

## EFFICIENT EQUIPMENT FOR SHEEP FLOCK

(Prepared by the United States Department of Agriculture)

For the farmer who wishes to keep a small flock of sheep in connection with other kinds of livestock, specialists in the United States department of agriculture recommend a building similar in character to the one described with illustrations in a new publication of the department, Farmers' Bulletin 810, "Equipment for Farm Sheep Raising." This building will accommodate 20 horses, five cows and sixty-three sheep.

In order that the different kinds of stock may not disturb each other and to prevent drafts, the quarters for the horses, cattle and sheep are separated off. The cow stable is celled on the inside of the studs to make it warmer and to provide a smooth surface which will not collect dirt. The rest of the barn has a single wall. The entire central part of the building from the ground to the roof is occupied by the hay mow, which has a capacity of 50 tons. It is reached through four hay chutes placed to make feeding easy. Storage space for

for the storage of which no provision is made in this shed.

The windows of the shed should be hung on center pivots to permit entrance of air through their full size. Sheep demand an abundance of light and cannot possibly thrive where it is damp and dark. For this reason the number of windows must be ample. The doors used for the sheep are made in two parts, the upper half being hinged at its top to open upward and outward. With such door, an abundance of windows, and adequate roof ventilators, there will always be good ventilation if proper care is taken in the adjustment. Ventilation, it should be noted, is one of the prerequisites for any type of sheep building.

Such a shed as this affords good protection for sheep under any conditions, and if made 20 feet wide instead of 18 feet, may be used for winter lambing. The extra width enables detachable lambing pens to be set up next to the wall, and room enough for the rack for the other ewes.

Still another type described in the bulletin is a shed 16 feet wide by 24

## THE IS PIPE FOR DRIVING TO FLOCKS

Sheep Are Needed to Turn Roughage into Profits.

EWES PAY FOR SELF IN YEAR

Purchase of a Moderate-Sized Breeding Flock Therefore, Should Be a Safe Investment.

By GEORGE A. BROWN, Department of Animal Husbandry, Michigan Agricultural College, East Lansing, Mich.

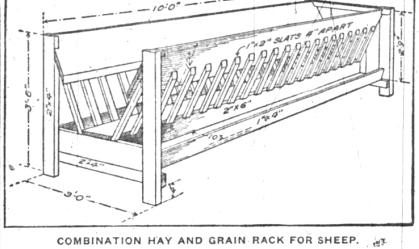
With the prospect that the corn crop, even if it doesn't fall mature, will at least provide a fair yield of four, there are not a few farmers this season who must find a way for disposing of this roughage that will insure some profit. It is not a matter of feeding the stock, but of finding a way to get the most out of it.

On farms where there are few animals at present to make away with the roughage supply, the unsatisfied season of roughage for this crop is a serious problem. The roughage is available to establish a breeding flock to remain permanently on the farm.

Some men are inclined to avoid lambing sheep, but for the individual who is almost entirely dependent on the sheep for his livelihood, a well-thought-out plan is well worth giving some thought to this season. In the first place, wool and mutton are selling at high prices, and the individual who is in favor of these prices continuing for some time. When we consider that a breeding ewe will pay for herself in the first year under careful management, the purchase of a moderate-sized breeding flock should prove a safe investment. As much cannot be fed of low land hay, and the purchase of breeding flocks at present prices, when two years must elapse before they are ready for market.

But, in addition to the purchase of breeding sheep as destroyers of roughage, there are many other uses of wool and mutton. The absence of weeds on farms where sheep are kept is a great benefit. In a cold climate, however, it does not furnish sufficient protection for winter lambing, although it may be used profitably in many sections in the South.

Persons who are seriously contemplating the erection of a building of one of these types may obtain working drawings and bills of material by application to the office of public roads and rural engineering, department of agriculture, Washington, D. C. As the supply of these drawings available for free distribution is limited, it is expected that no one will apply unless they contemplate the actual use of the drawings.



COMBINATION HAY AND GRAIN RACK FOR SHEEP.

2,000 bushels is provided in the grain bins, so that the barn has feed capacity enough to carry the stock on full feed for five months.

