

PHOSPHATE EXPERIMENTS.

We have now approached a season of the year when merchants who are interested in the sale of agricultural requisites are preparing for the spring demands. Among the articles consumed on the farm, fertilizers are coming to occupy an important place. Bone meal, gypsum or land-plaster, guano and superphosphates of lime already fill a large place in the items of expenditure on farms. In the coming spring it is not improbable that an attempt will be made to persuade farmers to buy the ground Canadian apatite in its crude condition, (as suggested in a previous article on this subject). It is important that those who are asked to buy the article should protect themselves against the possibility of disappointment which will inevitably follow if the material be bought and used on the faith of some recent experiments which have taken place in Aberdeen. The disinclination of the Brockville Company, in years gone by, to give a guarantee of quality with the products of their works, gave rise to doubt and uncertainty in the minds of farmers using their superphosphate, and when farmers are asked to substitute for the manufactured article the raw and very insoluble apatite, it is only right they should demand from the advocates of the new theory the reason of their recommendation. In buying the apatite, consumers must be careful to obtain the article in as fairly powdered a condition as possible, and to do this they should obtain a guarantee or certificate of the uniformity of its fine mechanical condition. Some very fine samples have recently been submitted, which, if fair representatives of the commercial bulks, may prove useful in conducting experiments on acre plots. Farmers must take care that what they buy is Canadian apatite, and that it is ground fine enough to pass through the finest mesh.

An interesting experiment has recently been made in France by the Chemist of the School of Agriculture, by analyses of French, Belgium, and Russian soils. The Russian sample, although showing the lowest percentage yield of organic matter and mineral constituents contained in plants, was found to be the most fertile and productive soil, for the simple reason that it was the most fairly-divided mechanically, and therefore the most soluble or readily available as plant food. The late Dr. Anderson's late researches bear out the conclusions of the argument; in fact, it must be clear to every practical agriculturist that only that portion of a soil is of value which is immediately ready for use by the plant. The size of the plot to be experimented upon should depend on circumstances, but in no case is it desirable to have a larger patch than one acre. The Scotch experiments are made, in some cases, on as small a plot as 1-112th of an acre for the sake of having greater uniformity in the soil.

To those, therefore, who feel disposed to use the raw phosphate, our advice would be a mixture of it with bone meal, sulphate

of potash, or kainit, and gypsum or land plaster. Such a mixture would give a tangible result on an average soil, but the apatite might also be used alone with a view of making the test complete. The best soil that could be chosen for an experiment with the crude article would be a well-drained, deep loam, and one which had been previously dressed with sulphates, and on another plot not previously dressed with anything but farmyard manure, but in any case care should be taken to reduce it by hand screening before application, and to mix it with finely sifted ashes or earth. A dressing at the rate of 300 to 400 pounds per acre should be used, and applied to three or four crops. Only an appeal to direct experiments can test the claims of the raw phosphates which are now being put forth by various persons who are interested in their sale. If these are undertaken with spirit, and conducted with due care, we shall then be in a position to form a judgment on the matter. But until our agriculturists have this knowledge, no one is justified in asking them to make a large expenditure in what may not, perhaps, prove very remunerative. We earnestly hope our farming friends may be led to see some advantage in these trials.

LEVIS & KENNEBEC RAILWAY.

Railway meetings are very often boisterous in the transaction of their business, especially when, from some unexplained cause or other, the directors have an unusually uncomfortable state of things to present to their constituents. In such circumstances that proverbial individual—the irate shareholder—shines in all his glory. But it is not often that indignation rises to a point of digital combativeness, or that the aggravated shareholder resorts to personal violence. Something approaching this, however, was seen at the meeting of the shareholders of the Levis & Kennebec Railway held at St. Joseph last week. At that meeting a party headed by Mr. James Carrel, of Quebec, and Mr. Edouard Demers, of Levis, the latter an ex-secretary of the company and the former a newspaper man, attended with the view of creating an opposition, but their efforts in this direction were not crowned with brilliant success, and the following description of what occurred, on a demand for the production of the books, copied from the Quebec *Chronicle*, will show how quickly these gentlemen's valor oozed out at their finger ends:

"Owen Murphy, Esq., insisted on the books of the Company being produced, but without effect. A little movement being made to attempt to prevent the escape of those having books and papers of the Company in their possession, it appeared to dreadfully alarm some of those present, and Mr. James Carrel, of Quebec, who had arrived with the Levis gentry, was the first to illustrate that "discretion is the better part of valor," by leaping with agility through an open window, followed by Mr. Edouard Demers, of Levis, ex-secretary of the Company, and a few others. Once out in the

open air and clear of supposed danger, these parties yelled at the meeting, and shouted something about protesting. The scene is described by those present as having been remarkably absurd and ludicrous.

MR. PARNELL'S unwarrantable and altogether mendacious attack upon the memory of an English warrior long dead, although well calculated to touch the Anglophobia of the average Yankee democrat, and his stupid denunciations of the praiseworthy efforts of others, are hardly having as good an effect as he anticipated. Subscriptions for his "agitation" fund are coming in but slowly. His bankers, Messrs. Drexel, Morgan & Co., have declined any longer to be the medium for transmitting the funds raised by him, and many sympathising friends are now contributing their quota—including the princely gift of Mr. James Gordon Bennett, of the New York *Herald*—through other channels. It is a pity that Mr. Parnell should have so marred his usefulness in the United States, but if the New York *Herald* fund succeeds, as there is every appearance that it will, a fitting rebuke will have been administered to the blood-and-thunder utterances of Mr. Parnell and other fire-eaters who would add the horrors of a fratricidal war, if they could, to the terrible afflictions under which the Irish peasantry are now suffering.

ARCTIC NAVIGATION.—The navigation of the Northern coast of Siberia, from the Atlantic to the Pacific, by an experienced crew, Professor Nordenskjöld thinks, might often be performed by a steam vessel, suitably fitted out for the voyage, and might not occupy more than a few weeks. He considers it questionable, however, whether this route will possess any commercial value because of the uncertain condition of the Arctic sea, but he is positive that a regular and profitable trade route could be established between Europe and the Obi and Yenesei. The route between the Yenesei and the Lena may be regarded as being open, but he doubts whether a return voyage between Europe and the Lena could be accomplished in the course of a summer. More exploration will be required to determine the feasibility of communication by sailing vessels between the mouth of the Lena and the Pacific.

THE first meeting of the Bank Officers' Literary Association of this city took place on Tuesday evening last, and was well attended. The question of currency was very fully and ably discussed by several gentlemen. We shall watch with the greatest interest the progress of the Association, and are convinced, from what we know of the ability of the members composing it, that their deliberations cannot fail to have a most beneficial effect upon themselves, which, from the positions many of them must ere long assume, will ultimately react to the advantage of the whole community.

THE value of hops imported into Great Britain during the past eleven months amounted to £1,129,755, against £545,294 for the same period of the previous year.