

inches from center of cross-piece. Nail these (the T's) on the blocks at the ends of the boards. Then take four pieces of scantling, 2 by 4 in., for your racks. Make the rails of 1-in. hard wood. Bore the place for them in the scantlings with a $\frac{1}{4}$ -in. bit. Put the spaces 4 or 4 $\frac{1}{2}$ in. wide, or just wide enough to prevent the sheep putting their heads through. Make the rack 2 $\frac{1}{2}$ or 3 ft. deep. Now hang your racks on the crosspieces of the T's. Draw the racks out to the outside notches, then put in the feed. Push the top of the racks into the inside notches. Then, the racks close in as the sheep eat the feed, and the grain drops into the troughs below. The sheep have no trouble getting the feed, as the racks keep closing in as the sheep eat the feed. We feed our sheep in the morning on unthreshed peas—the best way to feed them grain. Place the rack in the pen so the sheep can go round it, and there will be no crowding.

Victoria Co., Ont.

J. W. REID.

SAWDUST AS BEDDING.

The problem we have to solve this coming winter in our district, as in most of Ontario, is how to provide sufficient feed for stock and find bedding for them as well. Can you or any of your readers give any information as to sawdust for bedding purposes? How will the sawdust act as manure? I have had no experience in this; if the sawdust deteriorates the value of the droppings from the animals, I cannot afford to lose that.

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Ans.—Sawdust makes a first-class bedding material, and farmers in the neighborhood of sawmills will do well to make liberal use of it this year and save their straw for feeding. In tests of bedding materials at the Maryland Experiment Station, it was found that 11 pounds of sawdust per day kept a cow as clean as 2.4 pounds of uncut wheat straw; that is to say, about the same bulk of each was required. Sawdust was very satisfactory as a bedding material; it kept the cows clean, stayed in place well, and was free from dust. Shavings also gave excellent satisfaction, being preferred to straw. Incidentally, it may be in order to note that in these experiments long straw kept the cattle rather cleaner than cut straw, although the absorptive capacity of each was the same. In other words, if the object were merely to soak up all the liquid, one was as valuable as the other, but where the aim was to keep the animals clean with a minimum of litter, there was a loss, apart from the cost of the work, in cutting.

Our friend need have little fear of the sawdust lessening the value of this manure. While the fertilizing constituents in the sawdust itself are inconsiderable, it is beneficial, in that it absorbs the valuable urine, and thereby helps to conserve the full fertilizing value of the animals' excreta. True, it is sometimes objected that in light, sandy soils the sawdust litter does not decay quickly enough and keeps the soil too loose, but this objection would not be very general. On clay land, the presence of the sawdust might be an advantage, tending to open up the texture somewhat. If one does not require to use sawdust alone, so much the better. Let him get what he needs and use it to supplement the supply of straw.

The daily use of a pint or so of ground rock phosphate in the gutter behind each cow is also advised as a means of increasing the value of the manure by helping to absorb the liquid and adding to the phosphoric-acid content.

FEEDSTUFFS MAY COME DOWN IN PRICE.

Editor "The Farmer's Advocate":

The number of cattle fed in our locality this year will be very many fewer than last year; I should say not over one-half. There are very few good feeders to be had, and these are as high as last year, but poor ones are very cheap. The most economical cattle to buy are those in good condition, well developed at an early age. Buy cattle in good condition, and look for good prices early. Values of beef cattle are expected to range high in the spring.

As preparation for winter feeding, a few try pasturing on rape, which is very good, where good grass cannot be had cheaply. We dehorn our cattle, and feed loose. For bulky food, our main reliance is corn silage, which is getting a great boom this year. We feed 30 to 35 pounds per head per day, mixed with straw cut at threshing time. Use a little meal, and some long hay fed by itself. For carrying steers over winter, our grain ration is an average of about 3 pounds per day of a mixture of oats, barley, goose wheat and millfeeds. For finishing, we start in with two pounds and increase gradually up to nine or ten pounds, making an average of six or seven pounds per head per day. Care should be exercised in buying feedstuffs just now, as, in my opinion, they may come down in price. Frozen wheat will likely be shipped in.

