breeds and Management" by "Shepherd Boy."

Published by the American Sheep Breeder Co., Chicago.



THE main features in fattening lambs, are to get good lambs and good feed, and then a careful feeder to feed them. Sometimes when the lambs are not thriving properly, a change of rations will bring about an improvement, but of course the change from green rations to those of a dry nature must be gradual, or trouble will crop up. One of the greatest errors that the novice is liable to fall into, is stuffing his lambs. He does not seem to consider that it is not the amount of feed given, so much as it is the amount assimilated, that brings the desired results. As the author has often pointed out in his earlier writings, the lamb feeder needs to see his lambs before eating, during the time of eating and after they have eaten, to know how they are doing.

One of the most important considerations in lamb feeding, where you raise your own lambs, is to keep them growing rapidly on grass in the summer, and to have them in as fine a condition as possible, by fall.

Lambs, to fatten properly, must be fed regularly twice a day, morning and evening. Regularly does not mean five o'clock one morning and seven or eight o'clock the next, nor five o'clock one evening and eight o'clock the next. Lambs, to fatten properly, must be fed by the watch.

In an address before the Missouri Improved Live Stock Breeder's Ass'n. on feeding lambs, some time ago, Jacob Ziegler, of Clinton, Ill., said:

"Lambs should have grain from the time they are ten weeks old till the following spring. A trough can

be set with oats in it, outside of the pasture fence, near the watering place, with an opening in the fence for the lambs to get to it. They will learn to eat by the time they are four months old, at which time they should be weaned. In weaning, give them the best green pasture you have and what oats they want to eat and plenty of good water and salt. They should be kept in that way until they are put into winter quarters; then they should have from a half pint to a pint equally, of shelled corn and oats per day, according to the size and breed of the sheep, with all they can eat of good hay. Stockers will do well on good hay alone, but better on a variety; add a little grain, in stormy weather. A daily ration of one pound of grain with straw stover of any kind of roughness, is a good feed for stockers.

They can be fattened on various feeds, such as corn, peas, beets, barley, oats, clover and grass. They do well on either. But for winter feeding, my best results have been from corn and clover hay, which fatten fast and make the best mutton, and, when all things are considered, is as cheap as any, except green clover, which produces cheap mutton, but the losses from clover bloat, and low price of sheep at that time of year, reduce profits in proportion.

I feed two bushels of corn twice a day at regular hours, to 100 sheep (I am speaking of the mutton kind, averaging about 100 pounds) and as much clover hay as they will eat up clean, which will be on an average of about 200 pounds per day. They will however, need and eat more at the start, but will decrease in eating hay, as the grain ration is increased. Care, however, must be taken in starting them on grain, so as not to

overfeed them. Feed a bushel twice a day to start on, then lightly increase daily, till you get them on full feed; larger sheep need more and smaller less, in proportion to weight. The corn is cut an inch long with a corn cutter and fed in troughs 10 inches wide, 7 inches deep in the clear; 12 to 14 feet long is a nice length, but length may be made to suit fancy. The corn may be fed shelled, but I do not like it so well, for the reason they can eat it too fast, and some get more than they need, but in cut corn the eating process is slower and better masticated, and gives a better chance for all to get their share.

They should always have free access to fresh water and salt, and never be left without it. They do not drink so much at a time, but often. Good, thrifty sheep thus fed, will fatten and gain from thirty to thirty-five pounds each, in seventy-five days, and ought then to go to market, for it rarely ever pays to feed them longer. The gain, however, will depend largely on their condition when put up for feeding. If fairly fat, they don't gain as much as if in moderate flesh and thrifty, nor do they require as much feeding, nor as long feeding.

If you have no clover for hay, then sow one-half bushels of oats with one bushel of field peas per acre, and cut when in dough and cure like hay. It yields big and is a fine substitute for clover hay. Corn fodder does well, but is not as good as either of the former.

Never allow feeding sheep grass, in winter. The grass is too light and soft to be of any real value to them, and the losses in searching and rambling after it and the refusal of other feed, more than double the supposed gain.

The feed lot should be in a dry place and have a shed, closed at one side and the ends, and roofed over to keep out rain and wind, and both it and the yard should be well bedded with corn stalks or litter, to prevent mud



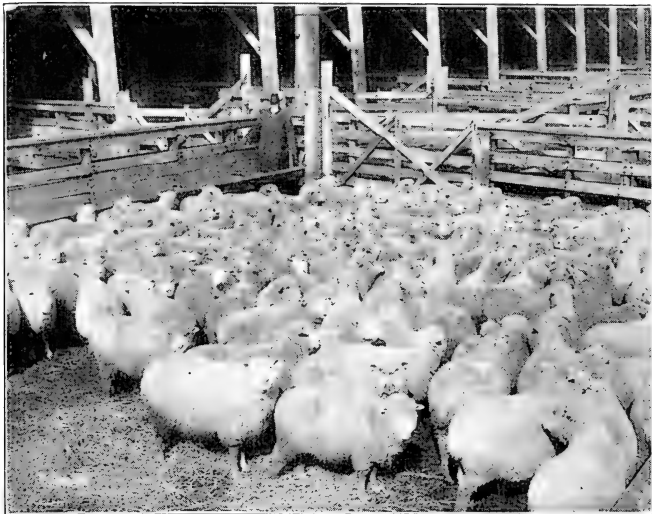
and wasting of the manure. A timber lot or small grove well set with trees, is a good place to feed in. The trees are protection enough without the shed, but in a wet winter, a shed is far better and the manure cannot be saved as well.

Salt and hay should always be fed under cover, hay in racks and salt in troughs; economy in feeding demands this system, for water-soaked hay is always rejected by sheep, and rain wastes much salt.

From my own experience, it pays best to feed sheep: first, they return more pounds of gain for the amount of food consumed than cattle or hogs, and mutton brings more per pound, than beef or pork, and furnishes better manure, than either of the others.

My sheep have gained, from start of feeding to finish, eight to ten pounds of mutton per bushel of corn, while the gain of my cattle of equal quality and feed, runs from seven to eight pounds. And my hogs eat corn from first to last, and only a little grass for change, while my sheep eat grass; grass from first to last, and only a little corn to start lambs and finish them. That is the cheap feed, versus high priced feed.

And I also find from my shipping bills which I have saved for twenty-five years, from 1873 to 1898 that the average price received from my stock in Chicago during that period was \$4.93 per 100 pounds for sheep, \$4.86 for steers, and \$4.85 for hogs. And the average weight was: Sheep 126½ pounds, steers 1,354 pounds, and hogs, 218½ pounds. From this you can see they had to be all good stock to average that weight.



**A carload of heavy lambs at the stock yards.**

## **Marketing Sheep and Lambs**

There is a good deal more in how sheep and lambs are marketed than many may think. It does not pay to rush sheep to market in a half-fat condition, because there happens to be a falling off in shipments at any particular time, and record prices have resulted from such conditions. Sheep and lambs should be marketed either fat or as feeders. In marketing in a half-fat condition, the chances are you will be losing money and giving the buyer, who likely will be a feeder, the benefit of your

misjudgment. Rushing stock to market because high prices rule for a day or so, is not wise because a glut almost always follows. It is important that sheep and lambs be properly graded before being shipped, as they make a better and more uniform appearance. Lambs of moderate quality when properly graded, make a much better showing than those of superior quality, when marketed in bunch. When shipping, the car should be well bedded and everything possible done for the comfort of the shipment. It is better to ship to well known commission firms, than to be changing around from one house to another and falling into the hands of those of whom you know nothing. The following are the stockyard commission rules as applied to sheep in most stockyard markets: Single-deck cars containing thirty head or more, \$8. Double-deck carloads of sheep, \$12. Sheep originating in double-deck cars, but for any reason arriving in single-deck cars, where double-deck freight rates are applied, may be sold at the double-deck commission, viz., \$12. Less than thirty head of sheep in a single car deck, with no other stock in the car, shall be charged for at the rate of 15 cents per head. Sheep driven or hauled in, 15c per head.

