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THE

NOVA SCOTIAN

JOURNAL OF AGRICULTURE

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HALIFAX, *1st February, 1876.*

WE observe from a report of meeting at Truro, transferred to our columns from the *Sun*, that efforts are being made in Colchester to present to the Board of Agriculture a strong claim to have the PROVINCIAL EXHIBITION OF '76 held in that County. Whether such Exhibitions should be held in a city or a country town,—whether Kentville or Lunenburg is the more eligible locality,—these, and like questions, are all susceptible of solutions as diverse as the nature of the solvents that may be applied to them. It would be hopeless to expect that anything like unanimity would be arrived at if such questions were discussed. But, fortunately, there is no need to discuss them. There is no need to stir up demons of local jealousy. The Legislature has, with great wisdom, laid down a simple principle that enables us to bury all local jealousies and all conflicts of local interests. The Exhibition is to be held in that County which presents, in its plans, arrangements, and resources, the best guarantee that it will be carried out with success, and benefit to the country. If Colchester comes forward with a well-considered scheme that commends itself to the Board as the best, then the Board will be constrained to fix upon Colchester as the County for the Exhibition, but if some other County presents a better scheme, then that other County will, of necessity, have the preference. We do not expect that any other County in the Province will be able to compete successfully with Colchester this year. There has, indeed, been such a show of spirited enterprise in general agricultural progress in Colchester, that we earnestly hope the efforts now being made to have the Exhibition there will be crowned with success. The mere holding of a Provincial Exhibition might give an impetus to rural improvement, the beneficial influences of which would be carried forward into a long course of future years. At the same time we consider it our duty to point out clearly to the public that the choice of locality does not depend upon any mere whim of the Government or the Board of Agriculture, or upon political or other pressure that may be exerted by any particular County, but is to be determined solely by the earnestness of purpose of the Farmers themselves, as shown by their preparation and organization for carrying out the Exhibition to a successful issue.

WE are desirous of publishing Lists, as well as any other particulars of interest, of all Herds of Thorough-bred Live Stock in the Province, so that our farmers everywhere may know what is being done for the improvement of Stock. We begin with a List of Colonel Laurie's famous Devon Herd at Oakfield :—

1876.

No.	NAME.	Sire.	Dam.	When calved.
101	Cow Lady Anne	"156"	"244"	May 12th, 1865
102	" Primrose	"261"	101	June 8th, 1868
103	" Lady Pink	"261"	101	May 6th, 1869
104	" Maid of Miller Hill	"261"	101	April 26th, 1871
105	Heifer Blossom	81	119	Nov. 3rd, 1871
106	Bull Havelock	"441	(254)	June 25th, 1869
107	Heifer Violet	81	103	Dec. 26th, 1872
111	" Geranium (dead)	81	102	April 11th, 1873
109	" Buttercup } twins	81	101	June 16th, 1873
110	" Mayflower }			
108	" Daisy	81	104	July 28th, 1873
112	" Rose	87	103	Jan. 15th, 1874
113	" Lily	106	105	May 4th, 1874
114	" Verbena	106	101	June 9th, 1874
115	Bull Wellington (sold)	106	102	May 2nd, 1874
117	Heifer Tulip	106	104	Dec. 1st, 1874
116	Bull Sir Hastings	103	103	Nov. 2nd, 1874
119	Cow Margaret	"261"	101	April 26th, 1870
121	Heifer Miss Grant	81	119	May 1st, 1873
120	Bull President	87	119	June 2nd, 1874
118	" Lord Clyde	106	103	April 20th, 1875
126	" Sir Chas. Napier	106	107	May 26th, 1875
127	" Sir John Moore	106	105	June 2nd, 1875
123	Heifer Orange	106	101	July 12th, 1875
129	" Kalmia	87	119	Sept. 7th, 1875
131	" Pansy	106	104	Nov. 12th, 1875
130	" Snow-drop	106	103	Nov. 13th, 1875
122	Bull Prince Alexander	[888]	1645/2	Sept. 18th, 1874
124	Heifer Princess Dorothea	[888]	2426/6	June 28th, 1874
125	" Princess Victoria	[888]	2717/2	July 29th, 1874

The numbers within quotation marks, "156," are those of the Canadian Devon Register; those within parentheses the American Devon Herd Book, all other numbers are of the Nova Scotia Devon Register.

