

If barley, wheat will be sown on the stubble, and a like round of crops be repeated.

I thought, as I saw this man turn under the clover last month, that he was ploughing in from one and a half to two bushels of clover seed to the acre, that he had better cut and save, and put his land into barley next Spring, following with wheat next Fall. But he took his way, and by doing as he did, he has clover seed that will be coming up in his crops for years.

Will this manuring with clover last? I can only say that it has answered for at least sixty-five years on a field on my farm. This field's history is known—it has been cropped constantly with hay, pasture, corn, barley, oats and wheat, manuring with clover and plaster only. No signs of poverty yet, but, on the contrary, increasing fertility. Barley was harvested from it this season, and it is now in wheat.—*Hon. Geo. Coates in N. Y. Tribune.*

### New Use for Flaxseed.

The following statement, copied from an English paper, is of great interest to farmers, as it seems to open up a new use for flaxseed, and may greatly enhance the price, so as to make flax-growing profitable. This new use is in the manufacture of an article called Linoleum; deriving the name from *linum* and *oleum*. It is said that it will be a rival of caoutchouc, or, as commonly called, India rubber. The new article is manufactured of linseed oil by oxidizing it until it is solidified into a resinous substance, as we frequently find it when oil has been long exposed to the atmosphere. It is stated that "in this state it is combined with resinous gums and other ingredients, whereupon it assumes the appearance and most of the properties of India rubber. Like India rubber, it can be dissolved into a cement and used in the manufacture of material for waterproof clothing. It can be used as varnish for the protection of iron or wood, or for coating ships' bottoms. It is good as a common cement, having properties similar to the marine glue made from India rubber and shellac. It is readily vulcanized by exposure to heat, and by this means becomes as hard as the hardest woods, and capable of a fine polish. The variety of uses to which it can be applied, in this form, will at once suggest themselves to the reader. The manufacture of linoleum has thus far been made solely to produce floor-cloth, for which it has proved itself well adapted. Combined with ground cork, it is spread on a stout canvas, the back of which is afterward water-proofed with the oxidized oil. The fabric is then printed by means of blocks in the ordinary way. The floor-cloth thus produced is pliable, noiseless to walk upon, washes well, preserves its colour, and can be rolled up like an ordinary carpet. It is very durable, and its component parts will not decompose by heat or exposure to sun or air, as will India rubber.

**SALT AS A MANURE.**—A correspondent of *The Farmer* (Scottish) makes the following enquiry:—"Seeing in the *Farmer* of the 20th September last a valuable article on 'The Use of Salt for Cattle,' and also on its beneficial effects as a manure, I wish to know the proper quantity to apply in order to promote the growth of green crops, including potatoes, turnips, and carrots; also the proper quantity to apply to cereals and first year's grass—the soil being of a light stony nature, situated about 1½ miles from the sea, and about 100 feet above its level."

The reply of the Editor is as follows:—"Salt acts in two ways:—First, as food for the plant; and secondly, by rendering other substances, particularly phosphates, available for the purposes of nutrition. We have had long experience in the use of salt as an auxiliary manure, and in most cases have found it of much service. There are parts of the country where an application of salt will not produce any marked results, such as districts exposed to heavy rains coming direct from the sea during a considerable part of the year. This we have noticed especially on certain parts of the western coasts of the British Islands. Where much town manure is used salt is also less efficacious, generally speaking, as such manure usually contains a certain amount of it. The quantities we have used are as follows:—For green crops, 5 cwt. to 6 cwt. per imperial acre; for cereals and young grass, 2 to 3 cwt. For roots it may be sown broadcast over the land before the drills are made, and in the case of cereals the quantity to be applied may be divided into equal parts, one-half being first applied, and the remainder after the interval of a fortnight, moist weather being selected for the purpose. When grain crops are apt to lodge, salt imparts strength to the straw, and we have noticed that the grain is also improved in colour."