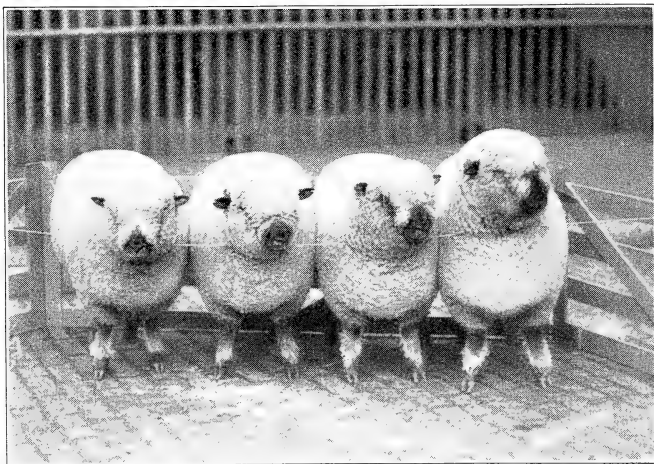
## Feeding and Care of Sheep.

By HENRY L. WARDWELL,

Ex.-Pres. Am. Shropshire Reg. Ass'n., Springfield Center, N. Y.



IT'S of no use for a man to buy a good flock of sheep and then not take care of them. The reason they are good, is first, proper care in the selection of ewes and rams, and then good feed and proper care; and without this a flock



**Champion Get of Sire Shropshires from Mr. Wardwell's Pinehurst farm**

master cannot hope for success.

At the time of mating the ewes with the ram, if the ewes are put on an aftermath of flush pasture, they are more apt to come in heat and take the ram quicker, and this brings your lambs in a shorter time, and the lambing is over with more quickly, than if they come along, in say two or three months. See that your sheep are in a pasture that has shade and water. When they come to the barn in winter, give them clover or alfalfa hay if obtainable—otherwise, the finer hay. Ewes will not do well on timothy, and I think will do as well or better, on oat straw.

Have a rack outside of the barn, say 20 rods away; carry their hay to it. The exercise of going this far for

their feed, and the fresh air they get, will tend to keep them healthy. See that the old and thin ewes are put by themselves; a handful of oats and bran, mixed once a day with a little oil meal, will not only help the ewes, but bring stronger lambs.

When the lamb comes, the shepherd should be on hand; see that the lamb gets some of the mother's milk and that she properly owns it. Put the ewe and her lambs in a small pen about 4 feet square, for about two or three days until they know each other well, and until the lamb gets strong enough to keep out of the way of the old ewes. After the ewes have lambed, they should, if possible, have roots to increase the flow of milk. (I am speaking of ewes lambing in February and March). The ewes and lambs should have good shelter from snow and cold rains at this time, but on pleasant days, exercise outside is beneficial. By arranging a creep for the lambs, a place where they can go, but the mothers cannot, extra feed can be given to the lambs. **Keep your lambs growing all the time.** When ten days old, dock your lambs and castrate those not kept for rams, at about two weeks old. When your lambs are weaned, its a good plan to fast them for 12 hours, and to give them a drench. The lambs should be put on a new pasture, one that has not been sheeped before, say on a meadow aftermath. I have just cut a field of timothy hay that went nearly, if not quite, 3 tons to the acre, that carried lambs last year, and I cannot see but what the crop was benefitted. At this time we have troughs in the field and the lambs are grained, that is, given a handful each of a mixture of oats, bran and oil meal or cracked oil cake. I prefer the latter. Your lambs should now average

80 or 100 pounds, and are ready for the butcher, if graded. If pure bred, to be kept for breeding flocks, keep them growing on their grain food, until one year old.

You will probably say this is a lot of trouble; it sounds so in print, but it will pay you well and you will enjoy the sight of a thrifty flock, and when you come to selling them, they will delight the buyer, and you will reap your reward, not only in the increase of price, which will pay for your trouble, but in the satisfaction you will have, in having done your best for the beast.

Change your sheep to fresh pastures as often as possible, even if, after a rest of say two weeks, you go back to the old pastures.



# CLASSIFICATION OF BREEDS

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No breed of domestic sheep is native to this country. The various kinds having been imported from Europe from time to time, since Coronado brought the first flock to New Mexico in 1540. On the other hand, in no country, has there been greater advancement of the different types, than we find in the United States.

The sheep thrives well in our climate and has responded readily to the excellent care in breeding and the scientific feeding, for which American flockmasters are famed.

For convenience we classify the more prominent breeds, according to their fleece, as follows:

## Fine Wool Breeds

|                  |                 |
|------------------|-----------------|
| American Merino. | Delaine Merino. |
| Rambouillet.     |                 |

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## Medium Wool Breeds

|             |              |
|-------------|--------------|
| Shropshire. | Cheviot.     |
| Oxford.     | Suffolk.     |
| Hampshire.  | Tunis.       |
| Southdown.  | Dorset Horn. |

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## Long Wool Breeds

|            |               |
|------------|---------------|
| Leicester. | Lincoln.      |
| Cotswold.  | Wensleydales. |



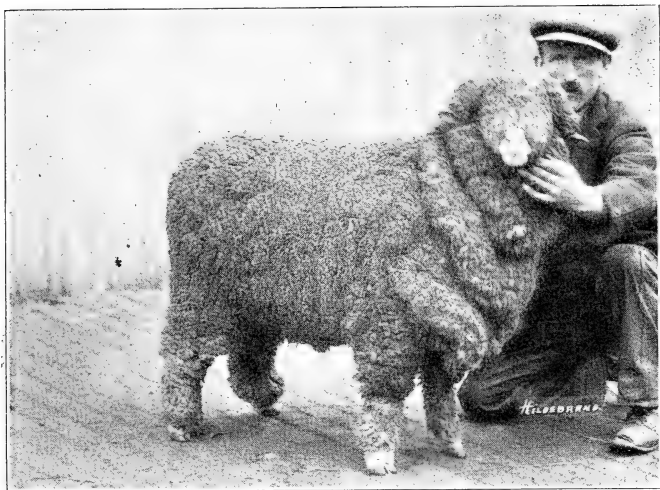
A State Fair group of American Merinos

## The American Merino.

This breed is descended from importations made directly from Spain, in the early part of the last century. Early development was largely toward wrinkly, oily, heavy fleeced sheep, the object being to secure density and weight of fleece. This type is known as the "A" Merino or "Vermont" Merino.

The present tendency is to breed larger, smoother sheep, with plain, smooth bodies, longer wool, comparatively free from grease; these are known as Merino "B" type. The face is white and the head closely capped with wool, extending down onto the bridge of the nose and surrounding the eyes. The ears are small, pointed and covered with wool and a growth of soft hair. The horns of the ram spring strong and completely clear the face. The wool staples are from 2 to 3 inches long.

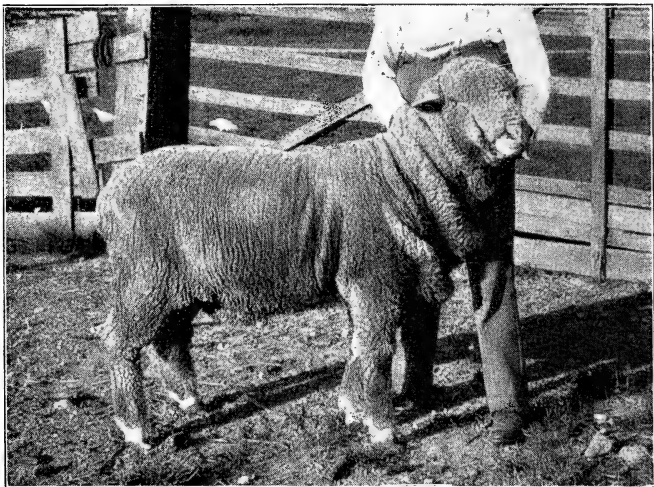




Rambouillet Ewe, from the flock of King Bros., Laramie, Wyo.

