

amount of dry roughage was found necessary when fed in conjunction with silage to overcome its laxative tendencies and keep the animals in good condition and making uniform gains.

In the feeding of hogs, where soaked feed forms the main portion of the ration, care must be taken that too much water is not used. Pigs compelled to eat food containing too high a percentage of water will not do as well, especially in the cold weather, as if only the required amount of moisture is present in their diet. It will take considerable of the energy derived from the food to raise the cold water to the body temperature, and, besides, an over supply of moisture is not conducive to the most thorough digestion of the solids in the food. In soaking ground feed, it is important that the mixture be made about the consistency of a thick porridge, and that it be soaked about twelve hours before feeding. This will be found more palatable, and is of higher feeding value than if the meal is fed in the same quantity, but in a thinner, more sloppy condition.

The value of turnips for the winter feeding of sheep was shown by an experiment carried on in England, and cited by "Shepherd Boy," where a number of these were fed on oil meal, clover hay and turnips, while others were fed on oil meal and clover hay, without the addition of succulent food. In the same time, the sheep receiving the roots made gains of forty-two pounds per head, while those getting the dry food alone made gains of only twenty-six pounds per head. In fattening sheep, succulent food is necessary, if the greatest possible gains are to be expected. Turnips are much relished by this class of stock, and can be safely fed in reasonable quantity to the breeding stock, as well as to the market classes. Care must be taken, in feeding pregnant ewes, that they do not get too large a quantity of roots, as they tend to produce an overlarge and flabby condition of the fetus, often causing difficult parturition and weak lambs at birth.

All domestic animals, whether the milch cow or the fattening steer, should have a reasonable amount of exercise under comfortable conditions. Little sympathy should be shown towards the modern fad of tying cows by their heads in one spot for five or six months, under the plea that exercise is work, and work costs food. The statement had better be in accordance with the experience of all time, that exercise is health and vigor, and that food is well used in maintaining these. The cow is more than a machine; she is a sentient being, susceptible to many of the influences which are essential to the physical welfare of the human species. Let no one take this opinion as an excuse for the cruel and wasteful exposure of farm animals to inclement weather, which is so often observed, for this is simply a violation of the laws of kindness and economy in the other direction—Jordan's "Feeding of Animals."

Silage is one of the cheapest roughages for cattle-feeding. In experiments in feeding stockers at the Virginia Experiment Station, with the silage valued at \$2.00 per ton, the cattle fed silage made a pound of gain for 7.21 cents, those fed silage and stover for 7.15 cents, those receiving stover alone for 42.62 cents, and those receiving hay alone for 62.47 cents. It is thus shown that it cost almost seven times as much to make a pound of gain where hay composed the ration as where silage was fed, and about six times as much where stover was fed as where silage or silage and stover were fed. The authors of the results of these experiments commented upon them thus: "These are facts worth considering, and should bear fruit that would change the practice of feeding stockers on many farms where silos may be erected at a moderate cost, and feed preserved with less waste than is usually the case." Undoubtedly, silage is the most economical roughage for cattle-feeding. Roughage is not too plentiful on many farms this winter, but those who rely upon silage to furnish the major portion of this material are far better off than the feeders who have no silo. This should warrant the erection of a number of silos next season.

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Enclosed find remittance covering my renewal and a year's subscription for one new subscriber. We could not do without "The Farmer's Advocate," if it cost twice as much, as my family look forward to its coming each week. We consider it the best paper printed on agriculture, with a lot of good reading for the children. Hope that you have a good crop on "The Farmer's Advocate" farm this year.

J. BYRON KAYE.

M. S. S. Ont.

Our Scottish Letter.