The following thorough-bred animals have been recorded in the Nova Scotia Stock Registers:—

JERSEY REGISTER—BULLS.

CI.—Round Robin, calved 8th March, 1875. Bred by William Duffus, Esq., Halifax. The property of Israel Longworth, Esq., Truro.
Sire: *Lord Seafield*, out of Heifer Lady Pride, bred by Thomas LeCornu, Esq., St. Ouen's Parish, Jersey, out of Silver Star, by Duc de Normandie, Jersey Herd Book, 124, bred by C. Le Maestre, colour brown, gained second prize at the Jersey Royal Agricultural Show in 1870.
Dam: *Fairy*, bred by Mr. Jacquerel, of LeJacq, St. Ouen's Parish, out of Lady Jane, by Young Glory, colour grey, Jersey Herd Book, 137, gained first prize at Exhibition in Jersey, 1870, William Avrill, owner.

DEVON REGISTER—BULLS.

CXXVI.—Sir Charles Napier, calved May 26, 1875. Bred and owned by Col. Laurie, Oakfield.
Sire—Havelock, (106) g. s. Prince of Wales.
Dam—Violet, (107) by Gen. Grant.
g. dam—Lady Pink, (103) by Wilmot.
g. g. dam—Lady Anne, (101) by Lord Elgin.

CXXVII.—Sir John Moore, calved June 2nd, 1875. Bred and owned by Col. Laurie, Oakfield.
Sire—Havelock, (106) g. s. Prince of Wales.
Dam—Blossom, (105) by General.
g. dam—Margaret, (119) by Wilmot.
g. g. dam—Lady Anne, (101) by Lord Elgin.

DEVON REGISTER—HEIFERS.

CXXVIII. — Orange, calved 12th July, 1875. Bred and owned by Col. Laurie, Oakfield.
Sire—Havelock, (106) g. s. Prince of Wales.
Dam—Lady Anne, (101) by Lord Elgin.
g. dam—Fancy, by Don Juan.
g. g. dam—Roulette, by The Duke.

CXXIX.—Kalmia, calved Sept. 7th, 1875. Bred and owned by Col. Laurie, Oakfield.
Sire—Hartland 2nd, (87) g. s. Hartland.
Dam—Margaret, (119) by Wilmot.
g. dam—Lady Anne, (101) by Lord Elgin.
g. g. dam—Fanny, by Don Juan.

CXXX.—Snow-drop, calved Nov. 13th 1875. Bred and owned by Col. Laurie, Oakfield.
Sire—Havelock, g. s. Prince of Wales.
Dam—Lady Pink, by Wilmot.
g. dam—Lady Anne, by Lord Elgin.
g. g. dam—Fanny, by Don Juan,

CXXXI.—Pansy, calved Nov. 12th, 1875. Bred and owned by Col. Laurie, Oakfield.
Sire—Havelock, g. s. Prince of Wales.
Dam—Maid of Miller Hill, by Wilmot.
g. dam—Lady Anne, by Lord Elgin.
g. g. dam—Fanny, by Don Juan.

SHORT HORN HEIFER CALF.

CXXVI.—Red Rose, red with star on forehead, calved 20th Sept., 1875. Bred by and the property of Ross Chipman, Cornwallis, King's County, Nova Scotia.
Sire—Roland, XXXII.
Dam—Lily, CIV., by Charles, 9 N. B.
g. d—Second Duchess, 28 N. B.
g. g. d.—Duchess 1st, by Brunswick (831)
g. g. g. d.—Peggy 2nd, by Wallace.

SHORT HORN BULL.

Ben Butler, red and white, calved 15th February, 1871. Bred by and the property of William Fawcett, Sackville, Westmoreland, N. B. 40 N. B. H. B.
Sire—Constance Duke, 7753 A. H. B.
Dam—Flora, 33 N. B. H. B. Bred by James Cowan, Galt, Ontario.
g. dam—Rose Hill, by Prince Alfred, 553 A. H. B.
g. g. dam—Daisy, by Duke of Athol, 183 C. H. B., and 1462 A. H. B.

SHORT HORN COW.