### Closed Sheep Shed.

Another type of building described in the same bulletin is a closed sheep shed. This is especially adapted for farms in which the main barn has large feed capacity but not sufficient space for the live stock. The shed is 20 feet wide and 12 square feet of floor space per animal, and is sufficiently large to hold 20 sheep. In this type of building the feed racks run down the center of the interior, dividing the floor space into two large pens each 6 feet 6 inches by 24 feet.

A combination hay and grain rack should be built in the center of the building, and the feed racks should be done from the walkway in the center so as to avoid disturbing the sheep. A large door at the end of the building is provided for driving the sheep.

## FEEDING GRAIN TO SWINE ON PASTURE

Some Interesting and Valuable Results Obtained at Minnesota Experiment Station.

Feeding grain to swine on pasture has given some very interesting and valuable results at the Minnesota Experiment Station, as reported by H. C. Ashby, in charge of the swine work.

Mr. Ashby fed various rations to 10 pigs on alfalfa pasture, and the results are as follows:

1. Three per cent of live weight in shell corn, self-fed, with alfalfa pasture.
2. Four per cent of live weight in shell corn, self-fed, with alfalfa pasture.
3. Four per cent of live weight in shell corn, self-fed, with alfalfa pasture.
4. Four per cent of live weight in shell corn, self-fed, with alfalfa pasture.
5. Four per cent of live weight in shell corn, self-fed, with alfalfa pasture.
6. Four per cent of live weight in shell corn, self-fed, with alfalfa pasture.
7. Three per cent of live weight in shell corn, self-fed, with alfalfa pasture.
8. Four per cent of live weight in shell corn, self-fed, with alfalfa pasture.
9. Three per cent of live weight in shell corn, self-fed, with alfalfa pasture.
10. Three per cent of live weight in shell corn, self-fed, with alfalfa pasture.

The results from the feeding of these different rations is shown in the following table:

Ration	Feed cost	Profit
1. Three per cent of live weight in shell corn, self-fed, with alfalfa pasture.	\$1.14	\$1.50
2. Four per cent of live weight in shell corn, self-fed, with alfalfa pasture.	1.14	1.50
3. Four per cent of live weight in shell corn, self-fed, with alfalfa pasture.	1.14	1.50
4. Four per cent of live weight in shell corn, self-fed, with alfalfa pasture.	1.14	1.50
5. Four per cent of live weight in shell corn, self-fed, with alfalfa pasture.	1.14	1.50
6. Four per cent of live weight in shell corn, self-fed, with alfalfa pasture.	1.14	1.50
7. Three per cent of live weight in shell corn, self-fed, with alfalfa pasture.	1.14	1.50
8. Four per cent of live weight in shell corn, self-fed, with alfalfa pasture.	1.14	1.50
9. Three per cent of live weight in shell corn, self-fed, with alfalfa pasture.	1.14	1.50
10. Three per cent of live weight in shell corn, self-fed, with alfalfa pasture.	1.14	1.50

## WATCH CROPS CLOSE FOR INSECT PESTS

Vigilance and Prompt Stock of Poisons Will Beat Off Enemies—Make Daily Survey.

(From the United States Department of Agriculture.)

Be on the job against insect pests this season. Make your food contribution to the human family, not the insect family. Farmers who provide themselves with insect poisons and keep them ready for use at the first outbreak of crop enemies will bring through the largest yields. Failure to detect an outbreak at its beginning and delay in getting control material may be fatal to the crop attacked, is the warning of entomologists in the United States department of agriculture.

That a great part of the annual loss to grain crops due to insect injuries can be avoided by vigilance and vigorous action on the part of the farmer is not sufficiently realized, the entomologists say. Frequently insect outbreaks originate within a field, and when this is the case it is often quite possible to stamp them out before any great damage has been done. If the outbreak is general, then community action is essential to prevent the infestation from becoming widespread.

Watch your crops constantly. Make a daily survey of the fields for the most active growing insects, if possible.

**The Cow Barn.** Lots of windows are necessary. You must have light to counteract the disease germs. Sunlight is the best preventive of tuberculosis. Plenty of light saves much danger from doing things by lantern light.

**Farmer on Right Road.** Whenever a farmer can be induced to take pride in the animals he produces, he is on the right road.

