of clover and pork—is undergoing continual exhaustion through its being worked up into the living frames upon which the pork is carried to market, the collapse of the whole business is but a matter of time, unless special phosphatic manurial compensation is made in the meantime.

It appears to me that the entire problem of pork production on clover pasture—quantity, quality, profit and possibility of continuation—hinges on the manurial question.

It may be that Canada with her vast inheritance of virgin soil has not hitherto thought it necessary to give any very close attention to manurial details, but, however this may have been in the past we are now arriving at the time when the manurial problem will require the same attention in Canada as elsewhere; and it will then be found that the clover crop and its effective manuring is the leading factor, not only in pork production, but in the entire general environment of successful agriculture.

This important fact is recognized by the government. The last agricultural report issued from Ottawa says: "A high degree of soil fertility or crop-producing power is one of the fundamental factors in profitable farming. The system of green manuring, as practised by turning under a crop of clover, increases fertility in a greater or less degree. The feature of special importance is that the decay of the clover enriches the soil in nitrogen and organic matter—a distinct gain, since all the elements of the latter, and the greater portion of the former, have been appropriated by the clover plant from the atmosphere. As much nitrogen can be furnished per acre by plowing down a crop of clover as would be furnished by an application of 10 or 15 tons of barnyard manure."

This obtaining of nitrogen free from the atmosphere is a factor of the utmost possible importance, and will constitute the keystone in the agricultural economy of the future. A few weeks ago an eminent British scientist, Sir William Crookes, suggested the possibility of this bread-producing problem of the future being solved by yanking Niagara into harness as the motive power in an atmospheric nitrogen-collecting factory. It seems more practicable and natural to use the clover crop for the purpose, and in doing this the great desideratum is to feed the clover liberally with phosphate.

Nitrogenous manures are comparatively expensive to buy, while phosphates are now comparatively cheap; therefore, if by using the latter liberally we can secure a free supply of the former, it is good business, as we get a bumping mackerel for our sprat. This we can literally and readily do by dressing the clover crop with suitable phosphate, as under that stimulating influence the nitrogen-collecting powers of the plant will be immensely increased. And besides this the comparative feeding value of the crop is greatly increased also—even in ratio with the increased production—*i.e*, that even if there is two or three tons of clover grown after applying phosphate, where only one ton was grown previously, each ton of the increased crop will be of considerrbly higher feeding value than the ton from the originally poor crop.

That there is this increase of nutritive value, bulk for bulk, after dressing with phosphate, I am fully satisfied, as I have many proofs of it; but the peculiar case of the Northumberland experiments conducted by Dr. Somerville, some accounts of which was given in FARMING about a month ago, is a fair example. In this particular case 10 cwt. per acre of basic slag or what is commonly known as Thomas-Phosphate Powder was applied to grass land, one portion of which was mown, the other portion being grazed with sheep. On the mown portion there was an increase of 50 per cent. in weight of produce, while on the moiety that was grazed with sheep there was an increase of 175 per cent. of mutton over that of a similar lot of sheep folded on an equal area of the same field that had not been treated with Thomas-phosphate.

This is a particular point I want to call attention to as regards the "pigs in clover" question. First, the absolute necessity for dressing the clover with phosphate to maintain the plant-food balance essential to a profitable continuance; and, secondly, the increased nutritive ratio and improved quality of pork obtained through doing so.

No doubt these very remarkable results brought out by Dr. Somerville are due to the marvellous effect of the Thomas-phosphate on the clovers and other leguminous plants. I will, however, quote a few words from the Doctor's own report: "The figures show that the slag has increased the yield of mutton by 175 per cent., whereas, the hay was only increased by 50 per cent.; the inference being clear that the Thomas-phosphate has had more influence on the quality than on the quantity of the produce, and that the leguminous herbage has been a better measure of the meat-producing power of the pasture than the weight of hay."

FRANK WALLIS.

Lincoln, England, Jan. 10th, 1899.

Ayrshire Breeders in Canada Have Decided to Publish One Record Only

At the last annual meeting of the Dominion Ayrshire Breeders' Association a committee was appointed to open negotiations with the Canadian Ayrshire Breeders' Association at Quebec with a view to establishing one Ayrshire Breeders' Association for the Dominion and of issuing one Herd Book. The committee was appointed and the work proceeded with at once. The following are the minutes of the various commitees, which give particulars, showing what has been done up to date. The work, as the following minutes show, has been very successfully completed, and the thanks of the Ayrshire breeders of Canada are due to the joint committee appointed to conduct these negotiations.

Minutes of meeting of delegates from Canadian and Dominion Ayrshire Breeders' Associations, held at the office of the Central Canadian Exhibition Association, March 10th, 1898:

Delegates present, from Quebec association: Robert Ness, Howick, Que.; David Benning, Williamstown, Ont.; John Morrin, Belle Riviere, Que.; Daniel Drummond, Petite Cote, Que.; and F. W. Stephen, Trout River, Que. From the Ontario association: W. W. Ballantyne, Stratford; Joseph Yuill, Carleton Place; J. C. Smith, Hintonburg; F. W. Hodson and H. Wade, Toronto.

Mr. Robert Ness was appointed chairman and H. Wade secretary of the meeting. Letters were read from the secretaries of the different associations, giving the names of the delegates as above.

Moved by Jos. Yuill, seconded by D. Benning, and resolved: That it will be to the interest of the breeders and owners of Ayrshire cattle that the present two Ayrshire Associations amalgamate.

The then financial standing of the two associations was as follows: The Quebec association had $210 on hand and the Ontario association on the first of January last had $418 49. The Ontario Association had nine directors, a president and vice president. The Quebec association had ten directors, a president and vice president.

The delegates from the Ontario association explained that, by a resolution passed at their last annual meeting, they were empowered with authority to enter into amalgamation, if they thought proper to do so. The Quebec del egation explained that they would have to report the result of their meeting to a special general meeting of their members, which would be called together specially after a short notice.

In case of amalgamation it was decided to call the new association "The Canadian Ayrshire Cattle Breeders' Association." That the number of directors be fourteen, seven from Quebec and eastward, and seven from Ontario and westward, and that they choose from amongst their number a president and a vice-president.

That the term of office for directors be for two years after the first year. That the annual meeting be held alternately in Montreal and Toronto. When held in Montreal the seven eastern directors' term of office will expire