## The Rambouillet.

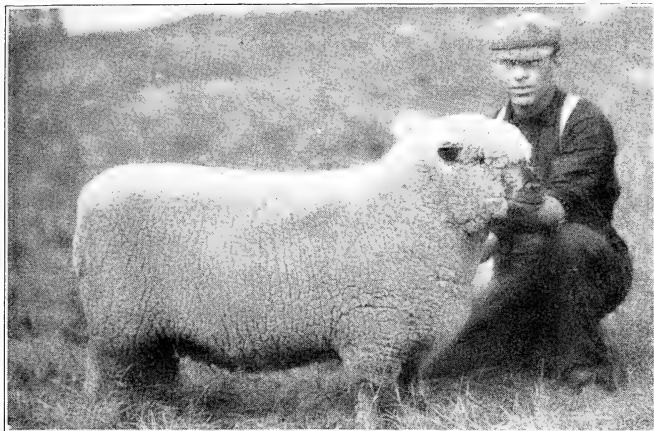
This breed originated in Spain, from where it was imported to the Royal Estates in Rambouillet, France, in 1786. From here the first importations to the United States were made in 1840. Rambouillets are pure blood Merinos, having all the essential Merino characteristics and are recognized as a good breed for wool and mutton combination. The wool is of fine, to medium fine grade, with a staple of  $2\frac{1}{2}$  to 4 inches. This breed is the largest of the Merinos and is rapidly increasing in popularity throughout this country. Rambouillets are easily kept, well adapted to range countries, and the lambs are uniformly large, weighing from 80 to 100 lbs. at 6 months old.



**A Typical Delaine Merino Ewe.**

## **The Delaine Merino.**

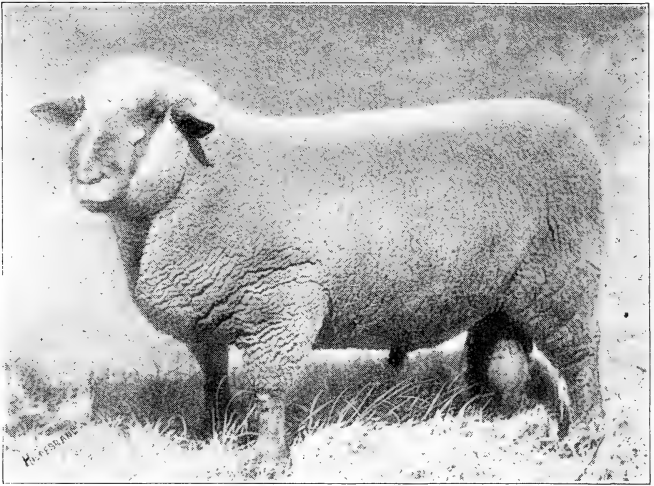
This breed is of the same origin as the American Merino, but the aim in breeding, has been to secure a long, fine staple of wool, free from grease, and a smoother form. The Delaine Merino has been enlarged and smoothed by the development of a tendency to take on flesh. The fleece covers the entire body, including the head and legs, and is comparatively free from wrinkles. The nose is short and broad with well expanded nostrils. The breed was first developed in Pennsylvania and Ohio, and is recognized as a hardy, long-lived sheep, especially suited to sections where the climate is changeable, and where it is necessary to run them in large flocks on short, scanty herbage.



**Champion Shropshire Ram from the flock of McKerrow & Sons,  
Pewaukee, Wis.**

## **The Shropshire.**

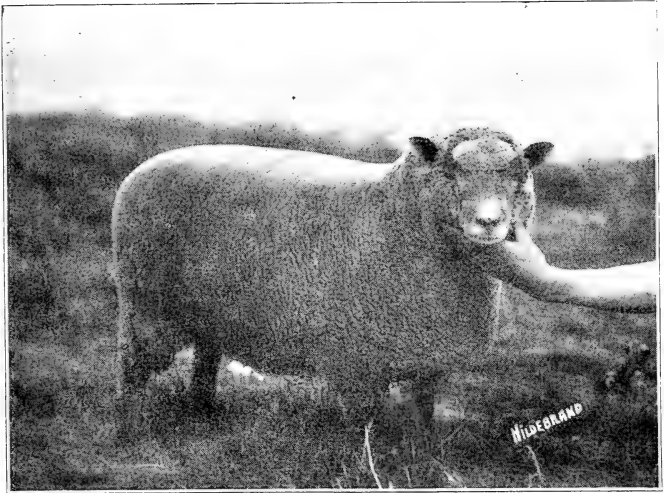
This breed is justly popular, because of the quality and quantity of both wool and mutton. It originated in what is known as Morfe Commons, England, and is no doubt the product of careful selection, as well as cross breeding, with the Southdown, Cotswold and Leicester. The following are the distinguishing characteristics of this breed. The fleece is very dense, about three inches long, should part readily and be clear white in color. The wool forms a heavy cap between the ears, extending down onto the ridge of the nose and joining below the eyes with the wool of the cheeks. The ears should be far apart, pointed, moderately thick and covered to the tip with fine, curly wool. The legs and face should be marked in a rich dark brown color. No evidence whatever of horns should be seen.



**Hampshire Ram owned by C. O. Judd, Kent, Ohio**

## **The Hampshire.**

This breed is a native of Hampshire, England, and is noted for its large, strong frame and hardy constitution. The head is moderately large, but not coarse, and well covered with wool on the forehead and cheeks. The nostrils are wide, the eyes prominent and lustrous, the ears moderately long and thin, and dark brown or black in color. The legs are black, straight and well under the outside of body. The back is straight, with full spring of ribs. The neck is set high up on body. The wool is moderately short, dense and strong in fibre. Lambs of this breed develop rapidly, attaining a heavy weight at an early age.



Southdown Ewe owned by Chas. Leet & Son, Mantua, Ohio

## The Southdown.

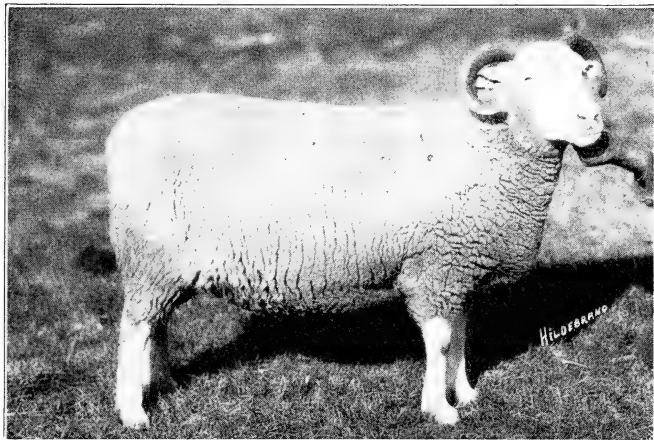
This popular breed is the oldest pure breed of short woolled sheep, having originated on the Downs of Sussex, in England. The general characteristics are a symmetrical, compact body, with very refined features, short, moderate sized head, small pointed ears, brown or gray face, with forehead and cheeks covered with wool; the neck is very short and straight, the breast broad and full; the back straight, well covered and knit closely. The loin is wide, straight and smooth. The hips are wide, but not prominent. Horns are entirely absent. The fleece is very fine and dense; the wool of medium length and especially uniform in quality.



**Champion Oxford Ewe owned by McKerrow & Sons, Pewaukee, Wis.**

## **The Oxford.**

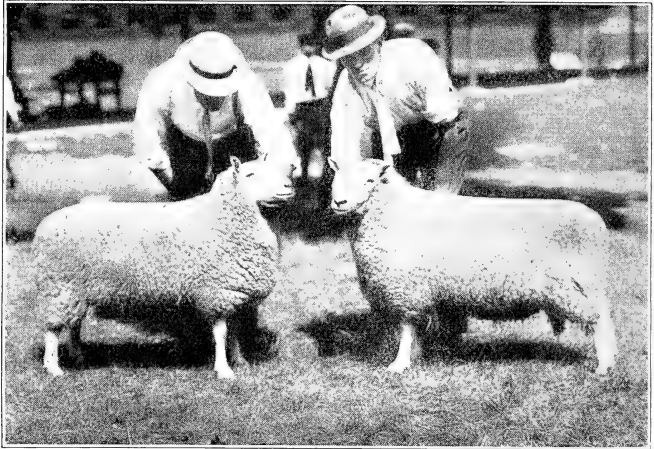
This comparatively modern breed originated in the county of Oxford, England, from crossing the Cotswold and Hampshire breeds. The head of the Oxford differs from the Shropshire, in being longer, and not so densely woolled below the eyes. The ear is slightly larger and longer. The face and legs are marked in gray or brown. Short legs, well apart and placed squarely under the body, add to the contour. A heavy fleece, moderately open, and of a long, strong fiber, cover the heavy body. When matured, the Oxford Down is large in size and strong in frame. It is a prolific breed and combines the early maturity, and ample fleece of the Cotswold, with the fine wool and mutton of the Downs.