Winter presses hard upon a phenomenally warm and dry summer and autumn. October is not yet out, but we have had several plain hints that winter has begun. To-day (28th) we have hard frost and fog, and the cold is quite severe. Seeing that little more than a month has passed since we were not disposed to wear any more clothes than respectability rendered imperative, we put up badly with the present conditions. Several depressing facts are present with us. A fortnight ago, Andrew Mitchell, formerly of Barcheskie, one of the best-known men in the Clydesdale and Ayrshire world, died. He had an illness which began in February last, and for several months there was no hope of his recovery. He had almost completed his fifty-second year, his birthday being Hallowe'en, or 31st October. Mr. Mitchell was a general favorite. He was popular with all classes, and was as much at home in the hunting field as in the ring among Clydesdales or Ayrshires. He did a large export trade in pedigree Ayrshires, and shipped extensively not only to Canada, the United States, Sweden and Finland, but also to South Africa and Japan. He had the bon homie which awoke confidence in foreign and colonial buyers, and was undoubtedly a valued asset in the Ayrshire world. Quite a number of notable men in the agricultural world are at present in ill-health, and generally, in spite of fine weather, most of us are inclined to be downhearted.

CABINET CHANGES AND AGRICULTURAL LEGISLATION.

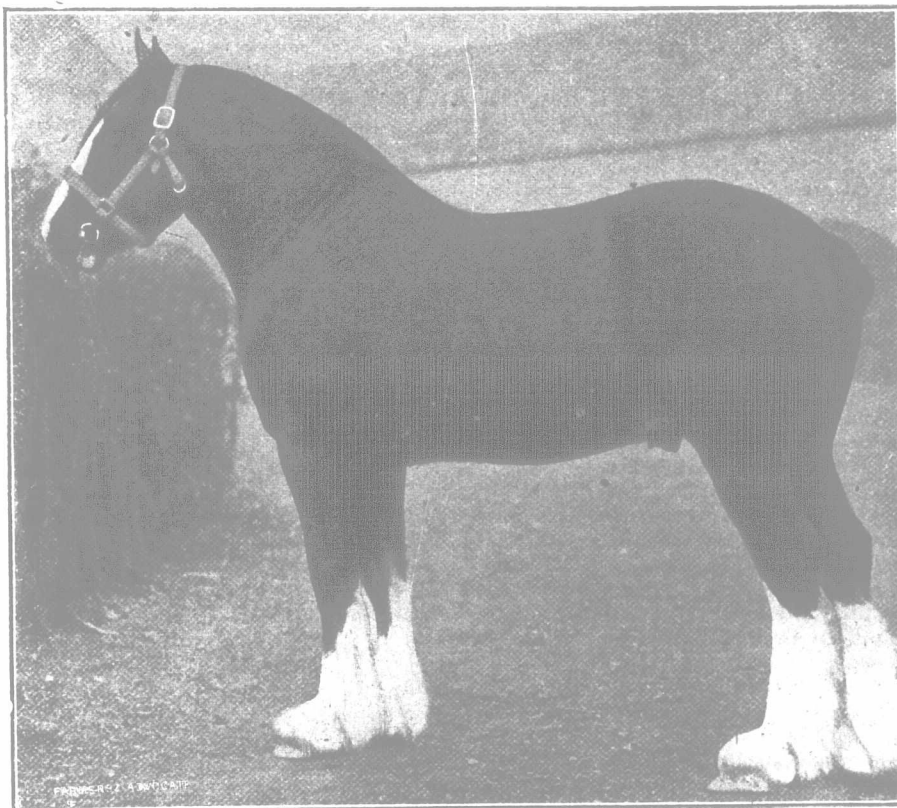
There has been an amazing shuffling of the political cards within the Cabinet, and agriculture, as usual, has come very badly out of the deal. Two men, not infallible or ideal, yet having considerable first-hand acquaintance with agriculture,

who know enough about agriculture to stagger the new Ministers. Mr. Runciman is essentially a city man, and his attitude to agricultural affairs is an unknown quantity.