CXXVII.—Cawood's Rose, roan, calved February 4th, 1867. Bred by William Smith Cragg, Esq., of Arkholme, (Lunesdale) near Carnforth, Lancashire, England. The property of Professor Lawson, Lucyfield Farm, Bedford Basin, Nova Scotia.
Sire—Lord Cawood 3rd, 24368.
Dam—White Cow, by Sir Charles Tempest's Golden Eclipse, 14625.
g. d.—Roan Cow, by Reindeer, 15150, (Reindeer was of the Nonpareil family of the Herd of Mr. Housman of Lune Bank).
g. g. d.—Red Cow, by Horton Boy, 13050, (Horton Boy was bred by Mr. J. W. Foster, of Sir Charles Tempest's Verbena tribe).
g. g. g. d.—A Roan Short Horn Heifer selected from a large number, and purchased at Underley Hall, (Earl of Bective's), in 1845.

The Cragg Herd, to which Cawood's Rose belonged, was thus described by Mr. Thornton in the Sale Catalogue:—"The stock has a great local reputation; animals have been sent from the pastures to the Lunesdale and Lancaster shows, and carried off many of the premiums, the cup for the best collection of animals having been won in 1865, and again in 1869; many of the stock have been sold fat to the butcher at from 40 to 50 guineas each. The animals are of large scale and great substance, combining therewith excellent dairy properties, very uniform in character, and regular breeders."

Cawood's Rose was recognized by Mr. Thornton, and all the noted Short Horn breeders at the sale, as the finest Cow of the Herd, and her calves brought higher prices than any others. The Cow was bought at Arkholme, September, 1875, for 87 guineas. An advance on the purchase price was offered after the sale, both in London and Liverpool.

Produce of Cawood's Rose.

Cawood's Rose 4th—roan, calved Nov. 6, 1870; by Lord Chancellor, 26622. Sold to Earl of Bective, M. P., 52 guineas.
Cawood's Rose 6th—red and white, calved Feb. 16, 1872; by Lord Chancellor, 26622. Sold to W. Handley, 53 gs.
Cawood's Rose 7th—red and white, calved Jan. 18, 1873; by Lord Chancellor, 26622. Sold to Earl of Bective, M. P., 40 guineas.
Cawood's Rose 8th—white, calved Dec. 29, 1873; by Captain Tregunter, 28136. Sold to Earl of Bective, M. P., 100 guineas.
Cawood's Rose 10th—white, calved Nov. 24, 1875; by Captain Tregunter, 28136. At Lucyfield Farm.

SHORT HORN HEIFER CALF.

CXXVIII. — Cawood's Rose 10th, white, calved 24th November, 1875. Bred by Professor Lawson, Lucyfield Farm, Nova Scotia.
Sire—Captain Tregunter, 28136.
Dam—Cawood's Rose, CXXVII., by Lord Cawood 3rd, 24368.
g. d.—White Cow, by Sir Charles Tempest's Golden Eclipse, 14625.
g. g. d.—Roan Cow, by Reindeer, 15150, of the Nonpareil Family of the Herd of Mr. Housman, Lune Bank, Lancashire.
g. g. g. d.—Red Cow, by Horton Boy, 13050. (Horton Boy was bred by Mr. J. W. Foster, of Sir Charles Tempest's Verbena tribe).
g. g. g. g. d.—A Roan Short Horn Heifer, selected from a large number, and purchased at Underley Hall, (Earl of Bective's), in 1845.

SIRE OF CAWOOD'S ROSE 10TH.

Captain Tregunter, 28136, white, calved October 10th, 1870. Bred by Mr. Bowly.
Sire—Second Duke of Tregunter, 26022.
Dam—Gazelle 5th, by Seventh Duke of York, 17754.
g. d.—Britannia, by Fourth Duke of Oxford, 11387.
g.g.d.—Buttercup, by Snowstorm, 12119.
g.g.g.d.—Helena, by Hampden, 8129.
g.g.g.g.d.—Silvia, by Leo, 4208.
g.g.g.g.g.d.—Genevra, by Henwood, 2114.
g.g.g.g.g.g.d.—Gazelle, by Sir Stephen, 1456.
g.g.g.g.g.g.g.d—Millicent, by Prince of Waterloo, 528.

g.g.g.g.g.g.g.g.d.—by Mayflower, 425.
g.g.g.g.g.g.g.g.d—by a bull of Mr. Nicholson's, descended from the stock of Mr. J. Brown, of Aldborough.

SIRE OF THE DAM OF CAWOOD'S ROSE.