**Dorset Horn Ewe owned by The University of Illinois, Champaign, Ill.**

### **The Dorset Horn.**

This was originally a mountain breed of sheep, native to Dorsetshire and Somersetshire, in the south of England. Careful breeding has modified this type considerably, so the Dorset of today shows an excellent form, long and round bodied, but compactly built. A white face, large nostrils, small horns gracefully curved forward and rather close to the jaws, characterize the Dorset. The eyes are bright and prominent, the head is well covered with wool on the crown, and the ears are moderately large and covered with short, white hair. The neck is strongly set, shoulders are broad and full, back flat and straight and the quarters wide and full. The fleece is of medium grade and of even quality.

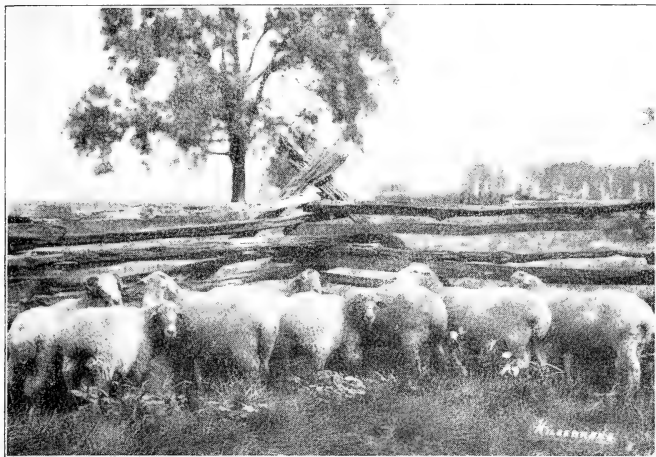


**Cheviot Ram and Ewe owned by J. R. Nash, Tipton, Ind.**

## **The Cheviot.**

This breed is characterized by hardiness and unusual activity. This is no doubt due to the fact that they have been bred and raised on the hills of Scotland for more than 200 years. Originating in the Cheviot Mountains, Cheviot sheep are today the most common sheep on the Scotch border. The animals are pert, active, bright eyed, ears are fine and the face keen, pure white and free from wool from the ears forward, without any indication of horns. The chest is deep, the girth full, and the back rather short, but strong, and the body is particularly low set and covered with long, dense fleece of fine texture. The legs are white, free from wool to the knees and hocks, and the hoofs are black.

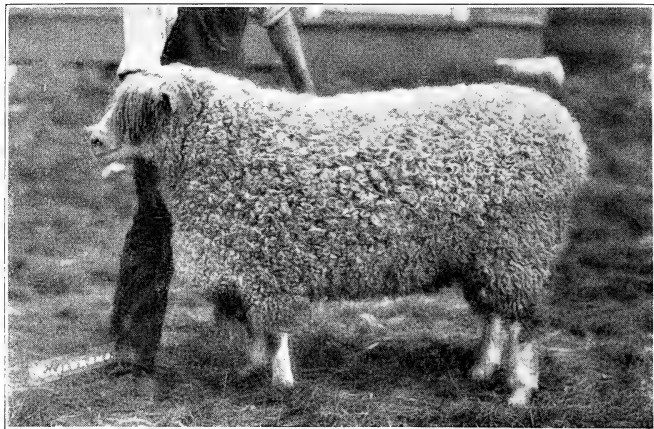




A flock of Tunis sheep

## The Tunis Sheep.

The first pair of Tunis or broad tailed sheep was imported to this country from Tunis, in 1799. They have a broad, straight, well proportioned body with wide breast. The head is small, hornless and tapers to the nose. Face and nose free from wool. Color of face and legs brown or white; the ears are broad, thin and hanging or pendulous; color, brown or fawn and covered with fine hair. The fleece is of medium length, quality and quantity; sometimes tintured with gray. The tail, after docking the small end, is fan shaped or tapering five or ten inches broad and six or eight inches long, well covered with wool. This breed matures and lambs early.



Cotswold Ewe

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## The Cotswold.

The Cotswold is a native of the Cotswold Hills in Gloucestershire, England. It is one of the oldest breeds, as well as one of the largest, most finished and uniform. The animal of this breed is remarkably square of body, with somewhat long face, colored white, or slightly mixed with grey or brown and with a beautiful tuft of wool falling over the face. The ears are small, the back is long and broad, and the hind quarters are square. It has a long, lustrous and wavy fleece with a strong fiber and parts naturally into locks. In spite of the prominence which mark the eyes, they are mild and expressive. The Cotswolds are very prolific and fatten rapidly.



Typical Leicester Ram and Ewe

## Leicesters.

This breed is the father of all the long wool breeds, having originated in Leicestershire, England, in the 18th. century. The face is bare and pure white, the body is square and the forequarters are especially full and the hind quarters rounded at the top peculiarly. This breed is fine of bone, and the fleece is remarkably fine and lustrous, considering its length, which frequently measures five to six inches. The legs of this breed are bare to considerably above the knee and hock, and marked a pure white, like the face. Leicesters have hardy constitutions, are good breeders, and produce a wealth of wool; their fleece frequently weighs from 21 to 28 lbs. They are especially popular in Canada.



**A prize-winning Lincoln Ram, owned by W. I. Woodcock, Corvallis, Ore.**

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## **Lincolns.**

This is one of the largest of the long woolled breeds, vying with the Cotswold for first position. Lincoln sheep originated in Lincolnshire, England, and occupy a prominent position today, both as wool growers and producers of mutton. They are squarely built, faces pure white, somewhat long and surmounted by a tuft of wool. The back is wide, level and the hind quarters are unusually well developed. Their wool is long in fibre, lustrous and very strong. Lincolns mature early and fatten rapidly.

## **The Suffolk.**


According to the Suffolk Sheep Society Flock Book of England, where this breed originated, and is still largely confined, the typical Suffolk should be characterized by lack of horns, long black face, muzzle, moderately fine, medium length ears, black and of fine texture; eyes bright and full. The neck should be of moderate length, shoulders broad and oblique, chest deep and wide, back long and level, with broad tail, well set up. The legs are straight and black woolled to the knees and hocks, and clean below. The fleece is moderately short, close and of fine fiber, without tendency to mat or shade off into darker colors. The Suffolk sheep is especially prized for the fine quality of its mutton.

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## **Wensleydales.**

This breed is comparatively unknown in America, but one of recognized merit in England where it originated. In general form, the Wensleydale sheep perhaps resemble the Leicesters most closely. The face is dark, the ears dark and well set on, the head is broad and flat between the ears, with a tuft of wool on the forehead. The eyes are bright and full; the neck is moderately long, shoulders broad, chest deep and wide, back broad with well sprung ribs. The tail is broad, the legs are straight, with a little fine wool below the hocks and the fleece is long, bright, lustrous and well curled all over the body.

## Diseases

OOD fat sheep are the result of careful raising and seeing to it that every ounce of food they eat is converted into so much mutton and wool. The best results cannot be obtained if worms are allowed to infest the flock. These ravenous pests cause fully 90 per cent of all the losses in sheep raising. And since it is impossible to keep sheep together without these pests developing, every sheep raiser must look sharp to prevent worms from doing fatal damage.

Where sheep are given good care and proper feeding, the danger of disease is of course greatly reduced. If they are protected against sudden changes in temperature and kept free from stomach and intestinal worms, your losses should amount to very little. No domestic animal responds more readily to kind treatment, and the watchful shepherd will be amply repaid for the care he exercises in handling his flock. It is always preferable to feed the flock in the yard, as you can then more readily detect any indisposition among them. If a sheep fails to eat, look to the cause and remove it promptly. Do not try to force the animal to partake of food, unless it has gone without for several days; then a flaxseed meal or oatmeal porridge should be given. A sheep that chews its cud is not very sick. As soon as any member of the flock shows signs of sickness, it should be separated at once from the rest of the flock, and especial attention given to it.

