

numbers 1, 3, and 4 the fodder had a temperature of about 75° Fahr.; it was apparently in good condition, having a smell somewhat like fresh brewer's grains. The cows on pasture, as well as those which were being house-fed, ate this food with avidity. In No. 2 the comfrey and lucerne were quite spoiled; the colour had not been much altered, but the smell was most offensive, and the mass appeared to be quite putrid. No 5, the Italian rye-grass, was quite dry, but mouldy, and perfectly unfit for food.

The specimens of ensilage were in a state of fermentation when they were brought for analysis. The specimens were at once subjected to a temperature of 212°, and kept thereat till dried, which prevented further fermentation.

It is noticeable, first, that the albuminoids are less in the ensilage than in the original grass; that the water is much the same in quantity in all the samples; that the amount of soluble non-nitrogenous matter is greater in the ensilage than in the grass from which it had been prepared; that the amount of ash is greater in the ensilage than in the grass:

COMPOSITION OF ENSILAGE AND OF THE GRASS FROM WHICH IT WAS MADE.

	Grass when cut.	Ensilage No. 1.	Ensilage No. 2.
100 parts contain—			
Water	68.26	66.50	68.10
Albuminoids, (nitrogenous substances)	2.85	2.76	2.60
Non-nitrogenous substances, soluble acids, and alkaline solutions	13.42	15.20	14.82
Insoluble ditto	11.73	11.37	10.13
Fats	0.76	0.77	0.75
Mineral matter (ash)	3.06	3.40	3.60
	100.00	100.00	100.00

HISTORY OF THE PICTOU CATTLE DISEASE.

No. VI.

Preliminary Report on the Disease of Cattle at Pictou, Nova Scotia, and adjoining Districts, addressed to Hon. J. H. Pope, Minister of Agriculture, by D. McEachran, F. R. C. V. S., Inspector of Stock.

[Continued from February Number.]

D. Pasture of Captain James Foote: Cows died this season; none left. A neighbor, whose cows also died, has a solitary goat in pasture. The pasture is very weedy, containing much Solidago, Senecio, Kalmia, Hypericum, &c., and, in places, is reddened with the European weed Bartsia odontites. Water sample No. 3, from pool by roadside, Creighton's Lane, where Capt Foote's cattle were principally watered. The pool contained much soft mud, so that it was difficult to obtain a clear sample of the water. A herd of cattle stopped to drink at the

pool as we were collecting samples, and deposited droppings as they passed through it. The sides and surface of the pool were green with Confervæ, Lygnoms, Oscillatorie and other fresh water Algae.

Laboratory Analysis.

Water very turbid, dark brown colour, and smells very offensively of stable urine.

Total solids, grains, 20.5 per gallon.

Fixed do 6 do

Residue became quite black, and ultimately a reddish brown, patchy, smell of feathers.

Chlorine grains, 1.1 per gallon.

Ammonia, free or saline:

Grains .77 per gallon.

M.G., 1.100 per litre.

Ammonia, organic or albuminoid:

Grains .1442 per gallon.

M.G., 2.060 per litre.

Metals—Iron, present.

Hardness = 3.2 degrees.

Nitrates, nil.

Microscope.

Bacteria, Zygnemata, Infusoria, Diatoms, Mineral particles.

Water sample No. 5 from pools in Capt. Foote's pasture. The cattle avoided this water, and usually watered in preference at roadside muddy pool, from which sample No. 3 was taken. Pools far from any buildings. Water turbid, light brown; stable odour less marked than No. 3.

Total solids, 5 grains per gallon.

Fixed do 1 do

Residue became quite black.

Chlorine, grains, .8 per gallon.

Ammonia, free or saline:

Grains .09772 per gallon.

M.G. 1.396 per litre.

Ammonia, organic or albuminoid.

Grains .1071 per gallon.

M.G. 1.53 per litre.

Hardness = 1.5 deg.

Metals—Iron, present. Manganese, also.

Nitrates, nil.

Microscope.

Insect fragments, Acarina, Infusoria, Zygnema, Entomostraca, Diatoms, Actinophrys, Bacteria, Euglypha.

E.—Farm of John Logan, Tanner. No disease, although pasture watered by same brook as adjoining infected farm "C." Water sample No 6. (*ante*.)

F.—Farm of John Herritt, jun., Carriboo Road. Lost a cow last year for first time.

Water sample No. 11, from well of John Herritt, where cows are watered in winter, and mostly in summer also.

Water slightly turbid, no odour, almost colourless; good lustre, slight sediment. Total solids, 20 grains per gallon.

Fixed do 9 do

Residue nearly colourless, became dark brown, and then cleared.

Chlorine, grains, 1.7 per gallon.

Ammonia, free or saline:

Grains, .14 per gallon.

M.G. 2. per litre.

Ammonia, albuminoid or organic.

Grains, .0019 per gallon.

M.G. .67 per litre.

Metals—Iron, very slight trace.

Hardness = 4.4 degrees (Clark.)

Nitrates, present, distinct.

The albuminoid ammonia is small, but the large proportion of free or saline ammonia and the nitrates arrest attention, as probably originating in organic matter.

Microscope.

Vegetable debris; Scales of insects; Infusoria, few; Radiolaria.

G.—Farm of John Herritt, sen. Twenty years ago three cows die,—none since, till last summer, when three died.

Water sample No. 12, from well at house of John Herritt, sr.

Water turbid, brilliant lustre, no odour, taste of old wood. During distillation acquired a reddish tint.

Total solids, 7.0 grains per gallon.

Fixed do 3.5 do

Residue of very light yellowish-brown tint, became mud-brown, and cleared easily to almost white.

Chlorine, 1.7 grains per gallon.

Ammonia, free or saline.

Grains, .0266 per gallon.

M.G. .104 per litre.

Ammonia, albuminoid or organic:

Grains, .00728 per gallon.

M.G. .104 per litre.

Metals—Iron, very faint trace.

Hardness = 1.7 degree.

Nitrates, nil.

The amount of free or saline ammonia is large.

Microscope.

Vegetable debris; Infusoria; Rhizopoda; Particles of soot (!).

Water sample No 13, from brook in pasture of John Herritt, sen.

Water quite turbid, of a light yellowish colour, good lustre; no distinct odour; old woody taste (colour and turbidity varying in different bottled samples.)

Total solids, grains, 4.5 per gallon.

Fixed do 1.5 do

Residue, reddish brown.....black, wavy, patchy, black colour very persistent.

Chlorine, grains, .75 per gallon.

Ammonia, free or saline:

Grains, .0308 per gallon.

M.G., .441 do