GOLDEN ECLIPSE, 14625, white, calved March 10th, 1855. Bred by Sir C. R. Tempest, Bart., Broughton Hall.
Sire—Fair Eclipse, 11456.
Dam—Rosette, by California, 11238.
g. d.—Roseberry, by Chance, 6846.
g. g. d.—Strawberry, by Belvedere, 2nd, 3127—by Bellerophon, 3119—by Kitt, 2179.

MR. JACK has kindly allowed us to peruse a letter from Mr. Archibald, of Sheet Harbour, containing some additional facts of interest in connection with the discovery of *Rhododendron maximum*, and from which we extract the following:—"My knowledge of these bushes goes back as far as thirty-five years. When a boy at my grandfather's house in Upper Musquodoboit, old Peter Cope and his squaw Molly came to our house one night for lodgings. Having just come through the woods from Sheet Harbor, they brought with them some very fine branches of these green bushes, and it being winter the green leaves were new to us. They said that they had found them on their way, that quite a number of the bushes were growing in one place only, but appeared averse to describing the locality. They remained at my grandfather's over night, got two pork hams, and left before daylight, leaving us the green branches. Shortly after that I moved to Halifax, and by degrees forgot the ham and bush story. Coming to Sheet Harbor about eighteen years ago, and finding the descendants of the old Copes here, the pork and green bushes vision of my youth was revived. I found that most of the Indians knew the whereabouts of the bushes, but no white man that I could find had ever seen them, and but few had even heard of their existence, though I think that some old white hunters from Musquodoboit had been to them. I determined to see them, and induced Joe Paul and Peter Francis, (Indians who still live here), to guide me to them in the winter, 1858. At that time there were some twelve or fifteen bushes visible above about a foot of snow, the largest being about four feet high; they pointed out dead stalks of what they said had been green bushes. Some of these were about seven or eight feet high, and of four inches diameter at the ground. These, they said, had, when green, borne white flowers in summer, but did not speak of the small ones bearing flowers. At that time I brought several specimens to the Harbor, and showed the locality of them to many of our loggers. The Indians took Capt. Chearnley to the ground about ten years ago, and told me that the Capt. had taken some to Halifax to plant in his garden. More recently some gold hunters, supposing that the bushes indicated gold, dug a few small holes upon the ground, but without success. Fire passed over one corner of the ground a few years ago, previous to which they had about disappeared, and I have thought that the Indians destroyed them, or might it be that the seed comes from the white flower, and that whites and moose destroyed them before getting large enough to bear flowers? I will get my friend Balcom (Dep. Surveyor) to draw me a rough sketch of the locality, and take it to you when I go to Halifax this week.

"Yours very truly,
"D. W. ARCHIBALD."

SEVENTEENTH DUKE OF OXFORD, the sire of the Cornwallis Bull, Gwynne of the Forest, is advertised at Roschill, Lancashire, England, to serve cows this season at a fee of ten guineas each. There are many farmers in Nova Scotia who would think ten guineas a great price to pay for a bull altogether, instead of for a single service. But the number of such farmers is fortunately growing less every year.

WHEAT CULTURE.

TRURO, JANUARY 18TH, 1876.

To the Editor of the Journal of Agriculture:

SIR,—Having for some time entertained a strong conviction that wheat should be more extensively cultivated in Nova Scotia than at present, and that the people of the Province are sufferers financially and physically in consequence of the comparatively small acreage given to this cereal, I have wondered,—not being a wheat grower,—how I could best present so important a subject to your readers. At the late October Term of the Supreme Court at Amherst, His Honor Mr. Justice McCully, feeling deeply impressed with the importance of the subject, in his address to the Grand Jury stated that "The bread of any country is a matter of serious importance, the amount sent abroad for this article is very considerable, and he would strongly recommend the old plan of every farmer raising his own bread, thus securing quite as healthy an article as is procured from abroad, and conferring at the same time immense advantages on the country." While I can readily imagine, at this time of continued depression in every interest, how comfortable our farmers would feel if they had the money in their pockets that is sent abroad for the superfine extra flour brought into the country in hundreds of thousands of barrels, if not millions, it requires a knowledge of chemistry, to instruct me how much more comfortable they would feel if they only lived upon the dark, wholesome home article. If I am not a wheat grower I am much less a chemist, wherefore, Mr. Editor, if you will not demonstrate the proposition I have enunciated with your own professional views upon it, will you be good enough to publish those of the American Doctor E. Cutter, embodied in a very able leading article that appeared a short time ago in *The Boston Journal of Chemistry*, entitled, "*Does the use of flour promote affections of the nervous system?*" It is suggestive of the great importance of the subject under consideration, and its perusal, I think, cannot fail to interest our farmers, and furnish them with many valuable hints, applicable to their calling.

