for both ewes and lambs. There is something about the crop that adds tone and bloom to the flock. The 1919 lamb crop was one of the best on record, and is largely attributed to the excellent condition of the ewes that were on rape pasture the previous fall. If it is not possible to provide rape pasture a very good substitute would be either fresh spring seeding or the second growth of clover, the aftermath of a hay field. Whatever pasture is used it should be of such a nature that the flock will be well nourished, and when the time comes to turn with the ram they are in real good flesh.

It is desirable that the flock should go into winter quarters free of ticks and lice. For this reason fall dipping should not be overlooked. This should be done before the weather becomes too cold. If possible choose a bright, sunshiny day, and if the work is done in the morning the flock will have time to dry off the same day.

Note.—For further information on dipping see section on this subject.

BREEDING.—The gestation period for the ewe is approximately five months. The most favorable time for the young lambs to be born will depend largely upon such conditions as housing accommodation, feed supply, and when and how the lambs are to be marketed. In pure-bred flocks, especially where exhibiting is practiced, it is often desirable to have the lambs come early in order that they may be well developed and show or sell to the best advantage. In such cases the ewes are bred to lamb in February and March.

On the other hand, where the object is to market the lambs in the ordinary way, it is usually better policy to have the lambs come later. Early in April is a pretty satisfactory time to have the lambs arrive. As a rule the weather is then comparatively mild and there is little risk of the youngsters becoming chilled, and they get off to a good start before going to grass. Some prefer to have the ewes lamb on grass as they claim there is less loss, it means little if any grain feed for the ewes, and the lambs go right ahead and make satisfactory growth. There is a little more difficulty in giving the detailed attention to the young lamb and its mother than is necessary while the flock is r nning out on grass, and it is doubtful if the lamb born later than early in April will reach, that year, the development of the one dropped at that time. However, as already suggested, it is a question that depends, to a great extent, on local conditions, and one that can be left to the judgment of the flock-owner.

Before introducing the ram to the flock, the ewes should be gone over and all dirty wool and dung tags clipped from the hindquarters. This will give the ram a better opportunity to perform service and will result in fewer barren ewes.

In ordinary farm practice the ram may be turned with the flock during the day and taken away during the night. This is much more satisfactory, both for the ewe and ram than allowing them to remain together during the entire breeding season. It might be wise to go even further than this and allow the ram to mix with only part of the flock at a time. The object should be to conserve as far as possible the vitality of the ram, and still make sure that the ewes are receiving attention at the proper time, and to accomplish this without undue time and labor. It sometimes occurs that the ram will have a preference for one or two ewes and will ignore others that require service. In such cases it may be necessary to remove a ewe from the ram after the first service and permit him to devote his attention to other members of the flock. When the ram is first turned with the ewes his breast may be painted with a soluble paint and the marking on the rump of the ewe will indicate those that have been bred. As each ewe is marked showing that she has been served she may be removed and the served ewes kept by themselves, thus permitting the ram to devote his full attention to those ewes that have not been bred. At the end of eighteen days, change the breast marking to another color, and this will show those ewes that are taking the second service. In this way it is possible to keep a fairly accurate record of the service of each ewe and to note those that are coming the second time. Many sheep owners have had the misfortune to have in service a ram that did not get the ewes in lamb, this is particularly true in case of a lamb or a recently imported ram. When a number of the ewes are coming back for the second or third service it would look a little suspicious, and in such cases it would be wise to secure the service of another ram that had proven a sure getter.

Live Stock at the Brandon Show.

One of the best live stock shows of the Western circuit was staged at Brandon. It was commented upon by several American breeders as being superior to many of the State fairs. The classes were considerably better filled than at the preceding Western exhibitions. The judging was followed by a large crowd of apparently interested spectators. The showing of Clydesdales was strong. There were no less than eleven entries in the aged-stallion class, with Carbrook Steel, shown by Ben Finlayson, at the top. This horse has clean, flinty-boned legs, and showed true, snappy action. The female classes were also strong. In the yeld mares there were nine out, with Colony Peggy, from the Experimental Farms, Brandon, at the top. She has substance and quality to go with her excellent feet and legs. The champion mare was Doon Lodge White Heather. The Percheron classes were interesting, as they were well filled with individuals of draft type showing trappy action and good quality. There were twelve entries in the aged-stallion class, and finally the honors rested upon Monarch, owned by C. D. Roberts & Son, Winnipeg. This horse was later made champion, although Count Vimy won the Canadian-bred championship.

