

Those best known here are Orchilla, Mona, Flamingo, Vivorilla (exhausted), Cay Avola (exhausted), Morant cays (exhausted), and now we offer the Grand Cayman's phosphatic guano, only recently discovered and of large extent. And this is the only natural guano which is a compound of phosphate of lime, phosphate of alumina, and phosphate of iron, and these ingredients add much to its value as they help more on soils where the simple carbonaceous guanos have but little effect, such as marls and limes.

Secondly: The natural guanos are themselves soils which have been acted upon through a great length of time by the air, water, and action of vegetation. The mechanical condition is thus naturally suited to plant life, whereas the crystallized rocks before mentioned are often in great masses, as in connetable, the apatites, &c., &c. or are covered up in beds and pockets as in the Charlestown beds, Navassa, &c., &c., and are entirely useless in their present state for plant food.

Hence, although all are classed as insoluble phosphates by the chemists because they will not dissolve in water. Yet the natural guanos are all more or less soluble in citrate of ammonia solutions, and are fit for plant food as much so as the reverted phosphoric acid which is in the acid phosphates made from Charlestown rock, apatite, &c., &c.

Such being the case, I warn you not to be led astray by the statement that the insoluble phosphoric acid in Charlestown floats is as good as the natural guanos, for it has been proved over and over again that floats from Charlestown rock, apatite and navassa give no results, and as proved by the Georgia State experiments often make an actual loss.

I am, yours truly,  
(Signed), N. B. POWTER.

[We publish the foregoing letter with the permission of its author, in order that our readers may have an opportunity to criticise in these columns the statements Mr. Powter makes. We have not the slightest doubt that he implicitly believes all the theories he advances, and in the interest of the Company he represents it is well that he should: on the other hand we have had the most positive assurance that experiments which from time to time have been made with Canadian apatite in its raw state have proved it to be very useful as a plant food the second year, and frequently the first year, after application.—Ed.]

### The Phosphate Trade.

The first shipment of Canadian phosphate went forward from Montreal on May 12th consigned to Hamburg, and since that date shipments have been irregular, due chiefly to the unsettled state of the British and European fertilizer markets, and the unusual fluctuations in ocean freight rates which have varied from five to twelve shillings per ton, and at this last high rate some of the later lots have gone forward. The market abroad has been in a stagnant condition during the past nine months and values have been reduced to 11d. per unit for 80 per cent. phosphate, and with ocean freight at 8 to 12 shillings it is not to be wondered at that mine owners look upon the season's business with dissatisfaction. Notwithstanding this unfavorable state of things, viz.: reduced values and higher freights, there has been a fair amount of business done, which, however, must have proved

unremunerative to sellers.

Mine owners continue confident that there will be an early revival in the fertilizer trade and that better prices will be realized next season. This opinion is endorsed by dealers on the other side who report that indications of a re-action are already noticeable and predict an active market with the opening of navigation of 1887. Some of the producers have been averse to forwarding their output under the unfavourable conditions which have characterized the season's operations, and those of them who can afford to carry over until next year are wise if they have done so.

There has been no apparent relaxation in the activity at the mines; on the contrary, work has been carried on energetically throughout the past summer, and preparations are being made for continuous active operation during the winter.

The DuLievre Phosphate Milling Company have been much encouraged by the flattering letters they have received from customers, attesting to the excellent quality of their ground phosphate which they have received and used during this season. Shipments aggregating about 600 tons have been made to Boston, Buffalo, Detroit, Chicago and St. Catherines, and in every instance consigners have expressed themselves highly pleased, and affirm that they can use this grade of fertilizer to better advantage and with more satisfactory result than they have been able to obtain from South Carolina rock which they have been in the habit of using.

The demand for this ground phosphate will certainly expand, as there is every reason to believe that a large percentage of each year's production will be sold in this form, and that its principal market will be the northern United States. When such a market has been established it will very materially stimulate the Canadian phosphate mining industry.