Yours, &c,
I. L.

"The Roman soldier, in the time of Julius Cæsar especially, was the type of the most vigorous manhood, probably, that the world ever saw. For fortitude and endurance in warfare, labour and suffering in campaigns, and perseverance under hardship, his reputation has not upon the whole been surpassed. In his day there were no railroads for transport, not many bridges for passing rivers, no Goodyear to supply india-rubber for protection to feet, head, or body. He had no pontoons, or telegraph, or balloons. No powder, nor gun, nor rifle, nor cannon aided him in destroying his enemies. His was a hand-to-hand conflict, with javelins, swords, and battering-rams. He interviewed his foe in person, and such was his individual physical power and development that his opponents almost invariably succumbed, and Cæsar was master of the known world.

How did the Roman soldier come to possess such a wonderful strength of physical and mental organization that he could accomplish feats of prowess which fill so large a space in the history of the world?"

We know that he lived out-of-doors, inhaling plenty of pure oxygen, and exhaling carbonic acid, which was immediately borne off and its place supplied with fresh air. If he had lived in one of our modern houses, heated with base-burners and laboriously shut up air-tight, with no ventilation except an occasional opening of a door, breathing an atmosphere tainted with carbonic oxide and carbonic acid gases, besides the animal exhalations, with window-blinds and sashes closed, and curtains drawn, (which is the general average condition of the houses of to-day), we think that his animal (*anima* means breath) powers would not have allowed him to accomplish his historic achievements.

But the Roman soldier besides breathing had to eat. No matter how much fresh air and exercise he had, his physique would have failed with imperfect food. He could not have developed muscle

enough to climb mountains, swim rivers, fight hand-to-hand fights, and endure privations, unless his digestive organs had been fed with aliment which supplied the waste of tissue consequent upon exertion, and the withdrawal of the nerve force, vitality, or life, or whatever you are pleased to call that dynamic power which carries along the currents of our physical existence. In speaking of muscular actions we are apt to regard the muscles themselves as the sources of power. But if we should separate the nerves which connect the given muscle or set of muscles with the spinal or cranial system of nerve centres, it would be found that they would become as powerless for action as the engine when steam is cut off, or a machine when its connecting belt with the motor is slipped off. So that it is more in accordance with the facts to speak of the nerve force as the primal source of all the muscular forces of the body. In this light we cannot conceive of the Roman soldier as other than a person of immense nerve power. It might not have been an intellectual nerve power, but it must have been a neurotic power sufficient to wonderfully sustain and control the still more wonderful combination of mechanical forces found in the muscular system. It is very generally acknowledged by physiologists that there is more or less waste of nerve and muscular tissues during the exercise of the varied functions of the human body. No light is seen, no sound is heard, no touch is felt, no smell is perceived, respiration is not kept up, digestion, secretion, excretion, cerebration, phonation, and muscular movements are not performed, without a waste of the tissues which are the agents of the functions named. Now the Roman soldier must have had just this tissue destruction, and he must have had it supplied in his food, or else he would have broken down under such severe tests. History shows that he did not break down, and it is a very interesting question what he mainly subsisted upon. In looking over the list of the commissary department of the Roman army we do not find the modern diet table. *Frumentum*, grain or wheat, was the main article of diet. A bag of wheat was a regular part of the outfit. It was whole wheat, not flour. When the soldier was hungry all he had to do was to eat it by chewing it whole on the march; or at a halt, or in camp, soaking it in water, and then rubbing up with a stone, eat it either uncooked or boiled. Any of the animals he might chance to find were caught and appropriated as additional food, and were so much clear gain. There might be at stationary camps other articles of diet, but in the long run unbolted wheat was his principal food. This being the case, it is clear that open air life and wheat are, or were, the elements that can make a perfect physical organization. It is not here asserted that no other combination of fresh air and food does not furnish the same food data; but it is desired to emphasize that wheat has the undisputed character of a perfect food. Dr. Nichols, the editor of this journal, says he entertains the profoundest respect for a grain of wheat: 'It is a most marvellous combination of substances, admirably adapted for the building up and sustenance of the tissues of the human body.' It is emphatically the food of mankind. Its history is traced back to the earliest ages. It has been found buried with the mummies of Egypt. Our modern civilization has adopted it, or rather preparations from it. The raising of wheat and carrying it to market occupy the attention of large portions of the human race. Last year it took two hundred and twenty-five full-sized ships to carry the surplus crop of Californian wheat to the markets of the world. The manipulation and consumption of flour from wheat furnish employment for a much larger number of people than the producers and freighters; and, if we include those who eat the food prepared from wheat and wheat flour, there is hardly an individual in any civilized community throughout the world who does not come into the most intimate relations with bread, pies, cake, puddings, gruels, crackers, muffins, dumplings, etc., all derived from wheat. The consumption of flour as food being so universal and large, may we not be allowed to infer that the characteristics of the tissues of the bodies of our race must be determined in some measure by this flour? because these tissues are built up, nourished and sustained by the food which is consumed.