Huron Co., Ont.

THOS. McMILLAN.

GOOD FEEDING STEERS HIGH AND HARD TO GET.

Editor "The Farmer's Advocate":

The number of cattle fed in our locality will be about half as many as last year. Steers of good quality and in good condition are higher and harder to get than last year. Most farmers have about all they can feed of their own. I think the price of feed will make lean cattle next spring. We grow a lot of rape around Guelph to start cattle for stable and to feed lambs. I see some farmers selling their rape to drovers, rather than buy any stock to put on it themselves. Most cattle are fed tied.

For carrying steers over winter, I feed roots and straw or hay night and morning, and chaff and a little meal at noon. And for finishing, I feed meal three times a day, starting out with about half a gallon and increasing to a gallon at a feed. The nearer the finish, the heavier the meal.

J. HENDERSON.

Wellington Co., Ont.

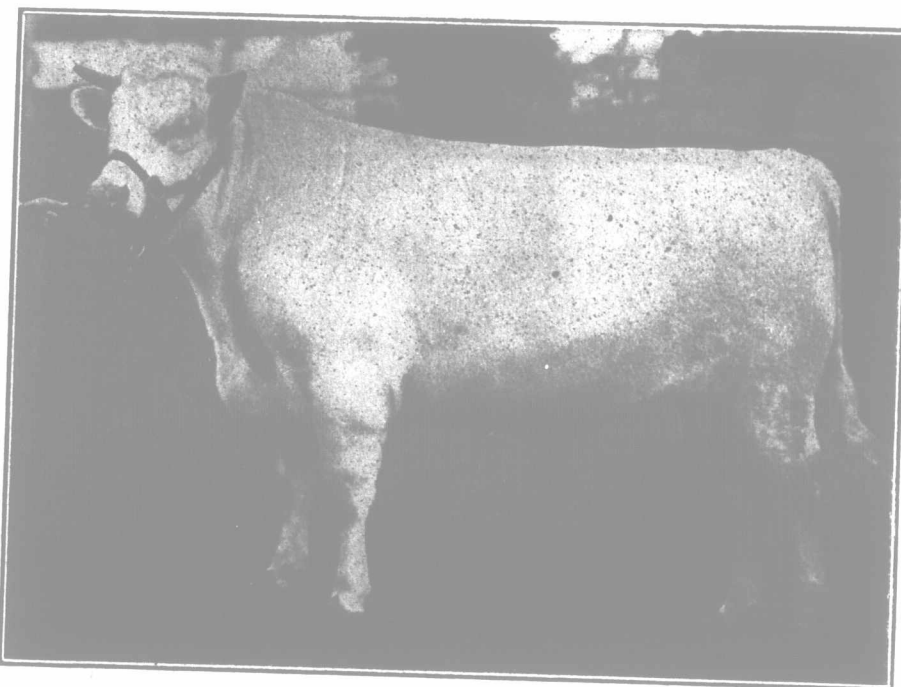
THE FARM.

GROUND ROCK PHOSPHATE AS A STABLE ABSORBENT.

Editor "The Farmer's Advocate":

Your letter, asking for my opinion with reference to the value of ground rock phosphate as an absorbent in stables, etc., has been received.

It seems to be very generally acknowledged that the bone of animals grown in some parts of the Province, and particularly with some classes of animals, is smaller than might be desired. As calcium phosphate forms seven-eighths of the ash of the bone, it is only natural to assume that



Stonecrop.

Two-year-old Shorthorn bull. First and reserve champion, Bath & West Show. Purchased by J. Deane Willis for 200 guineas at Birmingham bull sale, 1907.

possibly these districts do not produce food which is rich enough in these phosphates to produce the quality of bone required. Recent investigations in Germany seem to point to the fact that the lodging of grain is due fully as much to lack of phosphoric acid as to that of potash. If the lodging of grain can be taken as an indication of the deficiency of the soil in phosphoric acid, we must conclude that much of our land in this Province is lacking in this constituent, and that oats and other grains, when badly lodged, will be deficient in phosphoric acid, which is so essential for the formation of bone.