We are not yet in receipt of a statement of phosphate shipments to date, but there is no doubt that the quantity which has gone forward for the season is considerably less than last year. Before our next issue will appear, the shipping season will have closed, and the November number of the REVIEW will contain a detailed statement of the year's output, and of all shipments for the season of 1886.

### Asbestos Mining in Canada.

This industry is rapidly expanding in the Eastern Townships, and with the assistance of capital, and skilled labor it will assume larger proportions year by year. During the season of 1886, up to date, there has been greater activity noticeable at the mines than in any former year, and the result has been a marked increase in the production. The market, too, has been fairly brisk, and the demand abroad for Canadian asbestos is steadily increasing, as we find it to be superseding the Italian almost entirely.

Values have been steady during the year, and remain so, prices ranging from \$80 to \$50 per ton (2,000 lbs.), according to quality. A portion of this season's output is yet unsold although some of the most extensive operators have orders ahead for all they can produce up to the end of the year at current prices.

The Anglo-Canadian Asbestos Company (limited), are getting their mine at Black Lake well opened up, and will soon be in a position to largely increase their output. The steam drills, and air compressors which they put in last winter have given great satisfaction, and will ultimately tend to greatly facilitate mining operations.

The Scottish-Canadian Company, whose mine

is also situated at Black Lake, are preparing to put in machinery with a view to increasing their operation which are now under the superintendence of Mr. Chas. Lionais.

The Thetford mines, which are worked to a greater depth than has yet been reached at Black Lake, are still operated entirely by hand labor. In consequence of the greater depth from which the asbestos is taken at the mines in Thetford, the output is more uniform in color than that of the other mines of the district whose surface output requires to be classified as 1st and 2nd quality. The Black Lake mines are looked upon with much favor for future, and more extensive working, and when greater depth has been reached their product will unquestionably be of the highest grade. New uses for asbestos are being constantly discovered, but it is difficult to obtain accurate information in this connection until such discoveries have been worked out, and perfected, and but a small percentage of them prove of any practical value.

The output of the Canadian asbestos mines for this year, up to date, will aggregate about 2,000 tons, 500 tons in excess of last year's production for the entire season, and is made up approximately as follows:

	Tons.
Anglo-Canadian Company, Black Lake .....	400
Scottish-Canadian Company, .....	200
Boston Asbestos Packing Company, Thitford .....	400
Johnson Company, Thitford .....	375
King Bros. & Company, Thitford .....	175
Ward & Company, Thitford .....	150
Jeffery & Company, Danville .....	200
Desultory mining, say .....	100
<b>Total, .....</b>	<b>2,000</b>

### Coal in New Zealand.

In a recent report presented to the New Zealand House of Representatives by Mr. Larnach, the Minister for Mines, it is stated that in 1878 the total output was only 162,218 tons, but in 1884 it had reached 484,831 tons, and last year 511,063 tons. The consumption of the colony is still, however, in excess of the home production, and in 1885 130,202 tons were imported. The number of workings at present in operation in New Zealand is 95, and the output per man 345 tons per annum. Last year there was a strike at one of the mines, which resulted in a loss of production of 36,000 tons. In two cases the shafts reach a depth of 1,600 feet, and at that point the seam is from 17 feet to 18 feet in thickness. The industry is being conducted with a good deal of energy and enterprise, the best machinery being used, and it is hoped that before long the export of coal from New Zealand to the other Australasian colonies will assume some importance. It is acknowledged, however, that for a long time to come agricultural and pastoral industry will naturally claim priority in the application of capital and labour to the natural resources of the country.

The recent inquiries into the dangers of blasting have served to stimulate invention in the direction of mechanical "coal-getters." Several promising devices have lately been brought to notice of colliery owners in England and on the continent. Some of these are now undergoing the test of actual work. In the Westphalian mines particularly, attention is given to such machines, two or three of which have already won their way into favour. Foremost among these is that of Herr von Walcher. This apparatus, says Mr. George G. Andre, in the *Colliery Guardian*, is in regular use in three important collieries, from each of which have been received a highly satisfactory report of its working.