## Distemper

In the early stages of the disease, there is a slight watery discharge from the nostrils and eyes, a general depression and loss of appetite. Coughing is seldom noticed unless the bronchial tubes are affected. At the end of a week, the discharge becomes thicker and the eyes half closed. Separate the afflicted animals from the rest of the flock and place "Sal-Vet" where each flock can run to it freely. It will act as a preventive on the well ones, and will quickly improve the digestion and general health of the sick ones. It tones up the entire system, purifies the blood, makes the bowels active and puts the animal in the best possible condition for recovery. It is also advisable to spray the pens and feeding troughs, with a disinfectant such as a strong solution of carbolic acid.

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"I do not see how any stockman can do without 'Sal-Vet.' It certainly has made money for me. Last fall my sheep were caught in a hail storm and became quite sick from exposure; they coughed a great deal, and were in bad condition generally. At that time I just happened to be out of 'Sal-Vet,' and you may be sure I missed it greatly. I immediately got another 200 pound barrel, and in a very short time every sheep on the place was again in fine condition. I have forty lambs and have not lost a single one. Furthermore, I have not had a sick hog on the place, although hogs have died all around here."

Peter Bally, Wichita, Kans.

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"I am well pleased with the results following the use of 'Sal-Vet.' Since using it, my sheep have stopped coughing and show no more symptoms of worms. Furthermore, my ewes have produced a fine lot of lambs this spring."

Smith Hines, Hopkins, Mo.

## Grubs

Sheep, especially those that graze in brush and woodlands, are in danger of being troubled with grubs. They are caused by the bot or gad fly lighting on the animal's nose and crawling up into the nostril and depositing its eggs. The breathing of the sheep draws them up into the nasal passages between the eyes, and here the eggs hatch out. The bot fly has been the constant annoyance of the flock masters for centuries and is mentioned in ancient history. Some authorities claim that grub in the head does not harm sheep and could not cause death. It is very evident that the grub in the head is not necessary or beneficial to animals, as some have erroneously said. It is not reasonable to suppose that the sensitive membranes in the sinuses of the head of so frail an animal, were intended to harbor such vicious, irritating parasites. The following brief description of the intermediate stage of this fly, during its stay in the host (the sheep) will settle this question in the mind of the average breeder or feeder of sheep:

The fly darts to the nose of the sheep and before the animal can dodge or protect itself, the fly deposits the larvae, usually in a well developed state, on the nose of the sheep. The parasites, by the aid of hooks on each side of its head and the small points encircling the body, crawl up the nostrils and into the frontal sinuses, attaching themselves to the sensitive membranes, and there, either by irritation or by absorption, dries or uses up the natural secretions, causing inflammation or catarrh. When the larvae is first deposited on the nose of the sheep, it is about the size of a meat maggot. The period of infection, depending upon the weather, is from the first of June to the last of August. When the grub



is mature, it is about the size of a navy bean. The larvae when deposited and until half grown, is of a creamy white at the head, gradually shading darker toward the extremity. At maturity the head is of light color and the body nearly black. The mature grub has about twelve segments or shell-like rings, with sharp point projections encircling its body; these are used in crawling. In crawling the body elongates, showing flexible tissue between the segments. In contracting, the lateral part is brought forward, and the movement is made possible by the points on the segments.

In the following spring, when the grub becomes mature and about to form into a pupa stage, it passes out of the nasal cavity into the natural openings of the head, and during April or May, they are thrown out to the ground by the animal sneezing or coughing. When on the ground, the grub buries itself under litter or surface vegetation. Here it contracts itself until the shell-like segments completely envelop it, forming an egg-shape pupa. In thirty to sixty days, according to the weather, a small cap piece is removed and the fly emerges, going about annoying the sheep and doing its part in producing its kind. The fly has no mouth, therefore, does not take nourishment; its life is about sixty days. The grubs in the head of sheep, rarely of themselves cause death and the sheep seldom show symptoms of the presence of the grub, until about the time of their migration in the spring, except when present in numbers sufficient to fill the cavities, causing inflammation and producing abscesses and softening the structure surrounding the brain, enabling the grub to reach the cerebrum. In such cases the animal becomes bewildered, roams about the field without taking food, turns in circles,

raises its head high and suffers severe pain. No doubt the grub in the head, assisted by any of the various other parasites with which our American flocks are known to be troubled, have caused many fatalities. The location of the grub in the head is about half way from the opening of the nose and the crown of the head and just back of the nostril passage, in the sinuses just about the eyes, and in horned sheep are sometimes in the hollow base of the horn.

No positive cure has ever been found, but some authorities advise the use of snuff and linseed oil, to be injected into the nostrils. This causes the afflicted animal to sneeze and to expel the grub.

Other authorities, however, recommend this operation: A trephine may be used and a circular disc of bone cut from over the location of the grubs. This may be done by cutting a circular flap of skin somewhat larger than the opening, to be made in the bone, leaving the skin attached on the upper side. After the bone is removed and the grubs taken out the flap should be replaced and held in position by plasters or stitched with surgeons' suture. Antiseptics should be used freely in all such operations.

Prevention of grub, however, is much easier and more dependable than a cure. By occasionally smearing a little pine tar on the noses of the sheep they will not be bothered by flies and danger of grub will be eliminated.

This can also be automatically applied, by smearing the bottom of the feed trough with pine tar.

## Fluke Worms

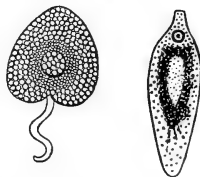
By grazing in lowlands and in wet places, after infected animals, Fluke Worms (Liver Rot) may be contracted by sheep and lambs. These parasites are small and flat and infect the liver, which organ they destroy, when found in large numbers. Severe attacks are usually fatal.

**SYMPTOMS:** Rub the skin of the sheep backward and forward at the small of the back, and there is a crackling feeling, as though there were water underneath. When taken between the thumb and fingers, the skin is soft and flabby. There is a weakness or tenderness about the loins, the eyes become jaundiced — there are diarrhoea and stupor. Often, too, the animal becomes dropsical, which condition is noticed on the belly and under the jaws.

Isolate the animals in a high, dry pasture, and feed them SAL-VET. It will destroy the parasites while still in the stomach, before they have entered the liver.

The remedy lies in destroying them before their passage from the stomach. Have a supply of "Sal-Vet" where your sheep may have access to it; they'll doctor themselves.

### FLUKE WORMS



Tadpole  
Stage

Adult  
Liver  
Flukes

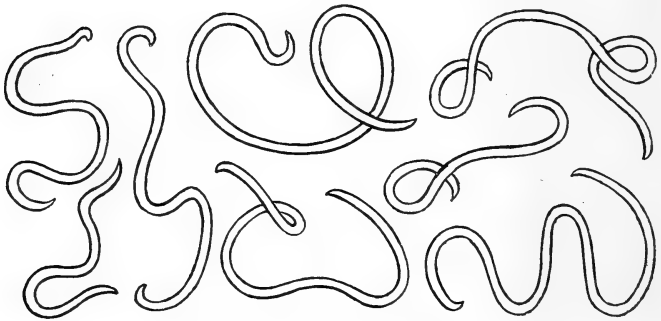
(About two-thirds natural size.)

"I wish to testify to the value of 'Sal-Vet,' as it saved my flock of sheep. I had a friend who cared for his flock in the same way, but omitted to give them access to "Sal-Vet." He lost nearly every sheep in his flock."

J. R. Glendenning, New Martinsville, W. Va.

## Lung Worms

Lung Worms get into the air passages of the lungs of sheep. The afflicted animal coughs, gaps, rubs its nose upon the grass, and gives other indications of irritation of the respiratory organs. The breathing is labored; there is a discharge of mucous from the nostrils.



Lung worms (about twice natural size)

Although the appetite is not impaired in the early stages, still the animal remains thin, and death usually follows. Fatalities caused by lung worms, occur usually during the winter and early spring months.

