

back, with well sprung, deep ribs, and a commanding air when he walks that stamps him at once as an impressive and prepotent sire; and it is this very prepotency that has carried the Lincoln sheep to the very top, and has made it for years by far the highest-priced sheep in the British Isles. The breeders and flock-owners of the Argentine Republic have long since learned that there is no other breed so valuable for crossing on their native flocks as the Lincoln, and for years they have secured Britain, and taken almost every available sheep of this breed; and so keen is the demand, that, in July last, 18 rams, at the Riby Grove sale, averaged \$430 each, one ram bringing over \$3,000, and more than once \$5,000 has been paid for a single animal of the breed. The ranchers of the Western States have also learned that the Lincoln stands pre-eminently at the front as a breed for crossing on their common stock to get that good, even carcass of mutton and heavy fleece of wool, and, in consequence, there has been a continuous and heavy draft made on the Canadian flocks. In fact, so strong has been the demand from the West, and the prices so extremely high in England, the Lincoln has, unfortunately, not been as widely scattered or extensively bred in Ontario as many of the other breeds. Notwithstanding this, they have been ever able to more than hold their own when they entered the show arena, and for a dozen years they have been four times as often champion of the long-wool classes at the International Livestock Show, Chicago, as all other long-wool breeds combined, and at our own great winter show, at Guelph, last December, they again demonstrated their superiority as a mutton sheep by carrying off the coveted ribbon for the best animal in the long-wool classes, as they did, also, at the Southfield Show, in England, in 1909.

Much credit is due to the Canadian breeders who have so nobly shown to the breeders of the American continent the sterling qualities of the Lincoln sheep, and I may mention in this connection the names Garry, Oliver, Patrick, the late Wm. Walker, the Parkinsens, the Robsons, and others, but to that veteran breeder, John T. Gibson, of Denfield, Ontario, who was almost an exhibitor in the show ring, and who year after year at the greatest shows on the continent walked from the arena with the highest honors joined to the Lincoln banner, perhaps the greatest honor is due.

THE FARM.

Growing Timothy and Clover Seed

Editor "The Farmer's Advocate":

"The Farmer's Advocate" is certainly a great paper, and I wouldn't be without it. In this section of the country farmers have not given much attention to the growing of timothy and clover for seed. Most of the seed used is bought in the open market. This condition is caused, no doubt, by ignorance on our part regarding the proper curing and methods used. We can grow excellent clover and timothy here, while alfalfa is just beginning to be brought to our notice, largely through the experiments conducted by our Dairy Superintendent, C. W. McDougall, who is trying to impress on us the great advantages derived from its use.

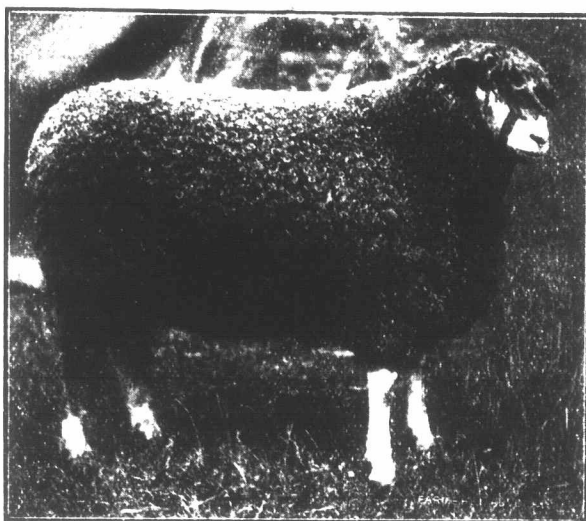
If "The Farmer's Advocate" could give us some suggestions along the lines above mentioned, I am sure it would be greatly appreciated by some of the readers in New Brunswick.

Queen's Co., N. B. MORRIS A. SCOVILLE.

The growing of timothy seed is not a very profitable industry in most parts of the country. From three to four bushels of seed per acre is reckoned a good crop, though double that amount is sometimes secured, while as low as two bushels per acre are occasionally harvested. But many farmers grow what seed they need for their own use, so as to be sure that it shall be free from weed seeds. The process is very simple. The field or portion of a timothy field intended for seed is simply left uncut at hay time, and harvested with a binder when ripe. Sheaves are shocked at once, and left standing until dry, when they can be hauled and stored, or threshed at once. An ordinary threshing machine is used, but the wind must be closely shut off, so as not to blow valuable seed away. Only a clean timothy field, or one from which the weeds have been spudded or pulled, should be kept for seed purposes. If seed is intended for sale, even alsike clover may be considered an impurity, though not a bad one by any means. The threshed hay is not a good source of seed, though its worth is not great.