**Understand the Trees.** The more you understand trees, the better you will prize them.

to the wheat crop at the right time, in right amounts. Phosphates should be applied to the wheat crop several weeks before what he spends for them, and this season their use is to be particularly recommended.

One beneficial element in phosphate fertilizers, of course, is phosphorus, and it is without doubt the most helpful substance that can be applied to wheat. Phosphorus requires a large amount of phosphorus in order to fill out plump grains and to yield heavily, but Michigan soils as a rule are deficient in this mineral. The application of acid phosphate hastens maturity and increases the yield.

At the Michigan experiment station 200 pounds of acid phosphate per acre returned 60 bushels or over 600 per cent on money invested in fertilizer. Under average conditions about 250 to 300 pounds of acid phosphate should be applied at time of seeding, either broadcast or through a fertilizer attachment.

Rock phosphate is particularly effective when used in connection with manure. Twenty-five pounds of acid phosphate with each ton of manure will pay for the phosphate as well.

Rock phosphate is also valuable when used in this way. From 30 to 50 pounds of acid phosphate per acre, applied at the time of application, or used as a stable absorbent scattered in the yard, will render the manure much more effective. When in nitrogen and potash are used in connection with phosphate, the increase in yield is noted that at present prices the greatest net profit will come from the use of acid phosphate. Ammoniated phosphate is also a valuable fertilizer, and where complete fertilizers cannot be bought at a reasonable price their use is not recommended.

## ONION BULBS CAN BE STORED

Should Be Fully Ripened Before Pulling and Well Dried Before Storing.

By R. E. LOREE, Department of Horticulture, Michigan Agricultural College, East Lansing, Mich.

Onion bulbs which must be properly ripened, harvested and cured before they are ready for storage. The best time to pull onions is in August and September, and the growing months should now show signs of maturity. The best approach to a weakening of the growing habit of the onion bulb, and a yellow color of the tops. Bulbs to be stored should become fully ripened, and the tops should be broken and the outer skin of the bulbs dry.

There are usually some onions, or roots, which will not remain green. These are not suitable for storing. If they can be matured, it will be by pulling and giving the roots an opportunity to dry.

As a rule, it pays to pull the entire crop when the larger portion of the tops have turned yellow. Delay in pulling sometimes results in a second growth which injures the bulbs for storage purposes. The bulbs, after pulling, should be stored in a cool, dry place, and the tops should be broken and the outer skin of the bulbs dry.

## WOODLOTS FURNISH FORAGE

Hogs Make Good Gains Frequently on Acorns and Other Seeds.

East Lansing, Mich.—The woodlot has long been a source of interest and respect for its ability to furnish forage for hogs, sheep and cattle. But it frequently happens that farmers forget that they also should be making the most of their woodlot. It is said in a press bulletin that issued by the Michigan Agricultural College. In foreign countries hogs are fattened exclusively upon the acorns and roots they pick up and dig in the woods.

It should be permitted to clean up the acorns. The razor-back of the South gets to them as soon as the acorn crop matures, but in this section the crop usually is left for the squirrel. The larger squirrels under oak trees in early autumn are abundant.

There is no fear of hogs causing serious harm to the trees. They seldom eat the foliage even of seedlings and their rooting up of acorns does not harm the trees. Hogs will not eat the acorns of the white oak, but they will eat the acorns of the red oak and the chestnut oak.

It is a means of keeping down insect pests in this country also. It should receive more attention as a means of conserving the supply of other food crops.

## WHEAT NEEDS PHOSPHORUS

Application of This Element to the Soil Has a Valid Help Crop.

By PROF. J. F. COX, Department of Animal Husbandry, Michigan Agricultural College, East Lansing, Mich.—It is quite advisable now to take a ton or two of salt with you on the occasion of miracle-working made by fertilizer men, who in selling fertilizers sometimes sell the farmer also. Despite these offers, however, there is nevertheless no question about the value of phosphates applied

**Cool Mine Found at Grass Roots.** A four-foot seam of coal, eight feet below the surface and only 30 feet from the main line of the United States railroad in Alaska has been discovered at Mine 170, not far from Seward.

**Women.** The women of the old dramas and the old novels are no more womanly than the women of modern life. The women of modern life are more womanly than the women of olden times.

