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Notice to Secretaries of Societies and Circles of Agriculture.

The Secretaries of the above societies are requested to fill up the blanks in the lists which we send them this month. These blanks should be filled up in such a manner that the names of all those who have the same *post-office address* should be placed together one after the other. The *post-office address* must be given and not that of the *parish*, for it often happens that the two do not agree, or that there are several post-offices in the same parish. The blanks having been filled up, the lists should be immediately forwarded to Ed. A. Barnard, Director of Agriculture, Cap St. Michel, P. Q. : they should contain the names of the subscribers for 1882, and none others. In order to avoid all complaints and all useless correspondence, the Secretaries will please to remember that the despatch of the Journal of Agriculture will only be arranged in accordance with the new lists from the February number of 1883; and no further correction of the lists will be made until December 1883.

APATITE—GROUND VS. DISSOLVED.

The following letters from the three principal agricultural chemists in England and Scotland, Sir John Bennet Lawes, Professor Voelcker, chemist to the Royal Agricultural Society of England, and Professor Aitken, chemist to the Highland and Agricultural Society of Scotland, will be read with interest by all Canadians. *Qui vult decipi, decipiatur.*
ARTHUR R. JENNER FUST.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

Laboratory, 12, Hanover Square,
London, Oct. 30th 1882.

Dear Sir,—In my judgment it is a gross perversion of the truth to represent finely ground *apatite* superior in fertilizing properties to the same material dissolved in sulphuric acid. I go so far as to maintain that a hard crystalline material, such as *apatite*, ought never be applied to the land merely in a finely ground state. It appears to me a great pity that an expensive and valuable raw phosphatic mineral should be recommended for manuring purposes in a merely finely ground

condition, for such a recommendation if followed must inevitably do harm to the best interests of the farmer.

Believe me yours faithfully,
To Arthur R. Jenner Fust, Montreal, P. Q.

CHEMICAL LABORATORY,

8 Clyde Street,

Edinburgh, 31st Oct. 1882.

Dear Sir,—I am this morning favoured with yours of the 20th instant regarding *apatite*. All my experiments with ground Canadian *apatite* have been such as to prove that phosphate to be unsuited for a manure until dissolved.

Where I have applied it to roots the result has been usually equal to "no phosphate," and I have never seen any effect produced by it on the succeeding cereal crop. I think farmers should be warned not to use it in the undissolved state until they have proved, each for himself, by experiment on his own land, on the small scale, that it is useful. It would indeed surprise me to hear that it succeeded any better in Canada than it has done here, but I should like to hear of careful comparative experiments tried with it on the small scale. I am, dear Sir, yours very truly,

A. P. AITKEN.

To Arthur R. Jenner Fust, Montreal, P. Q.

Dear Sir,—For several years a controversy has been going on in this country in regard to the relative value of soluble and insoluble phosphates, in which I have taken no part. There can be no doubt whatever that soluble phosphates act far more rapidly than insoluble phosphates however finely ground, and as in this country the bulk of the phosphates used are required to push the young turnip out of the reach of the fly, soluble phosphates will continue to be used. The turnip, moreover, is a plant which requires both sulphur and lime, and the gypsum plays an important part in the growth of the crop. If I used phosphate for cereal crops and not for turnips, I should be quite content to use a certain portion of phosphate in the ground state, provided; 1st, that the phosphate was derived from some *non-crystalline* (1) source, such as *Cambridge coprolite*, or *Carolina rock*; 2nd that the phosphate was reduced by grinding to an extremely fine powder, for instance, capable of passing through a sieve of 100 holes to the inch. I have recently seen some phosphates, sent from the States, beautifully ground. If, farming in the States, I should not at all object to use a portion of that phosphate in this form. Our experiments appear to indicate that plants can take up large quantities of soluble phosphate, or soluble potash salts when first applied to the soil, but afterwards, when these substances have become fixed in the soil, they are taken up with extreme slowness, and thirty or forty years may elapse before one application is accounted for. Under these circumstances, provided a sufficient amount of soluble phosphate is furnished for the first crop, I see no