

originating, the most lamentable panics and general depreciation of property, as was too fatally exemplified throughout the course of the last eventful year.¹ It is, therefore, earnestly to be hoped that farmers generally, for their own sakes as well as for the general good, with which reflexly their own prosperity is also not remotely connected, will use every effort and endeavour to avert the calamity of a total failure of the potato crop this year. Let it only be remembered, that a little extraordinary expenditure of labour is never thrown away; that extraordinary emergencies demand extraordinary exertions; and that it is a universal law, always in force, that no real good can be obtained without efforts; and every intelligent mind will not fail promptly to exert itself when sudden emergencies arise.

Agriculturists will gather from what will hereafter be stated, that it is extremely probable that electrical influences are the sole cause of the potato disease in question; and, for their encouragement, that those influences, to a certain extent, if not altogether, may be successfully counteracted.

If there be one thing better understood than another in the science of electricity, it is, that the matter of electricity, or the electric fluid, whatever it be, does not pervade, but attaches itself to the particles or atoms of some other matter.² Agreeable to Coulomb's theory, it seems to be collected only on their surfaces, or when these are very intimately united together, only on the surface of the mass itself. Such, for instance, is the case with the conducting rod. The electric particles descend by the surface, and its efficiency is not in proportion to the mere bulk of the conductor, but in proportion to the surface it presents.

Now, if it be, as is strongly suspected, that the particles of electricity attach themselves only to the surface of any conducting mass in general, and only to the surface of particles when less intimately united, as in the case of vapour, it is quite possible, and indeed very probable, if not quite certain, that, in a mist or fog, the particles of electricity are attached to the minute aqueous particles of which the fog is composed. If, therefore, the deleterious influence for so many seasons fatally affecting the potato-crop, is, in fact, the prejudicial influence of elec-

¹ The Secret Committee, appointed to enquire into the causes of the recent commercial distress, state among other things, in their first Report, that there has been a general concurrence of opinion amongst the witnesses examined, that the primary causes of the distress was the deficient harvest, especially of the potato-crop in the year 1846, and the necessity of providing the means of payment in the year 1847, for the unprecedented importation of various descriptions of food which took place in that year.

² Peltier exposed the error of supposing the conducting power of clouds to reside only in their surfaces, and proved that it is possessed by each individual particle.

tricity³ too rapidly or too abundantly conveyed, or too long continued on the delicate leaves of the plant, it follows that a remedy may be applied, by diverting the particles of electricity from the aqueous particles by some other conductor than the leaves of the potato plant.

Assuming that an aqueous fog of this description, formed of watery particles suspended in the air, is in a positive state,⁴ overcharged with electricity, it follows that the remedy to be provided against the destruction of a potato crop, to be effectual, must be the interposition of some other medium in a negative state.

Assuming, therefore, that smoke, which consists of particles of carbonaceous and ammoniacal matter, suspended in dry air, be negative and destitute nearly or altogether of particles of electricity, as shewn by the experiments of the Abbé Nollet and Dr. Priestley, it follows, as a necessary consequence, that the particles of electricity will desert the aqueous particles when they come in contact with the particles of smoke, and attach themselves to the latter; or that the watery particles being themselves disturbed, dissipated, and changed in state, the electricity will be liberated, and attach itself to the carbonaceous particles of smoke; or, in other words, the electric fluid will be evolved on the evaporation of the aqueous particles.⁵

³ Becquerel proved that heat is always accompanied by a development of electricity.

⁴ M. Cavallo, by means of the atmospheric electrometer, obtained the following results:—1st, The electricity of fogs is always positive. 2d, The electricity is always strongest in thick fogs and in frosty weather, and weakest when it is cloudy and warm, and about to rain. 3d, The electricity is strongest in elevated situations.

⁵ M. Coulomb discovered that the electric force was like that of gravity in the inverse ratio of the squares of the distances. He found that the momentary dissipation into the air of moderate degrees of electricity, is proportional to the degree of the electricity at the time; that the dissipation is not sensibly changed by any variation of the temperature or weight of the air; and that when the electricity was very weak, there was no perceptible difference in bodies of different kinds, or differing in shape or magnitude. The dissipation, however, was greatly affected by the hygrometrical state of the atmosphere, and was very nearly as the cube of the moisture of the air.

(To be continued.)

\$800 WHEAT PRIZES.

INTERESTING TO WHEAT GROWERS IN THE UNITED STATES AND CANADA.—At the suggestion of wheat growers in Western New York, who desired to have special attention called to this subject at the annual meeting of the N. Y. State Agricultural Society, Feb. 12th, Mr. Judd of the *American Agriculturist*, brought the matter before the Executive Committee, and placed \$800 at their disposal for prizes. The Committee accepted the offer with a vote of thanks, and they will announce the prizes for the next Annual Fair, probably in the form below, with

perhaps slight variations that may be suggested while making out the official premium list. We call attention to the subject now, and give the preliminaries, that farmers may have an eye to the prizes in preparing for their Spring Wheat Crops, and also in looking after their Winter Wheat now in the ground. The prizes themselves are large, but aside from these, the credit of carrying off the Premium at the hands of the Empire State Society, the largest one in the country, will be worth competing for.

THE "ORANGE JUDD WHEAT PRIZES."

Open to the United States and Canada.

Best Two Barrels of White Winter Wheat...\$100
Best Two Barrels of Red Winter Wheat.....\$100
Best Two Barrels of Spring Wheat.....\$100

To be exhibited at the next Annual Fair of the New York State Agricultural Society (1868) under the rules and regulations of the Society. The Committee of Award to include at least one experienced, practical miller. Each sample to be accompanied by 100 stalks from the same field, with heads and roots complete, and also by a reliable written statement, properly verified, and confirmed by two credible witnesses, giving the name of the variety and source of the seed; the size of the field, the character of the soil and the crops and manures on the same for four years past; the depth and mode of preparing the ground, and the time and mode of sowing and harvesting; the precise method of selecting and cleaning the samples; and any other particulars that may suggest themselves to the exhibitors. The written statements to be taken into account in making the award. The written statements, and the three samples receiving the prizes to be the property of the Society. All other samples to be sold at auction during the fair, for the benefit of the exhibitors, when desired.

CORN MEAL FOR BUTTER MAKING.

At a meeting of the Little Falls Farmers' Club, at Herkimer, N. Y., Judge Owen made some remarks on feeding corn meal to milch cows, which are reported as follows in the *Utica Herald*:

He found no ground feed so good for butter-making as Indian meal; he had made a number of experiments in feeding, and the best results were obtained by feeding it dry. In this state the animal took it slowly, moistening it with saliva, and thoroughly masticating it. In feeding it wet, he thought it passed directly to the third stomach, and hence, was not properly assimilated. Had a large cow of the Holderness breed, upon which he experimented to see how much meal could be fed with profit. Found that feeding two quarts at a feed, and twice a day, was all she would bear. This, in addi-