**Resulting.** "You say the auto struck you and sent you flying?" "Yes, sent me flying." "Did it do any damage?" "Yes, it did. It sent me flying." "Join the Aviation Corps."

## SOONER THAN YOU CAN BELIEVE

And Filed on Western Canada Land, Now Worth \$50,000.

Lawrence Broer, of Vera, Saskatchewan, has looked upon his land as one of the most progressive farmers in Western Canada. They have had their "ups-and-downs" and know what it is to be in tight places. They persevered, and are now in a most financially sound position. Their story is an interesting one. Coming in from the States, they traveled overland, from Calgary across the Battle river, the Red Deer river, through the Eagle Hills and on to Battleford, on the 18th they had their horses stolen, but this did not dishearten them. They had no money, with which they bought more horses, and some provisions. They then reached Battleford, they had only money enough to pay their ferrage over the Saskatchewan river, and this they had to borrow. It was 1884 that they filed for land, having to sell a hog for ten dollars in order to get sufficient money to do so. Frank Lawrence says:

"I have moved from my old place altogether, and now I own a half of land, in addition to renting another three quarters of a section. If we had not now we could probably realize about \$50,000, and have made all this since we came here. We get crops in this district from 30 to 40 bushels per acre, and we have made out from 40 to 50 bushels to the acre. Sheep here yield well. We have 1,700 sheep, 70 cattle and 60 horses, of which 1/3 are registered Cloydes."

Similar to the experiences of hundreds of farmers throughout Western Canada, who have done comparatively well. Why should they not do as well? They have comfortable homes, with all modern equipments, electric light, steam heat, pure ventilation, and automobiles. They are not only well-to-do, but a revelation to the reader to learn that during the first half of 1917, 10,000 homestead licenses were issued in Alberta, twice as many as were issued in 1916. In Saskatchewan, 21,000 licenses were issued up to the first of May, 1917. In its monthly bulletin for the month of May, the Canadian Bank of Commerce makes special reference to this phase and to the general prosperity of the West in the following:

"Generally speaking, the Western farmer is, in many respects, in a much better position than hitherto to increase his production. Two years of high prices for his products have enabled him, even with a normal crop, to liquidate a substantial proportion of his liabilities and at the same time to improve his farm machinery. His property is reflected in the demand for building materials, motor cars and other equipment. It is no doubt true that some extra profit has been evidenced by the astonishing demand for motor cars, but it may be remembered that many of these cars will make for the better equipped farmer, and thus both time and labor."—Advertisement.

## FORTUNES MADE IN COTTON

Imperial Valley of California, a Desert Fifteen Years Ago, is Now Great Field of White.

In the Imperial Valley of California they are making fortunes raising cotton this year—sudden dramatic fortunes. Everything about the Imperial Valley has been changed. The quality of its stock would make a blistering desert where a buzzard could scarcely live. And then the government bought the Colorado river and the desert was irrigated with canals, and plowed and planted, and for the first time since the primordial ages the soil grew green and growing things sprang over the valley.

"Cotton raising in 1916, it came in the shape of a hot wind from the west of farm waddlers driven by a Texas householder. He asked why they didn't raise cotton thereabouts, and they said they had tried it, but it was something like Missouri, he planted his little store of cottonseed, and it came up and opened its hairy body to the sun and the desert wind, and the farmer, the next year it came up and bore again without another planting."

The Texas little cotton field spread like a hot wind from the west. It clothed the barrenness of the desert in its fleece. And it brought to the men who owned the land more hard-earned dollars than they had ever had before. There are 50,000 acres of cotton in the Imperial valley this year and they are going to be made into more than 100,000 bales of cotton. This cotton is the human crop, which this desert has borne for it is peopled by men who own their own farms and are prosperous.

**Two Great Men.** Early Caruso, the world-famous tenor, says he has found out the man in his art as he thinks he is.

"While I was out motor on my dog," he continues, "my automobile broke down. I sought refuge in a farmhouse while the car was being repaired. Because friendly with the farmer, who asked me my name, and I told him it was Caruso."

**Hard to Please.** "You are inconsistent," said the pretty girl.

"How so?"

"You say you always making fun of my clothes. Yet, when you put on strictly utilitarian garments like overalls, you bewail the passing of feminine frills."

