## Sheep Breeding.

At the Wisconsin Experiment Station a series of investigations with sheep have been carried on for a number of years, and the following summary of results, which has been recently handed out in bulletin form, should be read with interest by sheep breeders :

1. From the breeding records of 514 ewes at this station, we conclude that, for such animals and conditions as ours, the normal period of gestation ranges from 144 to 150 days after the date of service, and that more ewes will lamb 146 days after service than at any other time.

2. There is no appreciable difference in the period of gestation for male and female offspring in sheep.

3. There is an apparent relation between the duration of the period of gestation and the period required for reaching maturity. Quick maturing breeds appear to carry their young for a shorter period than those breeds requiring more time to mature.

4. Large lambs are, on the average, carried in utero for an apparently longer period than small or medium lambs.

5. Lambs dropped before the 144th and after 149th day of pregnancy, are lacking in strength and vitality at birth.

Shropshire ewes were more prolific than any of the other breeds and crosses, except the fourth cross of Shropshire rams on a Merino ewe foundation.

7. From the data presented, it is apparent that twins are the normal increase for ewes of the mutton type.

8. One-year-old rams are not so prolific as those two or three years old. Ewes also average a larger percentage of increase in lambs after they reach full maturity at three years of age until after they are six years old, when the rate of increase diminishes.

9. The amount of service required of the ram for breeding has an influence on the percentage increase in offspring of the ewes that produce lambs. Ewes bred early in the season of mating, to a single ram, dropped a larger percentage of lambs than those near the latter end of the season.

# FARM.

## Two and Four Cuttings of Alfalfa.

BY FRANK T. SHUTT, M. A., F. I. C., CHEMIST, DOMINION EXPERIMENTAL FARMS.

In the issue of the " Farmer's Advocate " for October 15th, the writer presented the results of an investigation with clover, undertaken to ascertain the nutritive and fertilizing values of the yield of the crop cut twice during the season compared with that obtained when cut four times. We now give the data from a similar experiment with alfalfa.

Though for many years alfalfa, or lucerne, has been largely grown in the far Western States, and more particularly in California, Utah and Colorado. It is only within recent years that this important and valuable fodder plant has received much attention in Canada. In the irrigated districts of the West it may be cut four to six times in a season, yielding eight to fourteen tons of fodder having a high protein content, and consequently of excellent feeding quality. Experience in the Eastern States and Eastern Canada, though somewhat limited as yet, shows it to be a forage crop of wide adaptability. In many parts of the Dominion it is undoubtedly capable of producing lucrative yields when once established. On account of the readiness with which the leaves drop off in the curing, this plant is more suitable for " soiling " purposes than for making into hay, though, by observing certain precautions, this stripping of the stems can be very largely prevented. Its property of quickly sending up an aftermath, also, makes alfalfa a valuable forage crop. We have already referred to the large number of times it may be cut in a season. As a cover crop for orchards, it has at Ottawa given excellent results, holding the snow and thus protecting the roots of the trees, and at the same time greatly enriching the soil in nitrogen and humus.

The plot of our experiment was sown in May of the previous year, so that the present results indicate returns from the second season's growth. Half the plot was cut twice, half mown four times, and the several yields weighed and analyzed.

TABLE I. ALFALFA.

| Date of Cutting. | Average Height of Plants. | Two Cuttings per Acre. | | | Four Cuttings per Acre. | | |
|---|---|---|---|---|---|---|---|
| | | Weight of Crop. | Dry Matter. | Crude Protein. | Weight of Crop. | Dry Matter. | Crude Protein. |
| | Inches. | Tons. Lbs. | Tons. Lbs. | Lbs. | Tons. Lbs. | Tons. Lbs. | Lbs. |
| June 4.... | *30 | | | | 6 920 | 1 610 | 522 |
| June 21.... | †39 | 12 1600 | 3 297 | 1027 | | | |
| July 15.... | ‡28 | | | | 4 960 | 1 438 | 368 |
| Aug. 1.... | §20 | 4 320 | 1 445 | 384 | | | |
| Aug. 19.... | ‖20 | | | | 5 1120 | 1 329 | 473 |
| Sept. 18.... | ¶20 | | | | 2 1760 | 1168 | 296 |
| Total..... | | 16 1920 | 4 742 | 1411 | 19 760 | 4 545 | 1658 |

* About one week before blooming. † Just bursting into bloom. ‡ About half the plants in bloom. § About one-tenth of plants in bloom. ‖ No bloom showing. ¶ No bloom showing.

The yield of fresh material is seen to be greater from the area cut four times, but owing to the fact that its average moisture content was higher by about five per cent., the yield of the two cuttings contains more dry matter. The dry matter of the former (four cuttings), however, furnished the more nutritive fodder, from the presence of an additional 250 lbs. of crude protein.