Sheep and lambs get the eggs or larvae of the lung worm, with grass, feed or water. The theory is, that in the stomach, these eggs are rapidly developed, and very minute parasites enter the circulation, and finally find lodgment in the air passages of the lungs. When once there, no remedy taken into the stomach will destroy them, but the disease is preventable by destroying the

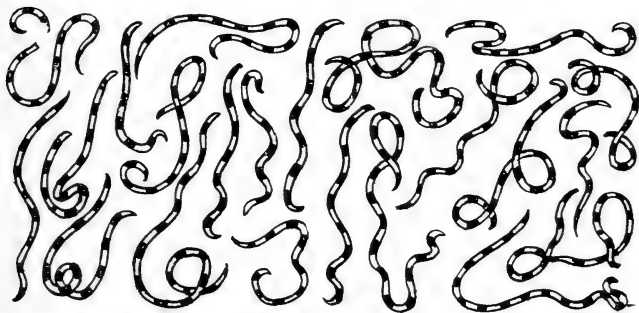
parasite while still in the stomach, before it has entered the circulation.

Keep SAL-VET constantly before the sheep and lambs in the pasture and feeding pens. Feed it to the ewes while in winter quarters, and give the lambs access to it from the time they go on pasture.

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### Stomach Worms

If you are familiar with the raising of sheep, you know the dreaded symptoms showing stomach worm infection. The animal moves about with laggard step, drooping ears and dull eyes. There is a loss of weight—sometimes colic and later diarrhoea. The skin is pale



The Twisted Stomach Worm (about twice natural size)

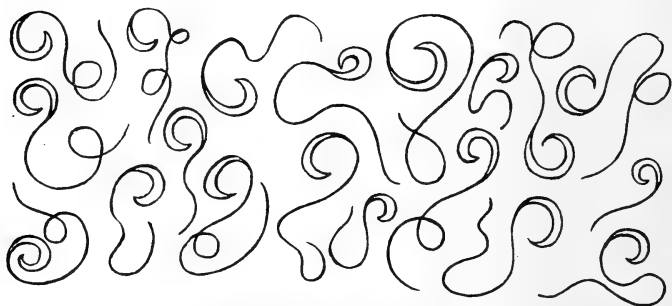
instead of pink. As stomach worms are found in the fourth stomach, they interfere with the digestion to such an extent that the animal practically starves to death. To get more and better wool and mutton, you must get rid of the worms.

Infection by these deadly parasites comes from pastures on which sheep have been grazing for some time. The infected animals drop the eggs from which the larvae are developed. These work their way to the tops of the grass blades; the grazing animals take them, and the trouble begins.

In the Central States alone, three million lambs have been killed in a single year, by stomach worms.

The logical plan to prevent pastures becoming badly infected, is to first rid your ewes of the worms. Begin while they are in winter quarters; keep up the fight after they have returned to grass. You can do much toward rendering them powerless to further infect your pastures.

As a preventive, lambs should be given access to 'Sal-Vet' from the time they first go on pasture.



**Intestinal Worms (enlarged)**

Most of the prominent breeders successfully keep their stock worm-free and in the pink of condition by simply keeping



where the animals may have free access to it, so that they may doctor themselves. Try this plan yourself.

You will be amply rewarded by the knowledge that your pastures are clean, and parasitic infection among your lambs reduced to the minimum, or entirely eliminated.

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"It affords me great pleasure to give this testimonial of the value of your miraculous cure, 'Sal-Vet.' Our sheep became infested with stomach worms and were dying almost daily. Learning of the remarkable cures accomplished by 'Sal-Vet,' I decided to try it. Much to my surprise, I have not had the loss of a single sheep since. 'Sal-Vet' does exactly as you claim. It is a money saver to every stock owner who will use it."

John E. Templin, Blanchester, Ohio.

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"My sheep are all anxious and always eager for 'Sal-Vet,' and it is doing them a lot of good. They were infested with stomach worms on account of their being kept on the same pasture for three consecutive years. 'Sal-Vet' affords a cheap method of ridding both sheep and pastures of these deadly parasites."

Thomas Brennan, Garretson, S. D.

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"I have fed 'Sal-Vet' to my sheep which were infected with stomach worms, and can say I have lost but a single lamb since feeding it."

G. W. Pfoutz, New Sharon, Ia.

## NODULAR DISEASE

### How to Diagnose and Prevent

Nodular Disease is caused by parasites which thrive and do their deadly work in the bowels, liver and connecting tissue, of sheep. The parasites are taken up with feed or water, and burrow into the lining of the intestines. Small nodules or lumps are formed, the assimilation of food is checked, and the action of the bowels retarded.

While the animal may gain weight at first, strength is soon lost. Later the weight is lost, too, the skin and wool become dry and hard, the bowels irregular, and, in severe cases, death follows.

If taken while the parasite is still in the stomach, and before it has passed into the intestines and imbedded itself into the membrane, "Sal-Vet" will destroy the worms and prevent further infection in the flock.

Lambs having constant access to "Sal-Vet" from the time they first go on grass, usually escape infection.

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"Sal-Vet' worked finely on my sheep; I had one valuable ram in particular that I expected to lose. He grew very poor and went down every day, and by the time the 'Sal-Vet' arrived, he was so weak he could not eat. I forced him to take some of the 'Sal-Vet.' He picked up quickly and is now sound and lively as ever."

E. J. Israelson, Vera Cruz, Mo.

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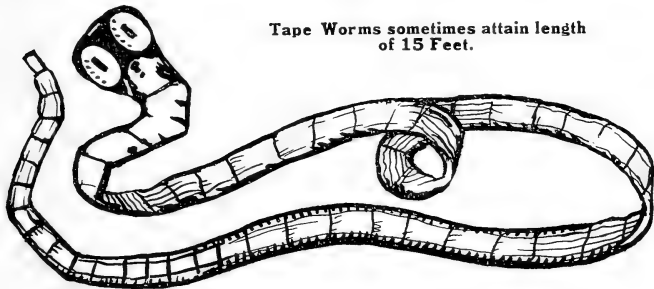
"You may ship me another barrel of 'Sal-Vet,' as I find that I have had less loss this summer while using 'Sal-Vet' for my sheep and lambs, than ever before during my ten years' experience in breeding sheep."

Percy Brown,  
Spring Hill, Tenn.



## Tape Worms

Tape worms are ribbon-like gluttons, which annually reduce sheep raisers' profits enormously. It is no unusual occurrence to lose an entire flock of lambs afflicted with



Tape Worms sometimes attain length of 15 Feet.

tape worms, by the scouring, which is coincident with the disease.

Sheep so infected do not fatten, and the growth of the wool is materially diminished. There may be from two to twenty-five of these worms in a single animal, although as many as a hundred have been found in one.

Tape worms thrive in all seasons, and when present, nearly every sheep in the flock will be affected.

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“Our sheep and lambs were badly infested with stomach worms, and some tape worms. We tried to doctor them with stock food, turpentine, linseed oil, gasoline and other things, and lost about fifty lambs while experimenting with the above. We heard of your ‘Sal-Vet’ and have been feeding it for about two months. It has been a wonderful help, as we have lost only one lamb since feeding it. We cannot speak too highly of ‘Sal-Vet.’”  
Gwillim & Son, Medora, Ill.

"A few days after feeding 'Sal-Vet' some of my lambs began to pass great fragments of tape worms and continued to do so for nearly a week, after which they made extraordinary growth. My colts have done equally well."

S. W. Sevits, R. D. No. 2, Danville, Ill.

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"I have been feeding 'Sal-Vet' to my sheep and horses and have noticed from the start that the sheep have passed a large number of tape worms. Am highly pleased with this result and know the preparation is all you claim."

Abram Bolton, F. D. No. 2, Danville, Ill.

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"Please send me another 100 pound keg of 'Sal-Vet' as soon as possible. It is certainly a great worm destroyer. I have used it for over a year and it has saved lots of my lambs. They begin to eat it when only two and three days old.

Geo. L. Voorhees, Lebanon, N. J.

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"Until about two years ago, when I commenced to feed 'Sal-Vet' to my sheep, I lost enough in two years from worms, to pay the duty on my wool for fifty years, if shipped into this country; but since I have been using 'Sal-Vet' I have never lost one, and they keep in perfect health.

"The stomach worm is the greatest detriment in the South to the sheep industry, but 'Sal-Vet' is the remedy; there may be others, but I tried tobacco stems, with no good results."

R. L. Wallace, Route No. 1, Knoxville, Tenn.

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"We usually figure on a loss of one to three per cent by death. This year we kept 'Sal-Vet' before our sheep all the time, and have not had a single sick sheep, although we have fattened for the market during the winter, over a thousand head."