In connection with the growing of red clover for seed, the one outstanding fact is that it is from the first cutting, and from the seed cut, that the seed

secured. It is claimed the main reason for the deficiency of seed in the first crop is the lack of pollinization in the blossoms by the bumblebees, which are not numerous at that season. Whatever the reason, there is little or no seed in the first cutting of red clover. Many Ontario farmers engage quite extensively in the production of red-clover seed, and many more reckon on raising their own seed, and some to spare. The most common method is simply to take off a hay crop at the first cutting, and allow the aftergrowth to grow unpastured and uncut until the clover heads have all turned brown, except some of the smaller and later ones. Those who make more of a specialty of red-clover seed, cut the first growth somewhat earlier than the usual haying season, so that the second may be so much the stronger and better for seed. Another plan pursued, which usually in-



A Typical Lincoln Ram.

sure better yields still, is to pasture the clover field until about the middle of June, run the mower over it then to clip off any bunches and make all even, the strong aftergrowth being the seed crop. This pasturing or early cutting of the first crop brings the seed crop on between the seasons of the first and second broods of clover midges, which causes serious loss in clover seed producing districts. The maggots hatching from the eggs laid in the forming flower heads of the clover penetrate the seed pods and destroy the seed. Pasturing till the middle of June, or mowing the first crop before the twentieth, is the most effective means of circumventing the pest.

It is not deemed good practice to cut ripe clover with the mower, and rake it up when dry, as many of the heads would be broken off and lost in the raking process. A light platform attached to the mower cutter bar, from which the clover can be pitched off in bunches by a man walking behind, is commonly used. These forkfuls are usually left untouched until dry enough to be hauled in



Lincoln Yearling Wethers.

Champion Long-wool pen at Smithfield Show.

Clover seed is hard to thresh and this work is often deferred until frosty weather, when seed separates more readily from the hull. Special machines—clover hullers—are used for threshing in most seed-growing districts. Ordinary threshing machines, however, can be fitted up so as to thresh clover fairly well.

From two to four bushels per acre of red clover seed is a fair crop, though as high as eight bushels per acre can be reached.

In sowing clover on a field from which it is intended to take a crop of seed, it is very important that seed sown should be clean. Black, horn, narrow-leaved plantain, and dandelion seed should be carefully excluded, as they are noxious weeds to clover, and the seed can scarcely be separated.

Fertilizer Questions for Professors.

Editor "The Farmer's Advocate":

The rush of spring work must be my excuse for not replying sooner to Mr. Emslie's letter, re my fertilizer experiments, appearing in your issue of March 31st. I wish to thank him for his suggestions, and am planning to conduct an experiment this season on the lines he proposes. The point Mr. Emslie makes, that the supplying of the most deficient element of the food supply would enable the plant to utilize more of the other elements, had escaped my notice, and I am glad to have had attention called to it, as it will have an important bearing on future experiments. In this connection there is one point that I do not quite understand, and should like to have explained. We are told plants require the various elements of food in certain proportions, and have no power to substitute one for another. It therefore follows that growth, or production, is limited by that element that is most deficient in the soil. Assuming that phosphoric acid is most deficient in my soil, as seems to be the case, how is it that the application of nitrate alone, or potash alone, without any addition of phosphoric acid, each gave an increase in the crop? I have not been able to think of any satisfactory explanation of this fact.

I do not know the constituents of the two special potato fertilizers. There has been much timely information on the use of fertilizers in your columns of late, but I have looked in vain for any experiences in their use on pasture or hay land. Anyone who is observant must admit that our hay crops, whether clover or grass, are not half what is possible, and yet there is more land devoted to this than any other single crop. It is not tillage that is needed, nor drainage; the plants are there, they look healthy, but they don't grow as they ought; it is food they require, but what? I should like some of our chemists to give an explanation of the following facts, and perhaps it may help us a little. Two years ago, I manured two acres of rather low ground late in spring; a few loads of the manure was out of the open, the balance from the cattle stable. Half the land was sown with rape, the rest white turnips. It was drilled up, and got the same cultivation throughout. Where the pig manure went there was a good crop of turnips, the others were not worth pulling, were all top, and not too much of that. The rape was not specially benefited by the pig manure; it was rank and good all over. The good turnips were hauled off, the balance and the rape were grazed off by the cattle. Last year the whole piece was sown with mixed grain. The crop was very heavy, and there was no apparent difference where the rape was, or where the different manures were applied. If anything, perhaps the grain was a little the best where the turnips were the poorest. The land was seeded down, and there is a good catch. Three weeks ago there was little difference between one part of the plot and another, but to day the clover and timothy on that part that had rape

two years ago, shows a most luxuriant growth, while the rest is only ordinary. There is not another piece on the farm like it, and it is safe prophesying that that acre will yield double the other. Now, why is this? The same rain and sun has moistened and warmed the whole piece, the land is the same, its treatment has been the same; it was all trampled by the cat, the same; two thirds of the turnips were eaten on it. Why should the rape land give so much better results than the turnip land? It must be a question of food.

Does the turnip take something from the soil that is not required by grain, but is by clover and grass? Or can it be that the small, fibrous roots of the rape plant have an influence eighteen months after the plant has died? One thing is certain, it is not tillage, nor drainage, that causes the difference. Then, if it is food, what food? If I could supply anything that would make all my acres equal to that piece, it would be worth \$10 per acre per year easily, and probably more. We know barnyard manure will do it, but the supply is limited, and we can't begin to do it with that. Might I expect acid phosphate to do as much for rape as it does for turnips, or does rape require something else? I do not find manure respond to phosphate fertilizers very noticeably; hen manure does the trick, though. If potash or nitrogen,