**It's no mark of superiority to get drunk on drug store whiskey in preference to the stuff that is brewed and brewed in a saloon.**

## APPROACH TO THE CATHEDRAL

LAON has never been a large town, but it has always been a place of strength. In 1913 it had little less than 15,000 inhabitants, but in Gaulish times it was already that Bibrax which Julius Caesar took in the year 57 B. C., and where no doubt the Romans established themselves and maintained the authority of Rome among the conquered. Many curious Gallo-Roman antiquities have been collected in the neighborhood and are now in the museum. Up to the fifth century the collection was known as Landunum.

During the Merovingian, the Capetian, and, in fact, in all periods of French history, says Henry P. Davray in Country Life, Laon has played an important role. Its geographical position caused it to be frequently besieged. Situated on the road from Paris and from the valley of the Seine to the middle valley of the Meuse, it is built on an isolated mount quarantary carved out in the form of a promontory which can be seen from a great distance. (This mount forms a kind of Y of which the point is turned toward the northwest. To the northeast the cathedral rises, and to the south the Abbey of St. Vincent. From a height of 300 feet above the valley of the Meuse, the city of Laon extends far in all directions, and there is not within a large radius a better spot of observation. Moreover, the steep flanks of the hill made the city easily defensible against the weapons of former times, though twice it has known the humiliation of capitulation to German forces, in 1814 and again on September 1870—two dates that many older inhabitants carry in their hearts today. In this fortified strategic point, the early kings of France made their residence. Here, too, the church founded a bishopric about 500 A. D., which was steadily maintained until the Revolution.

**Of Strategic Importance.** Laon was a place that all armies fought for with bitterness. The English during the Hundred Years' war, later the Burgundians and Charles the Bold, in the wars of the Reformation, the invaders of 1814, of 1815 and 1870—all regarded the town as one of their great strategic points. It was taken, ravaged, pillaged, burned a great number of times after long and difficult sieges. Thearrison easily offered resistance, which often enough beat the besiegers.

For example, when Henry IV reconquered his kingdom from who took the town of Mayenne and the Ligue, the town of Laon held him at bay for a long time in 1594. He took it less by force of arms than by the bluffing suggested to him by his astuteness and cunning. In 1814, during that immortal campaign of France, when more than ever all resources of his genius were taken, Napoleon tried to drive out Blucher and the Prussians. For several days he redoubled his efforts and finally abandoned the place. These details, which could easily be multiplied, prove the strategic importance of Laon.

From its strategic importance, which gives it military value, it has been the meeting place and crossing point of the means of communication and transportation of all the ages in all these epochs. The great highways of the district intersect at the foot of the mountain.

**Must Guard Against Echo.** The essential of an echo who does not be taken into account by the architects and builders of all public buildings, such as theaters, halls and churches, where serious are speaking, and must be heard by others. Unless they are very careful the walls and ceilings may be arranged so that the resources of his genius were taken, Napoleon tried to drive out Blucher and the Prussians. For several days he redoubled his efforts and finally abandoned the place. These details, which could easily be multiplied, prove the strategic importance of Laon.

**The Red-Hot Purpose.** That which dominates the life, which is ever uppermost, in the mind, generally comes somewhere near realization; but there is a great difference between a lukewarm desire and a red-hot purpose. If taken steps to drive the plan in the engine, it will never turn the wheels. The longings that fall of realization are usually just below the boiling point.—Orison Sweet Marlowe.

**Was Still Hope.** Uncle, was telling his two little sisters of his two little girls, and said that he had never seen anything knocking about it. "Well, he didn't expect you to take your wife in it, probably."

**The Retail Courtroom.** He—This bargain hunting shows your character. You are always looking out for yourself as the hero. She—Too true. That is how I came to marry you.

**What was the best and most successful man to prepare for a lecture or sermon, the reply of the hall, in one sentence, "Just fill yourself chock full of your subject and then let nature take its course. The best general advice for hygiene: Just drink liberal and then let your appetite cheer.—Ex change.**

**New Dieting Advice.** An anxious young theological student finally abandoned the bland diet of never turn the wheels. The longings that fall of realization are usually just below the boiling point.—Orison Sweet Marlowe.