

ing the tariff. And there has been much less trouble, and no loss—as the animals are thus self-sustaining.

The four Durham bulls of the Society have done good service the past year, and are here to day to be exchanged. Arrangements have been made for the next year similar to the past, and each keeper will take home with him the bull which may be assigned to his section to-day. Several of the calves got by the Society's bulls have been brought to this meeting by their owners for comparison; and for symmetry of form, as well as larger growth, must convince the most skeptical of the superior advantages of good breeding.

The boar purchased in Halifax, last fall was kept for service for the season; and in March was sold, on condition that he should be kept for the service of the society for another year at the same charge.

The directors did not consider it prudent in view of the debt upon the Society to purchase sheep last fall—but the Cotswold breed has notwithstanding been introduced, through the enterprise of the President and a few others, who purchased on private account at the sale last fall at Richmond, two shearling Rams of this improved stock. The White Chester breed of pigs has also been introduced by another member of this Society, who bought one of these animals at the sale in Halifax this fall.

We note with pleasure the increasing circulation among the members of the *Canada Farmer*; and would strongly recommend every member to become a subscriber to that, or some other good agricultural paper.

A proposal will be submitted to-day for the establishment of an annual Fair and Cattle Show, under the patronage and management of the Society—to which it is hoped you will give that consideration which its importance demands.

The Society being yet comparatively young, and no accumulated funds, and another bull to be bought next season, it has been felt that we were not in a position to make any contribution to the Exhibition fund at Halifax.

The returns were duly certified, and sent to the Secretary of the Central Board, as required by law.

DISBURSEMENTS.

Balance due from Society last year.....	\$95 55
Cost of bull bought December, 1866.....	33 16
Cost of boar do.....	23 00
Loss in collecting for services of bulls last yr.	15 95
E. Fitch, keeping bull from 18th Oct.....	8 00
Six copies Agricultural Journal.....	3 00
	\$183 66

RECEIPTS.

Annual subscriptions for 1867.....	101 00
Balance.....	32 66
To meet which we have the Provincial grant yet undrawn, say.....	40 00

Leaving balance..... \$42 66

which will be covered by the annual subscriptions now due, and leave a surplus.

JOHN B. DICKIE, *President*.
GEORGE F. CROWE, *Sec'y*.

Officers elected for the next year are:—*Pres.*, John B. Dickie; *Vice Pres.*, Adam Dunlap; *Sec'y*, Win. Blair; *Treasurer*, Isaac Barnhill; *Directors*, Robert Putnam, Edwin Fitch, Charles Crowe, Donald Murray, and Murdoch McKay.

The recommendation to establish an annual Fair and Cattle Show was adopted by the meeting, and several new members joined the Society. G. F. C.

Miscellaneous.

PLASTER—GYPSUM AND ANHYDRITE, AND THE BORATES AND OTHER MINERALS WHICH THEY CONTAIN.

By DR. HOW OF KING'S COLLEGE.

Read before the Nova Scotia Institute of Natural Science, by Professor Lawson, in the unavoidable absence of Dr. How.

The subject matter was of much interest, both from the commercial and agricultural importance of the minerals, their use in the arts, and for various other economic purposes. The Paper stated that both gypsum and anhydrite are found in Nova Scotia, in quantity, exclusively in the carboniferous rocks, in close association with the sedimentary limestones. Gypsum has also been found in small amount in the fibrous form, in the trap rocks of Blomidon, and as selenite, imbedded in the same rocks, at Two Islands. The local term for gypsum is soft plaster—for anhydrite hard plaster. The former is sulphate of lime with water—the latter sulphate of lime without water.

Tables were read showing the number of tons of plaster shipped from the Province, and the countries to which it was exported, for a series of years. The totals were stated as follows,—1864—52,625; 1865—55,312; 1866—54,478. The years of the American war, and those immediately following, were seasons of great depression in the gypsum trade—but lately it had resumed its activity. From January 1st, 1866 to December 31st, 55,751 tons were cleared from Windsor, valued at \$50,256—but in the first 9 months of 1867, 48,285 tons were exported, which manifests a great increase. The price of gypsum at Windsor is from 90 cts. to \$1 per ton,—the price on the Grand River, Western Canada, the only locality in Canada (Ontario and Quebec) where workable deposits occur, is about \$2 a ton. The deposits there are quite insignificant compared with those of Nova Scotia.

The county of Hants is the chief gypsum raising county in Nova Scotia, and Windsor the principal port of shipment. Operations have been carried on at the Clifton quarry at Windsor about 40 years. The principal rock is gypsum, the anhydrite, a hard plaster being found in lenticular masses from two to ten feet thick in the centre, and sometimes fifty feet long, imbedded in the soft plaster.

The various and numerous uses to which plaster is applied in its manufactured state were commented on, and the mode explained by which it is made, and the aspects and degrees of hardness it presents in combination with other substances. One peculiar property of gypsum was quoted from Miller's Chemistry II. p. 801. "If gypsum be mixed with a

certain amount of water and soaked in a bath of hot pitch, it parts with water and takes up pitch, and then forms a substance so hard and susceptible of polish, that it could be employed in making a variety of useful and ornamental articles."

Gypsum is exported as blue and white gypsum, the former is the kind chiefly used for agricultural purposes, and before the recent civil war in America, was being thought of as a manure for cotton. The white gypsum is burned or boiled, by which the water is expelled, and plaster is made by the addition of water. The composition of pure gypsum was stated to be:

Lime.....	32.55
Sulph. Acid.....	46.51
Water.....	20.94
	100.00

A compact opaque white gypsum, called (locally) alabaster, occurs in Antigonish, and has lately been found about 3 miles from Windsor. Selenite, which is the finest kind of gypsum, is abundant in the quarries at Windsor; other varieties differ in composition from the admixture of oxide of iron, and carbonate of lime and magnesia. Analyses were given of plaster exposed to the weather, which did not vary from that of pure gypsum, or of black gypsum, and of hard gypsum (not anhydrite). The composition of anhydrite was stated to be:

Lime.....	41.18
Sulph. Acid.....	58.82
	100.00

True anhydrite can give no water. It makes a very good substitute for marble in indoor work; does not admit of being made into plaster by burning, but is equally good if not more valuable than gypsum for agricultural purposes.

With reference to the minerals contained in gypsum and anhydrite, no considerable amount have been met with. Some of them would be really valuable if found in abundance. Sulphate of soda and common salt appear in small quantities. The most important minerals are certain borates, which Dr. How discovered about ten years ago, and of which he has just discovered a third altogether a new mineral, and is about publishing an account under the name of Silicoborocalcite, in the *Philosophical Magazine*. These borates were described and analyses given. A communication was read from George Outram, Esq., Stoke-upon-Trent, Staffordshire potteries, making enquiry about the borates described, and detailing their value. This was in Sept. 1857. Since then the discovery of borax in California had lessened their value. Another letter from Mr. Outram stated that the borate (matroborocalcite) found in Nova Scotia was valuable as a glaze and as good as any he had seen of the same mineral. A specimen of the pottery