### Stock Department.

#### What Sheep are Most Profitable?

The following article which we extract from the *Country Gentleman*, is from the pen of Sanford Howard Esq., the able Secretary of the Michigan State Board of Agriculture. It will repay perusal:—Much is said as to what kind of sheep are most profitable, though but little has been done in this country towards a settlement of the question. Trials have been instituted in England, which, if continued long enough, will at least establish valuable facts. Some of the results already brought out, have appeared in the pages of the *Co. Genl.*, and have doubtless been read with interest.

In this country numerous public shearings, or matches, have been held of late years, the object in most cases having been to compare the weights of fleeces as taken from the sheep, sometimes with reference to the proportionate weight of carcass, but generally without regard to the actual weight of wool or its value. The "biggest fleece" has been the chief aim. It is obvious that this presents no tangible idea in regard to the intrinsic value of the fleece, or the profits of the sheep. True, it may answer for a while as a basis for speculation; but the main point of interest to the public is—what sheep are really most profitable in reference to the purposes for which they are kept—wool and mutton?

It is gratifying to see that some steps have been taken during the past season, to place this matter on a better foundation, although no plan has as yet been brought out, which would afford a fair and thorough test in reference to the comparative profits of the animals. In several instances attempts have been made to ascertain the amount of clean wool produced in proportion to the weight of carcass. This, though but one point in the main question, is important. The first, and perhaps most note-worthy of these trials was instituted by the New-York State Sheep and Wool-Growers' Association, at an exhibition held at Canandaigua last season. It appears that on this occasion five Merino rams, nine Merino ewes, and one Cotswold ewe, competed for a premium of \$50, offered in the following language: "For the fleece of one year's growth, or thereabouts, which, on being cleaned, shall be found to give the greatest weight of wool in proportion to the time of growth, and to the live weight of the animal."

The committee appointed to superintend and report upon this trial, took great pains to analyse the facts involved in it, so far as they could be reached, and have embraced the same in a table which has appeared in your columns. It will be observed that the weight of fleece in proportion to weight of carcass is all that is aimed at, the value of the fleece being left entirely out of the question. The process of ascertaining the amount of clean wool comprised in each fleece, is stated by the gentleman who had charge of this business,—himself a manufacturer,—to be the same as that through which wool is put for manufacturing, and was probably unobjectionable. In fact all the rules adopted by the committee, seem to have been as fair in reference to ascertaining the weight of wool in proportion to carcass as the circumstances of the case would admit; and yet they did not embrace all the material points. The weight of the sheep, for instance, was only taken at the time of shearing, and this is assumed as the weight during the whole period of the growth of the fleece. The committee probably could not do otherwise, as they are supposed to have had nothing to do with the sheep till the day of exhibition. But it is obvious that their deductions may have been rendered fallacious on this ground. A sheep may have been kept for ten or eleven months of the year in such a way as to produce the greatest growth of wool, and for a short time immediately preceding the exhibition, so reduced in weight of body that the proportion of wool would be much greater than if the average weight of the animal for the year had been taken.

Let us see whether something of this nature does not appear in the report. The premium was awarded to Mr. Clapp's two-year old Merino ewe, whose weight was 49 pounds, and whose fleece, scoured, weighed a fraction under 4½ pounds for a year's growth, or at the rate of about 9½ pounds to 100 pounds weight of carcass. Her condition is put down as "fair." Mr. Gazley's yearling Cotswold ewe weighed 99½ pounds; her scoured fleece weighed 7 pounds, or at the rate of a little over 7 pounds to 100 pounds weight of carcass for one year. Her condition is put down as "fat,"—the only sheep among the fifteen that competed for the premium whose condition is thus recorded. Now suppose the Cotswold had, just before the exhibition, been reduced to the same condition as the Merino, would she not have produced more wool than the Merino in proportion to weight of carcass?