The Shorthorn show exceeded all expectations. Many herds from Manitoba came out to compete against the herds showing on the Western circuit. Lancaster Lord topped the class of aged bulls, with Maxwalton Major, from the American herd, in second. The strong class of ten two-year-old bulls was headed by Maxwalton Monarch from the Carpenter and Ross herd, but in the senior yearling class Barron's Lavender Chief came to the front, and his Augusta Stamp was also picked for winner of the senior calf class. The aged-cow class presented strong competition. Collynie Best, from L. E. Bowes' herd, Calgary, was at the top. She is a deep, thick sappy individual of the right type and conformation. The two-year-old class was again headed by Lovely Thaxton 2nd., from the Carpenter and Ross herd, while in a class of nineteen senior yearlings Barron came to the top with Rosa Hope 20th. The senior and grand champion female was Collynie Best, with Rosa Hope 20th as reserve. H. D. Smith, of Ancaster, had a heavy day's work in placing the White Faces, the showing of Herefords being particularly good. Beau Perfection 48th was picked for first place in the aged-bull class, with Clifford's Cavalier in third. In the junior calf class, Clifford was at the top with Cavalier Perfection. There was keen contest in the aged females between Cook's Miss Joy and Clifford's Perfection Lass 5th. The former, however, triumphed and later won the grand championship. In graded herds the Ontario herds won out. In the Doddie classes were found many low-set, thick, smooth, evenly-fleshed individuals and it was no easy task in picking out the winners, Black Cap McGregor and Glencarnock Ringmaster were the champion males, with Blackbird of Glencarnock 5th, as grand champion female. This calf topped the Aberdeen-Angus sale the following day.

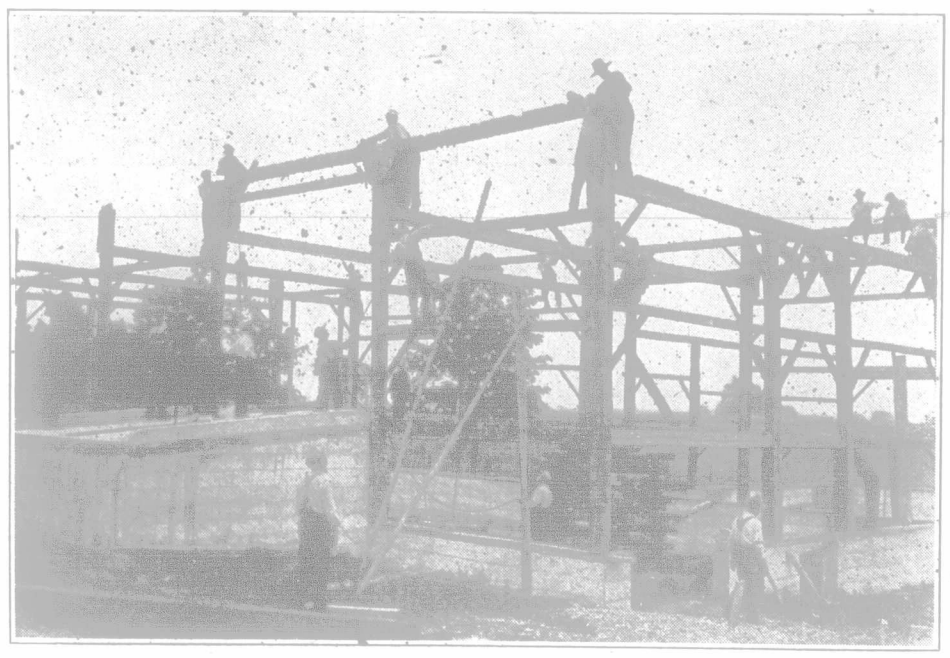
The showing of dairy cattle fell off somewhat when compared with the Alberta show. A. E. Hulet, of Norwich, again won the aged-bull class with Ladoga's Prince Abbekerk, and also won the bulk of the prizes in the female classes. The sheep and swine classes were fairly well filled with typey, well-fitted individuals.

Sweet Clover as a Pasture.

It is but recently that sweet clover has come into prominence. For a long time it was called a weed, and, according to the definition of a weed, may yet be considered such when found growing in a grain field. However, it has proven its value as a fodder plant on numerous farms. When it was first advocated there was considerable ridicule on the part of those who maintained that the plant was a pernicious weed. However, many who at one time scorned it have adopted it into their farm system of cropping. It had long been felt that the ordinary pasture crops did not carry sufficient stock in the average season to make profitable returns. The advent of sweet clover has partially helped to decrease the cost of pasturing, as more stock can be carried to an acre of sweet clover than on an acre of any other crop. It has been used at Weldwood as a pasture crop for two years, where it proved very satisfactory. Not only did the cows milk well but they kept in good flesh. This year twenty-three head of cattle were turned on a 15-acre field on the 20th of May, and in June five horses also pastured there. By the 20th of July the sweet clover was cropped fairly short and it was found necessary to turn on to another pasture field. During the two months the herd had no other feed except that obtained in the one field.