Lord Carrington was closely identified with the movement for establishing Small Holdings in England, and great progress was being made under the scheme which the Legislature had sanctioned. Unhappily, the Government refused to give Scotland the same kind of legislation as was given to England, and, after prolonged fighting, the bill, which was several times rejected by the House of Lords, is still in the crucible. As it is shaped at present, the great majority of Scottish farmers are its strenuous opponents. The cause of this does not lie in its provisions for setting up small holdings, so much as in the proposal to set up a separate Board of Agriculture for Scotland. What farmers, and especially stockmen, fear is that, with a dual control of contagious disease in this island, the interests of breeders of stock will be seriously menaced. There is no agricultural division of the island parallel with geographical or political division. The agriculture on either side of the border is identical, and the movements of stock leave no room for dual authorities controlling interests so vital as those which affect the diseases of cattle and sheep. Somehow, such axiomatic commonplaces in the agricultural world are treated with contempt by the politician, and the prospects of the future are not too rosy for the Scottish flockmaster.

AGRICULTURAL EDUCATION.

Agricultural education is making rapid progress in this country. We have three agricultural colleges, one in Glasgow, one in Edinburgh, and one in Aberdeen. These have the land divided between them, and with the Glasgow College is allied the National Dairy School at Kilmarnock. All the colleges are face to face with a big problem. They are overcrowded, and extension is urgently called for. Aberdeen has purchased the farm of Craibstone, in close proximity to the town, and means to make it a Scottish Guelph. Indeed, it may safely be affirmed that the ideal aimed at by all three colleges is Guelph. The most successful of the three colleges has undoubtedly been that at Glasgow. The late head, now Sir Robt. Patrick Wright, was an ideal organizer. He never knew what it meant to hold back, and now that he is in the Government service, he is likely still further to make his mark. The work in the West of Scotland is carried on at three centers. The teaching work is done in the College at Blythswood Square, the dairy instruction is given in the National Dairy School at Kilmarnock, and



Oyama (13118).

Clydesdale stallion; bay; foaled 1904. Bred by D. & R. Scott, Girvan. Property of James Kilpatrick, Craigie Mains, Kilmarnock. Sire Baronson, by Baron's Pride, dam by Prince Alexander.

have hitherto had charge of agricultural affairs in the present ministry. These were Lord Carrington, a genial, hail-fellow-well-met sort of man, with the bucolic instinct; and Sir Edward Strachey, Bart., a West of England Squire, who really knew a deal about farming, especially in its bearing on dairying. Lord Carrington was very much given to making after-dinner speeches on serious occasions, yet, on the whole, he served agriculture well. Sir Edward Strachey was industrious, and thoroughly sound in his agricultural ideas. Both men have been shunted. Lord Carrington becomes Lord Privy Seal, an ornamental post, which, however, carries Cabinet rank. Sir Edward Strachey has been dropped altogether—an unworthy method of requiting useful service. In place of these, we get as President one of the outstanding failures of the Asquith Ministry, Mr. Runciman, whose friends say he does not know a cow from a cucumber; and a gilded youth named Lord Lucas, who has filled ornamental parts in the Upper House. Sometimes growls are heard regarding government by permanent officials, but when such appointments as these are made, it is a mercy we have permanent officials who know something about their work. Obviously, the responsible Ministers are mere figure-heads. How the changes will work out remains to be seen. There are a few men in the House of Commons

adjoining that is the Holmes Farm Experimental Station and Poultry Demonstration School. The governors want to combine all three at one center, and at present they are on the outlook for such a place. Money is wanted by all these colleges, and the difficulty is to know where it is to be obtained. The amount wanted is large, and those immediately interested in land are no longer wealthy. The urban and commercial instinct is not quite the same as that of the farmer, and at the moment all the schemes are at a standstill. So far, no wealthy magnate has arisen like your Macdonald, prepared to advance unlimited funds for the promotion of rural and agricultural education. We need him badly, but may have, in true Scots fashion, to work out our financial salvation.

THE WAR ON UNSANITARY CONDITIONS.

Sanitary reformers and veterinary surgeons have been holding their annual conferences and congresses. The former met at Oban, and the latter at Edinburgh. There is once more a dead-set being made against milk. I often wonder what those who talk so much about these things among us have to say to the "barns" you are building out in the West, and the homesteads seen in the Netherlands. These, so far as I can make out, are built in sheer defiance of every theory as to sanitation, so eloquently and incessantly urged