But suppose the premium had been offered for the sheep that should give the best returns in wool and flesh; that the conditions should have required the wool to be sold, and the sheep sold as mutton, how would the case have stood? Which would have shown the most profit? It is true we are without any information in regard to the cost of the food which the animals had eaten. Neither of them appeared to have been fed with a view to being slaughtered at that time. The Merino was about twice as old as the Cotswold, and weighed about half as much. Admitting that the amount of food consumed was in proportion to weight, the Merino had eaten as much in her lifetime as the Cotswold. The Merino had produced two fleeces. We have no information as to the weight of the first fleece; if it would have weighed three pounds, cleaned, it was pretty heavy as compared with her second fleece—the fleeces of two year olds of that breed being generally considerably heavier than those of yearlings.

We have, then, two fleeces of the Merino, say 7½ pounds of cleansed wool, worth, perhaps, \$1 per pound=\$7.75. We do not know whether the "fair" condition of the sheep indicates that the mutton would have been marketable or not; but let it be considered so, and reckon it at the same price per pound as that of the "fat" Cotswold, say eight cents, live weight—not a very high price for good mutton, at that time, in the State of New-York—the Merino carcass, 49 pounds, would come to \$3.92, making, with the wool, an aggregate of \$11.67.

We will reckon the Cotswold wool the same price as the Merino, though it was probably worth more: Seven pounds would come to \$7; the carcass, 99½ pounds, at eight cents, would come to \$7.96; making, with the wool, an aggregate of \$14.96; being a balance in favour of the Cotswold of \$3.29. A difference like this, in a hundred sheep, would amount to a handsome sum.

But the report is suggestive on other important points. The difference in shrinkage of wool in going through the process of scouring, is very striking, particularly the difference in Merino and Cotswold—the shrinkage of the 11 Merino fleeces averaging 64 per cent., and that of the Cotswold being only 18. The difference in shrinkage between the Merinos themselves is also great. Comparing the ewes, we find that Mr. Clapp's which took the prize, weighed 49 pounds, and produced a fleece which weighed 9.85 pounds; before being scoured, and afterwards 4.75 pounds; being a shrinkage of 48 per cent. The per-centage of scoured wool to live weight is 9.6.

Mr. Sweet's ewe, (No. 12 in the table) weighed 78½ pounds; her fleece weighed 17½ pounds, before being scoured, 5.31 pounds afterwards; being a shrinkage of 69 per cent. The per-centage of scoured wool to live weight is only 6.

The rams present similar contrasts. We will select two of the same age, about a year, and both reported in "good" condition: Mr. Gibbs' ram (No. 5 in the table) weighed 50.5 pounds; his fleece weighed 11.31 pounds before being scoured, afterwards 3.97 pounds; being a shrinkage of 61.9 per cent., and a per-centage of scoured wool to live weight, of 7.6.

Mr. Bovee's ram, (the last on the list,) weighed 108½ pounds; his fleece, before being scoured, weighed 18.9 pounds, afterwards, 5.48 pounds, being a shrinkage of 71.4 per cent., and a per centage of scoured wool to live weight, of only 4.7.

It may not be improper to suggest to persons or associations, who have charge of public shearings or matches, the importance of adopting the most thorough tests in reference to showing the relative profits of sheep, that being the point at which we should aim. There is, of course, no impropriety in endeavouring to ascertain what sheep produce the greatest quantity of wool in proportion to weight of carcass; but it would obviously be better to consider the value of the wool. To ascertain, first, the quantity of wool produced in a year, in proportion to the weight of carcass, something more is required than just to weigh the sheep on the day they are shorn. They should at least be weighed at the beginning of the year, and it would be better to have them weighed every month, taking the averages of the different weighings as the actual live weight during the period of the growth of the wool. In the second place, to ascertain the value of the wool, each fleece should be subjected to the appraisal of some competent person or persons.

The necessity of the fleeces being scoured cannot be too strongly insisted on, as nothing short of this can determine the actual weight of wool, and without knowing that, we have no basis for fixing the value of the fleece. The results of the Canandaigua trial show how deceptive the large yolk fleeces are, and yet it is said by persons who witnessed the shearing of all the sheep exhibited on that occasion, that those which were most gummy did not compete for the premium on scoured wool.

It is worse than throwing money away to offer premiums for this waste matter. Its production is