Sweet clover was grown as pasture for the first time on the College Farm at Guelph this year, and it has proven so satisfactory that it is understood there will be a large acreage of this crop devoted to pasture each year. Twenty acres were seeded to this crop a year ago at the rate of fifteen pounds per acre. One June 5, forty-four head of cattle, practically all mature and eight brood sows were turned on. This is considerably over two head per acre, and when seen recently by the writer there was still an abundance of feed on this field. Professor Toole considers it one of the best pasture crops grown. An estimate of its value on the College farm this year can be ascertained from the fact that in previous seasons it was found necessary to sow twenty acres of annual pasture in order that the herd might be carried through the season. This year twenty acres of oats were sown for pasture, as usual, but it has been found unnecessary to turn on to it; consequently it will be harvested and threshed. The field looks good for sixty-five bushels to the acre. With oats at a dollar a bushel, this would figure out to a revenue of $1,300, without counting the feeding value of the straw. Under other pasture crops usually used this annual pasture would have been consumed to carry the cattle through the summer; thus it might be considered that the sweet clover made a cash gain of $1,300. Other farmers have had similar experiences and have testified to its worth as a pasture crop.

A study of this plant as a pasture crop has revealed to the writer the importance of not turning the stock on to it too early in the spring. If feed is to be obtained in the late summer, it is important that the plants get a chance in the spring. When the cattle were turned on to the field at Weldwood, on May 20, there was little feed left after July 20, whereas when the College herd was turned on the first week in June there was still an abundance of feed the first week in August, after having carried a larger number of cattle per acre. If one does not wish the field reseeded, it should be clipped closely with the mower before the middle of August, or else plowed under. Some are making a practice of allowing the crop to reseed itself, plowing in the fall and sowing to grain the following spring. They then get a catch of sweet clover without going to the expense of reseeding. Where the regular rotation is followed, it is advisable not to let the plant reseed itself, as it might become a nuisance were it allowed to grow in the other crops. It has a place in Canadian agriculture, but it should be kept in its place.



Making an Old Barn Into a New One.

Part of the frame of a 100 by 40 foot barn on W. Bogues farm, Lambeth, Ont.

THE FARM.

Protection Against Lightning.

BY J. RANSON GARDINER.

The question of the advisability of erecting lightning rods on farm buildings has often been discussed and although the loss by lightning is small in proportion to the total loss by fire from all causes, this proportion is tremendously increased when buildings in rural districts only are taken.

Sci ntists, since the days of Benjamin Franklin, have generally agreed that if lightning rods are installed in a proper scientific manner there is practically no danger of loss of life or property by lightning. The general public have been more skeptical, and this no doubt, has been due largely to the diametrically opposite methods so often advocated, through ignorance and incompetence, by those erecting rods in the past.

It is easy to understand that if the doctors differed it was difficult for those who had not the knowledge necessary to comprehend the discussion to determine whether to rod or not to rod—and being in doubt they generally did nothing.

The loss by fire every year is such a serious tax upon the country that any discussion that can help to decrease the loss should be carefully considered by those owning property as there has been a certain lack of attention by the public to protection against lightning.

There is little doubt that when buildings are rodded in a scientific manner the damage by lightning is negligible but in order to prove this assertion the following statements from insurance companies in different parts of the co intry are given.

The Farmers Mutual Lightning Protected Insurance Co. of Michigan, who insure rodded buildings only, with a total insurance of $55,000,000 during the four years 1909-1912, paid out only $32 for damage from lightning during those years.

The Patrons Mutual Fire Insurance Co. of Michigan, who take both rodded and unrodded risks, received only three claims for damages on rodded structures in eleven years.

In Iowa, over 50 companies keeping the necessary data report that approximately 50 per cent. of their risks are on rodded buildings and the efficiency of the rods was 98.7 per cent. over eight years business.

In Ontario for the year 1917, the Fire Marshall reports that lightning was responsible for 51 per cent. of the losses on farm property, the damage amounting to $660,164.00 and only one of these buildings were rodded. In 1915 the efficiency of rods was given as