A comparison of the amounts of dry matter and albuminoids per ton of fresh material in the various cuttings—possibly the most interesting features in the investigation—is given in the following table :

TABLE II.
DRY MATTER AND ALBUMINOIDS PER TON IN FRESH MATERIAL.

| | Dry Matter. Lbs. | Albuminoids. Lbs. |
|---|---|---|
| Half of plot cut twice— | | |
| First cutting (June 21) | 492 | 49 |
| Second cutting (Aug. 1) | 588 | 63 |
| Half of plot cut four times— | | |
| First cutting (June 4) | 404 | 46 |
| Second cutting (July 15) | 544 | 66 |
| Third cutting (Aug. 19) | 419 | 60 |
| Fourth cutting (Sept. 18) | 405 | 70 |

The percentage of albuminoids in the dry matter was also determined :

TABLE III. ALBUMINOIDS.

| | Percentage. |
|---|---|
| Half of plot cut twice— | |
| First cutting (June 21) | 10.0 |
| Second cutting (Aug. 1) | 10.7 |
| Half of plot cut four times— | |
| First cutting (June 4) | 11.3 |
| Second cutting (July 15) | 12.2 |
| Third cutting (Aug. 19) | 14.2 |
| Fourth cutting (Sept. 18) | 17.1 |

From the data of Tables II. and III. it will be seen that the stage of growth influences both the amount of dry matter and the proportion of albuminoids in the dry matter. The later cuttings, weight for weight, will, as a rule, contain more dry matter, and invariably furnish a fodder richer in albuminoids.

## Carnegie's Address.

Please inform me in the " Advocate," the address of Andrew Carnegie. W. W.
Dufferin Co., Ont.

Ans.—Letters sent to Carnegie Institute, New York City, would probably reach him.

## Wanted : Help on the Farm.

To the Editor " Farmer's Advocate " :

One of the chief hindrance to success which many of our farmers have to contend with is the inability to obtain competent help on the farm. During the busy seasons, when the farmer is almost hurried to death with work, it is almost impossible to find a man worth having who is willing to hire, either by the day or month. Wages have gone away up lately. If by chance a farmer does happen to find a man or boy who is willing to hire, he has to pay such exorbitant wages that it takes a great deal of the income. Then, in nine cases out of ten, the man is lazy or untrustworthy. He will do very little work when alone. His employer needs to work with him all the time and keep pushing him on, as it were. The average hired man is far more interested in wondering if it is near meal time and longing for pay day to arrive quickly than he is in doing the work satisfactorily. As long as he puts in his time he is satisfied. When he is told to do a job, he either neglects to do it at all or fails to do it properly, unless his boss is watching him. During the summer season many men in this Province are engaged in fishing. As this is easy work, they prefer it to hiring out to work on a farm. Then, many of our most progressive, ambitious young men leave the Island. In many instances they receive no money for their services at home, merely their board and clothing. They are dissatisfied and leave the old homestead. It certainly would be better for the fathers to make satisfactory arrangements with the boys rather than let them leave home. The boys are needed at home. Far better, surely, for the fathers to pay them wages than pay strangers who take no interest in the work. Some folks are afraid that if this exodus continues much of the land will be left uncultivated.

Early marriages have of late years become very infrequent. As a natural consequence, small families are the rule. Some have one or two children, and others have none. Our land is fertile, and the climate healthful. We have excellent crops—no scarcity of food and clothing—but yet there is in this, our favored Isle, a remarkable scarcity of children, especially boys.

Now, what is the cause of this state of affairs? There is no doubt but that much of the blame rests on the shoulders of the young women. Many of them know little or nothing about housekeeping. They have some accomplishments, of course. They can play the piano and organ, but they can't or won't cook a dinner or milk a cow. They know all about the latest styles, and just love to go shopping, but they can't or won't bake a loaf of good bread or mend their own stockings. " O, mother can do those things," they say. They don't want to marry, for they are afraid they might have to work, and they just hate work. They have never been taught to work.

The young men take notice of their stylish dress and manner and conclude that they can't afford to marry at present. They think it would be an unwise proceeding. Certainly it would be unwise to marry a butterfly of fashion, for she would be likely to spend the money as fast as her husband can earn it.

Now, I would advise every young farmer to marry early, providing he can get a good, smart, sensible girl, who isn't afraid or ashamed to roll up her sleeves and go to work—one who can milk the cow or harness a horse, and who will not think herself above feeding the pigs occasionally, should her husband happen to be absent from home. One who has courage enough to take the horse and drive to market with the eggs, butter, chickens or vegetables. Marry a farmer's daughter. Why, some one asks? Because she will be likely to prove the most suitable wife for a farmer. One who has been reared on the farm will understand the work better and is more accustomed to roughing it (as it were) than the city girl. Now, young man, isn't there a nice little girl living just across the road? Smart, too, isn't she? Just drop in and see her one of these evenings. Keep your eye open. Make a wise choice. Don't be too particular about beauty of face and form : it is the beauty of soul and character that will stand the test. Select one who has a wise mother, who has taught her to work so that she may be a brave, true helpmate for her husband. Now, don't waste your time, young man. Pop the question—take this common-sense girl into partnership as soon as possible. Furnish your home plainly ; only buy what you can pay for cash down, if you want to keep out of trouble. Be economical ; lay by something for a rainy day, for you know that rainy days come, sooner or later. Be industrious ; if you want to get rich you must use your brains, and hustle too. Keep your work ahead ; never procrastinate. Be good to your smart little wife, and try to lighten her burden as much as possible. Encourage her by kind words. Take her for a drive sometimes for a change, and don't forget to give her a little change of another kind so that she may purchase