Arts and Manufactures.

ON SODIUM AND ITS MANUFACTURE.

By William Beatson. (From the "Chemist.")

Having for some years given considerable attention to the production of the alkaline metals, I have succeeded in obtaining them (particularly sodium) in such quantities as to show that it only needed the demand to be created, and they could be supplied in such a way as would greatly promote the application and extension of science and the chemical arts, and it was only because that demand did not appear to exist that the subject was allowed to remain in comparative abeyance. Now that such interest has been excited in the enlarged application of Mr. Wohler's process for preparing aluminum by means of sodium, chiefly through the exertions of M. St. Clair Deville, it may not be uninteresting to indicate the means by which this latter metal, sodium, may be extracted by enlarged and improved processes, which I have been led to employ for some time past.

The retorts, in which the mixture of carb. soda and coke has been heated, have been chiefly of malleable iron; but as it is difficult to obtain these of a large size, retorts of earthenware or fire clay have been used with success, and probably a fire-clay retort, with a lining or trough of malleable iron, will be found to be the best form of distilling apparatus, though with great care cast iron retorts may yet be employed with advantage. The principle improvement which I have effected, and which is now engaging the attention of M. Deville, consists in making the process continuous; so that the retort is maintained at nearly a uniform temperature, and only requires the introduction of a fresh charge when the previous one has been worked off. If the materials are properly proportioned, the retort becomes nearly empty at the termination of each distillation; or, if an excess of carbon remains in the retort, it is available in the following operation, so that in this way one retort has been kept in full action for a week, and sometimes for nearly a second week without interruption. As soon as one distillation is completed and the condenser removed, a fresh charge of soda and carbon is introduced into the retort through the same tube as emits the sodium by means of a long semi-circular scoop, and the retort being nearly filled the new distillation commences in a short time and proceeds with the greatest regularity and success; the sodium which I have sent to the Paris Exhibition was prepared in this way, and, as before stated, it was only because there seemed to be no demand for the metal, that it was not prepared on an industrial and extensive scale; perhaps, as in some other instances, the supply may create or excite the demand. In addition to the sodium, it is well known that a large quantity of croconates and other compounds of soda distil over and are found mixed with the sodium, and as their separation is tedious in small quantities, I have constructed a large iron cylinder, in which the sodium and its impure admixtures are heated to fusion below the surface of naphtha or camphine, and a piston or plunger being then forced down by a powerful screw or hydraulic press, the pure metal is found in a mass above, and the impurities in the bottom of the cylinder. [A diagram of the apparatus may be seen in the Laboratory of Dalhousie College.]

Communications.

CROPS IN KEMPT, CO. OF QUEENS.

Kempt, 20th Septr., 1866.

Respecting the crops, Hay was an average crop, but on account of the wet weather somewhat injured in making; our low meadows adjacent to the lakes and rivers in this locality are overflown, and will be principally lost.

Wheat, when sown early, has done well, some slight attack by the weevil.

Oats and Barley have grown very luxuriantly, but were very much beaten down and injured by the heavy rains.

Potatoes are a middling crop but are rotting very badly.

Garden vegetables of all kinds have grown well but have been much injured by the wet weather.

Fruit a small crop.

EDWARD P. FREEMAN, *Sec'y.*

LEICESTER RAMS AT THE NORTH SHORE, ST. ANN'S.

I have the pleasure of acquainting the Central Board of Agriculture, through you, that I have purchased fourteen Ram Lambs of the Leicester breed from E. Calkins, Esq., West Cornwallis, for the use of the society here. Price, when delivered in Halifax, five dollars each.

ANGUS McKAY.

North Shore, Sept. 19th, 1866.

THE CROPS, &c., ABOUT AMHERST.

Our society, as you will perceive, is larger than it was last year, but still nothing like what it should be in a rich and largely agricultural community. We have been blessed with splendid crops; hay, grain and roots all abundant. But, as in other parts of the country, we have had a very poor harvest. Grain has been very seriously damaged; hay the same, and on meadows, low marsh and intervales, will not be secured at all, owing to the extraordinary height of fresh water streams; potatoes on damp lands are rotting considerably. Altogether the crops will be secured in very bad condition, and the incessant heavy rains of the early fall will cause immense loss to the country.

J. H. BLACK,
Secretary Amherst Agr. Society.

REMARKABLE GROWTH.

My Dear Mr. Journal,—Being a lover of horticultural and agricultural pursuits, (though, unfortunately, not in a position to practise either,) I often take a peep into the gardens of my neighbours.—Frequently I see something altogether new to me, and perhaps the recital may not be uninteresting to your numerous readers, although it may not, for aught I know, go beyond their own experience. Last week, I saw what I consider a remarkable bed of peas. On measuring them with a foot rule, they were found to stand *nine feet eight inches high*, notwithstanding the fact that a recent storm of wind had flattened them considerably on the top of the supports. They would certainly measure 10 feet if standing upright. These peas bore steadily all the summer, and have now quite a profusion of fresh blooms. They were planted late in May, and are the property of Mr. Hepburn If any of your readers can furnish a more remarkable statement about pea-culture, it will be something *pe*-culiar.

Another fact which arrested my attention was in connection with the raising of fruit. Mr. Francis Beattie has a small orchard, which contains a number of quite young trees, of astonishing growth. His grafts of the Magnum Bonum are most noted. Several grafts of the Magnum Bonum on the common plum have attained three, four, five, and six feet, but one has grown, this present season, over seven feet! There is also to be found, in Mr. Beattie's garden, an apple tree *two feet high*, about three years old, bearing two very fine specimens of that fruit. It may not be amiss to add that the latter gentleman's property has been cultivated only about six years, and that only at spare intervals from his daily labour, but possesses the nucleus of a very fine establishment,—containing as it does, such a large collection of young fruit trees just about ready for setting out. P.

Pictou, Sept. 19th, 1866.

CULTURE OF STRAWBERRIES IN POTS.

Persons who have the command of a greenhouse, or a hothouse, can have strawberries for desert early in the season, by growing them in pots. Three inch pots filled with light rich soil should be got ready as soon as the young runners