There is no form in which phosphoric acid can be supplied to the soil more cheaply than as ground rock phosphate. It is true that in this form it is insoluble in water, but where the land contains a reasonable quantity of decaying organic matter, there should be no difficulty in bringing the phosphate into solution. In making acid phosphate or superphosphate, the manufacturer adds sulphuric acid, thus diluting the amount of phosphoric acid and increasing the cost of the material. For general farm crops, it is not necessary that the farmer buy this form of the material, but rather that he use the cheaper material and depend upon the acids which are formed by the decomposition of the soil to bring about solution.

As an absorbent in the stable, any material which is ground so finely as these rock phosphates are, must form a fairly good absorbent, and, consequently, I think it may be used there with success. The quantity to use will depend upon the

amount of bedding and the amount of this material which it may be desired to incorporate with the soil.

When applied direct to the field, it would be best to sow it in the fall or in the very early spring. Care should be taken to distribute it as evenly as possible over the soil. It may be scattered on the surface of sod fields or put on the loose surface of a plowed field and harrowed in, but it should not be plowed down. An application of from three hundred to five or six hundred pounds per acre may be made. As a rule, ground rock phosphate will contain at least twice as much phosphoric acid per cwt. as ordinary superphosphate upon the market.

O. A. C., Guelph.

R. HARCOURT.

THE SEASON AND ITS WORK.

The weather conditions of the autumn of this year have so far proven exceptionally favorable to the farmer in nearly every part of this country. The absence of heavy frosts and the frequent occurrence of rains, together with a fair share of mild days, has served to freshen and keep fresh the pastures, so that as yet but little feeding of the fodder stored for winter has been found necessary. This is a distinct advantage in a year like the present, when feed is unusually scarce and dear. Dairy cows have, in consequence of the freshness of the pasturage, kept their milk flow up to a very gratifying extent, and the high prices prevailing for dairy products have made that branch of farming very profitable. Fall wheat has been given a good start, owing to the moisture of the land, and will have secured a strong root-growth, which will serve a good purpose in carrying the crop safely through the ordeal of winter frosts and spring heaving.

Fall plowing has been made easier on men and teams by the frequent rains, and more rapidly accomplished, while the openness of the season has rendered it possible, where the time has been improved, to get all necessary plowing done in good time and well done, while root crops have had time to grow to a good size, and will prove a great help in carrying the cattle and other stock through the winter in good condition.

The continued mildness of the weather is very favorable for tile-draining, of which too little is done, and which, properly done, is one of the most profitable investments that can be made on the farm. Where tile-draining is not needed, or not practicable, much can be done, at little cost of time or labor, to improve the surface drainage, by clearing, and, if necessary, deepening the outlets of water furrows and ditches. A little at-

tention to this matter before winter sets in may render it possible to complete the spring seeding in many places a week or two earlier; and, since the early-sown grain crops are usually much the best, it is important that the watercourses be made free and easy at this season. Slack places where water lies late in spring can, in many cases, be greatly improved by a few hours' work with the plow and scraper, thus facilitating the spring seeding and securing a more even ripening of the crop for the harvest. The necessary repairing of stables and sheds for the comfortable housing of the farm stock, is one of the duties that demand attention at this time of the year, and the hauling of gravel to improve the lanes and the approaches to the house and barn, is a piece of work which can generally be more conveniently attended to at this season than at any other, and the comfort of having clean, dry walks, is well worth the cost in time and labor. These and many other chores that will present themselves as being necessary to the preparation for winter, should be attended to in good time where it is reasonably convenient to prosecute the necessary work.

Mr. John Wagner, Streetsville, Ont., according to a report in a Peel County (Ont.) news item, sold, last month, a wagon load of alsike clover seed to Mr. Jones, a local dealer, for \$527.