

before it seeds, and that they are most abundant in the seed when ripe; hence hay and other grasses require to be cut before they seed, cereals after the grain is fully developed; if not, the hay or the grain is innutritious from deficiency of albumenoids.

There are three groups of nitrogenous substances in the animal body, viz: Albumenoids, gelatinous substances and horny matters.

"Albumenoids are by far the most important, since all manifestations of animal life are dependent chiefly on them and on the organs which are composed of them, and in fact they furnish the materials out of which the others are formed. Albumenoids are found in manifold modifications in all the organs and fluids of the healthy body except the urine; and all these modifications suffer an almost continual mutual alteration under the influences of the vital processes. Albumen predominates in all animal fluids, especially in chyle, serum of the blood, fluid contents of the corpuscles, in juice of muscles and in nerves. They all contain, as essential constituents, carbon, hydrogen, oxygen, nitrogen and sulphur."\*

That the primary and essential lesions which give rise to the extraordinary pathological conditions found in animals dying from this disease are referable to the quality of the blood, I think is evident, and that these changes are due to a deficiency of albumenoids, or some cause giving rise to a diminution of the quality of the blood crisis. Observations in both man and animals prove that deficiency in quality as well as quantity of essential elements of nutrition, gives rise to alterations in the vital fluid which produce results similar to what we observe in the disease. That it is a dropsical disease we now know; and that it depends not on the presence of bacteria or other organisms in the blood, I think may be accepted as a fact. Microscopic examination fails to show any changes in the corpuscular elements of the vital fluid. Fibrin is increased, as seen by the firmness of the clot and the rapidity with which it forms; and this also shows that the corpuscles still retain their fibrinoplastic substance or paraglobulin. That they still retain their haemaglobulin is learned from the colour of the blood and the colourless character of the serum.

What, then, is the change in the blood that gives rise to this condition of general passive dropsy, for a blood disease I think we are compelled to call it? I think the following extract from Jones & Sieveking's Pathological Anatomy will throw some light on the condition, and show that all dropsical diseases are not

\* For further information on this subject see Manual of Cattle Feeding, by —.

due to interrupted circulation, as is often supposed, but that in many instances we may have general passive from a diminution in the quality of the blood crisis, this alteration being due to an insufficient supply of albumenoids in the food on which the person or animal subsists:—

"Cases of dropsy are occasionally met with in which, as there appears no absolute organic disease, but only an hyperæmic condition of the blood, one is compelled to think that the effusion is dependent on this. Andral mentions that during a famine, where the poorer classes had been obliged to seek a scanty nourishment in roots and herbs growing in fields, many people became dropsical. This has not always been observed in famines, but a curious observation of Brucke's bears on this point. He confined a frog, having the sciatic nerve of one leg divided, in a glass vessel for some months. When the frog was insufficiently fed, œdema occurred in the leg of which the nerve was divided. Abundant animal food removed the œdema, which re-appeared when the animal was again starved. The occurrence of œdema in the affected leg only illustrates the effect of the abolition of nervous influence in causing local dropsy. The same thing is sometimes, though rarely, observed in infantile paralysis. Dr. Laycock has repeatedly drawn attention to similar facts.

"In these circumstances it is very probable that the proportion of albumen in the blood was diminished, as it is clear that the supply of it ordinarily derived from the food was so. When from cardiac or renal causes, or both combined, together with altered crisis of the blood, the tendency to dropsical effusion is very strong. It is quite remarkable how universal the dropsy becomes; the peritoneum, both pleura and the pericardium, may be found full of fluid, the areolar tissue everywhere infiltrated, the air cells of the lungs loaded with frothy serum, the tissues of the brain 'wet,' and the subarachnoid fluid greatly increased. In fact, it seems as if the vessels no longer presented any containing barrier but permitted the escape of fluid everywhere that it traversed. It is often observable in these cases after death, how the naturally transparent mucous membranes have lost this appearance; they look thick and of a dull white-grey tint, as it were soddened in the fluid. There can be no doubt but that this depends on a chronic thickening and increase of their fibrous layer."

By a consideration of the subject in this light, it will be seen that attention should be paid to the quality of the food on which the cattle are fed, and particularly that a sufficiency of food rich in albumenoids is supplied to them.

(To be continued.)

## Advertisements.

Resolution of Provincial Board of Agriculture, 3rd March, 1882.

"No advertisements, except official notices from recognized Agricultural Societies, shall be inserted in the JOURNAL OF AGRICULTURE in future, unless prepaid at rate of 50 cents each insertion, for advertisements not exceeding ten lines, and five cents for each additional line."

## DOMINION

# EXHIBITION

OF 1882.

Kingston, Sept. 13th to 23rd.

## NOVA SCOTIAN EXHIBITS.

NOTICE is hereby given, that Special Arrangements have been made for the conveyance of approved Exhibits from Nova Scotia to Kingston. A sum of \$500 has been appropriated by the Dominion Government towards the transport of Live Stock, Manufactures, Fish Exhibits, etc. All Live Stock must be taken charge of during transport and at the Exhibition by their owners or agents employed by them. Fish Exhibits and Manufactures may be sent to care of Dr. Honeyman, Provincial Museum, Halifax, who will act as Commissioner for the Provincial Government, and will accompany such Exhibits to Kingston.

There will be a special exhibit of the Economic Minerals of Nova Scotia, and persons willing to contribute to this department are requested to communicate with Dr. Honeyman. Enquiries have lately been made for Sulphides, Barytes, Manganese, and others of the less common minerals, and owners of mines may find it advantageous to exhibit.

Competitors for Prizes are required to pay \$1 for membership. Entries: for Live Stock and Agricultural Implements, 19th August; Field Produce and Manufactures, 26th August; Horticultural Products, Ladies' Work and Fine Arts, 2nd September. All Exhibits must be approved by Board of Agriculture before being forwarded at public expense.

Prize Lists and Forms may be obtained from H. Wale, Secretary Arts Association, Toronto, or Dr. Honeyman, Provincial Museum, Halifax.

Whilst reasonable care will be given by the Commission, all Exhibits will be at risk of owners.

By order of the Board of Agriculture,  
GEORGE LAWSON,  
Secretary.  
Provincial Exhibition Office,  
Provincial Museum, Halifax.

## JERSEY BULL.

THE splendid thorough-bred Jersey Bull CHIEF OF THE ISLAND, No. 46 N. S. Register, No. 4338 Am. Club; solid smoky fawn, black tongue and switch; stands for service during this season at Bedford, N. S., at the stable of Mr. Wm. Willis. Cows sent from a distance will receive every care and attention. Fee for service two dollars.

G. W. BOGGS.  
Bedford, N. S., Aug. 10, 1882.