J. W. F. Thomas & Son, Delphi, Ind.

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"I have not lost a single sheep since I began feeding 'Sal-Vet.' Last winter, without its use, I lost 25 per cent of my flock."

Chas. E. Wyman,  
Pekin, Ind.

# State Agricultural Experiment Stations and Colleges Endorse



## From Ohio State University; College of Agriculture.

"We have used 'Sal-Vet' with excellent satisfaction, and while we have not obtained information as to the absolute effect on our sheep, they consumed the preparation with results which appear to us to corroborate your statement, that it is desirable for discouraging the development of worms, and keeping sheep in a good condition.

"I believe that 'Sal-Vet' will repay the user, in the results which come from its action in his flock."

C. S. Plumb, B. Sc., Prof. of Animal Husbandry.

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## From Oklahoma Experiment Station.

"Please send us another shipment of 'Sal-Vet.' We endeavor to keep a constant supply of 'Sal-Vet' before our sheep, particularly at this time of the year when there is greatest danger of lambs and sheep contracting stomach worms and other parasitic diseases."

W. A. Linklater,  
Animal Husbandman.

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## From California College of Agriculture.

"We received the 'Sal-Vet' some time ago and are feeding it to our breeding sheep. It is doing the work in fine shape."

J. J. Thompson, Dept. Animal Husbandry.

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## From North Carolina College of Agriculture.

"In my live stock work here in North Carolina I have had an opportunity to recommend your 'Sal-Vet' to a number of stockmen. Having used it at New Hampshire College last year and year before, I am in a position to know its great value. Our cattle have done well ever since we began using 'Sal-Vet,' and I am always glad to recommend an article that is as good as the one you are placing on the market."

John C. McNutt, Prof. Dept. Animal Husbandry.

## **Additional Experiment Station Endorsements**

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### **From Iowa State College.**

"We have been using 'Sal-Vet' for the past two years; to tell the truth, we are somewhat surprised at the good results we have secured with it. Our lambs have been quite free from serious parasitic trouble, and as the 'Sal-Vet' has been fed faithfully during the period mentioned, we consider it a vermifuge of considerable merit. We know that our pastures are infected with stomach worms, and feel that 'Sal-Vet' has been responsible for keeping the losses from this source, down to a minimum."

John M. Evvard, Experimentalist,  
Iowa State College.

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### **From Connecticut Agricultural College.**

"We have used 'Sal-Vet' with good effect on our sheep. Our lambs have never done so well as this spring."

L. A. Clinton, Director.

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### **From North Carolina Experiment Station.**

"We find 'Sal-Vet' a very satisfactory worm exterminator, and are very much pleased with results."

R. S. Curtis, Animal Husbandman.

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### **From Nashville Agricultural and Normal Institute, Madison, Tenn.**

"After making a number of interesting tests on our sheep, I am confident that 'Sal-Vet' will destroy worms."

E. A. Sutherland, President.

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### **From South-East Alabama Experiment Station, Abbeville, Ala.**

"'Sal-Vet' has been of great service to us. It has kept our hogs and pigs free from worms, and furthermore, has demonstrated that it is a splendid tonic."

J. Buhrmas Espy, Agriculturist.

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### **From Texas Agricultural Experiment Station.**

"We are using 'Sal-Vet' with satisfactory results."

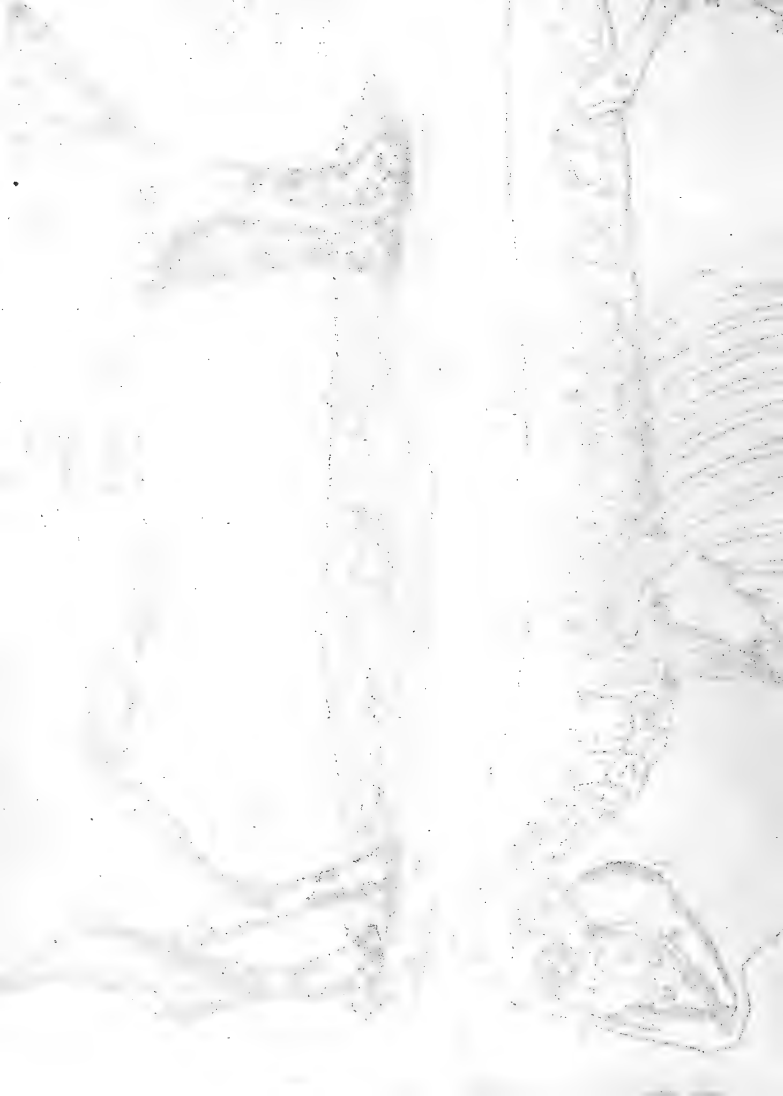
C. N. Alvord,  
Professor of Agriculture.

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TEVETIAZ

TEVETIAZ TABLETS, 100MG/250MG

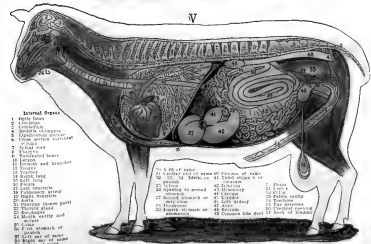
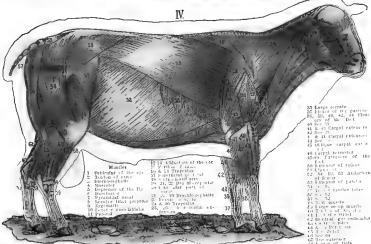
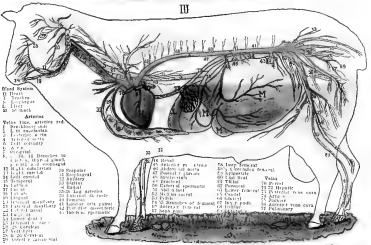
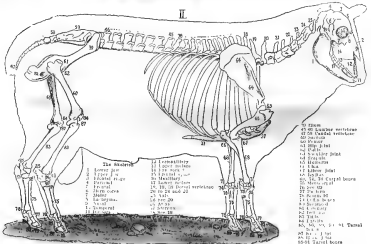
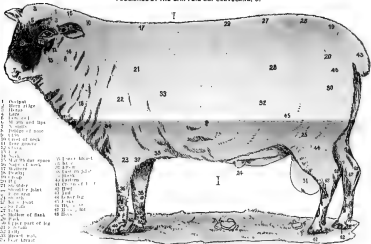
FOR THE TREATMENT OF BACTERIAL INFECTIONS





## ANATOMICAL SHEEP CHART

SUPPLEMENT OF SAL-VET SHEEP BOOK  
PUBLISHED BY THE S. K. FEIL CO. CLEVELAND, O.



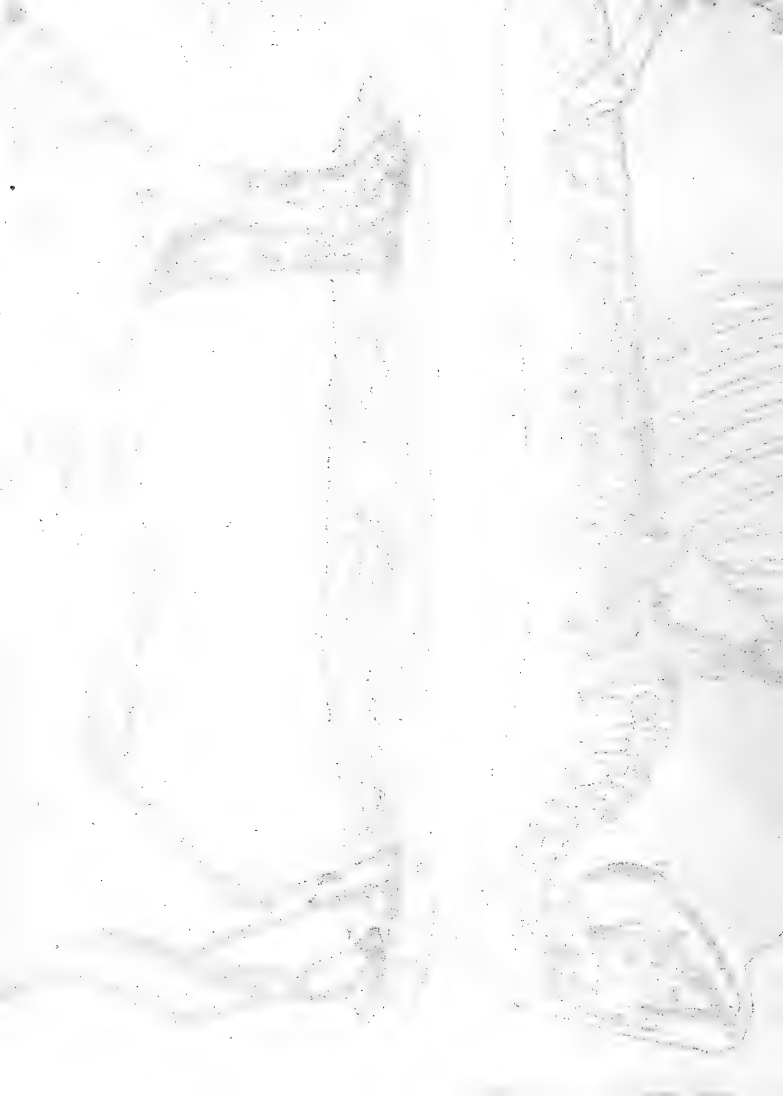


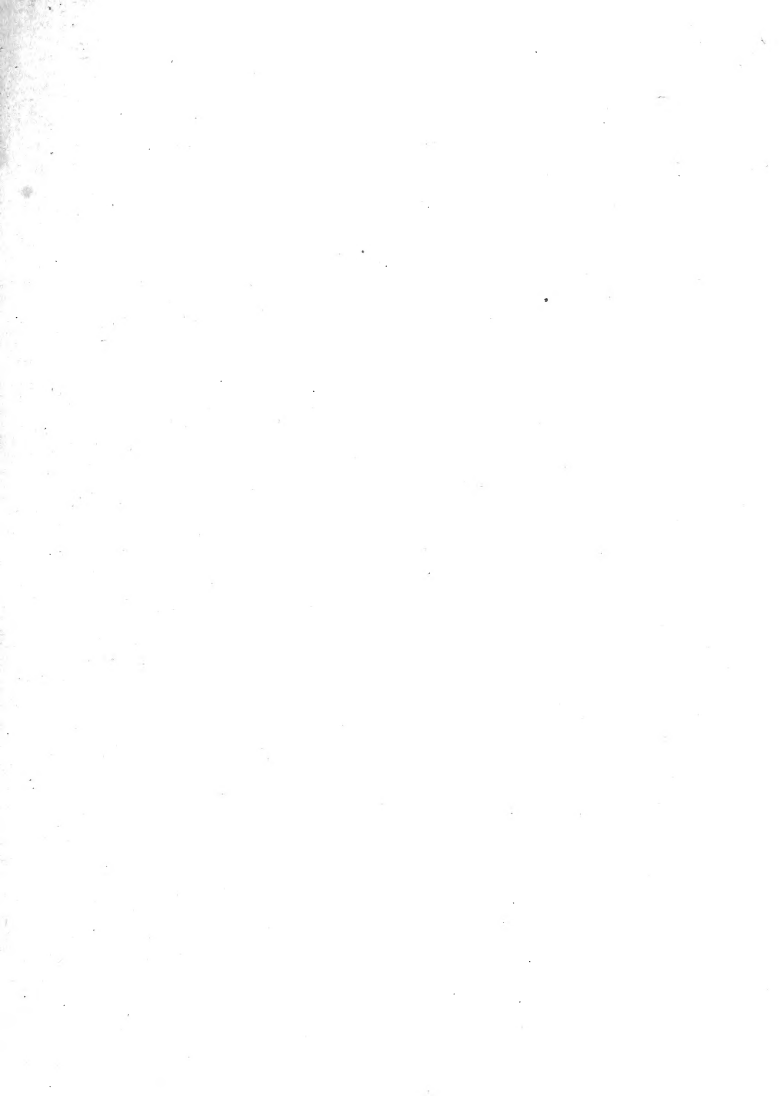




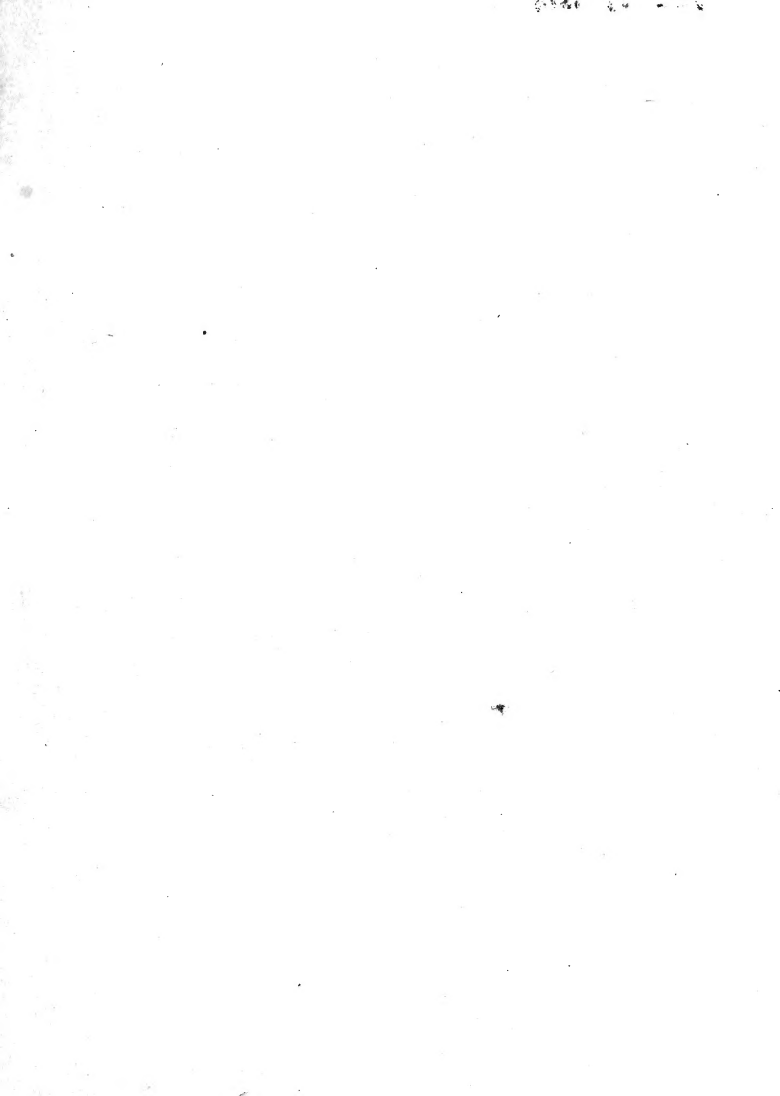
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