The old Roman soldier was a perfect animal in organization, and may we not deem it reasonable to conclude that his diet may have made him, or that he could not have attained his condition without his wheat or some other analagous grain? What diseases were prevalent among his comrades we know not, as no hospital records have been handed down to us. In the face of what we know and have already stated, may it not be admitted that generally he enjoyed good health? for no sick or diseased soldiers could have done the work that was accomplished.

Now, of what did his wheat food consist? From tables published in Johnson's 'How Crops Grow,'—a most interesting and valuable book, deserving a place in every library in the land,—we ascertain the following:—

Composition in 1000 parts of substance of

	Water.	Ash.	Potash.	Soda.	Magnesia.	Lime.
Wheat grain.....	143	17.7	5.9	0.6	2.2	0.6
Fine wheat flour..	136	4.1	1.5	0.1	0.3	0.1

	Phosphoric Acid.	Sulphuric Acid.	Silica.	Sulphur
Wheat grain ...	8.2	0.4	0.3	1.5
" flour	2.1	0.0	0.0	0.0

Amount of starch in wheat.....59.5 per cent.
" " flour.....63.7 "
Albuminoids in wheat.....13. "
" flour.....11.3 "

It will be seen that there is a considerable withdrawal of mineral elements in flour, while the starch is about the same. The withdrawal of potash is 5.5—1.5=$\frac{4}{5}$, not quite $\frac{4}{5}$; of soda, 0.6—0.1=$\frac{5}{6}$; of magnesia, 2.2—0.5=$\frac{17}{22}$; of lime, 0.6—0.1=$\frac{5}{6}$, the same as of soda; of phosphoric acid, 8.2—2.1=$\frac{61}{82}$, almost $\frac{3}{4}$.

Note that phosphorus or phosphoric acid is found largely in the albumen of the nervous tissues It is also found in the bony tissues.

Chemical constitution of nerve (Vangeala):—

Albumen	7.00
Fat	5.24
Phosphorus	1.50
Osmazome	1.12
Acids, salts, sulphur	5.15
Water	80.00

Albumen is found solid in nerves. Its composition, according to Scherer, is as follows:—

Carbon	54.9
Hydrogen	7.0
Nitrogen	16.0
Oxygen, Sulphur, Phosphoric acid	22.4

Here there is a withdrawal in flour of nearly seven-eighths of the proper nerve food found in the wheat, the main ration of the old Roman soldier. It is probably the soluble and assimilable form of phosphates, one that the digestive system can absorb and the nutritive system appropriate to its sustenance. Thus modern civilized mankind are generally living upon a food which is deprived of seven-eighths of its nerve producing, sustaining and corroborating element, *phosphoric acid*.

We raise the question seriously, Does the use of flour promote (that is, assist, predispose to) affections of the nervous system? Mark, we do not ask whether it is the sole exciting cause, but whether if mankind now received in its bread eight-eights of phosphoric acid instead of one-eighth there would not probably be less disease of the nervous system.

Eight-eighths were designed for man's use by the Creator. Eight-eights gave the Roman soldier his nerve energy and muscle. Suppose he had had only flour bread, and get one eighth; would he not have sensibly suffered? Could he have carried his sixty pounds of baggage? Indeed, we find that the absence of what Cæsar calls *frumenta*, corn or grain (not our maize or Indian corn, which was then undiscovered) *par excellence*, or wheat, from their ration, was the cause of tumults, disturbances, and sometimes war. Suppose Cæsar had started a first-class modern flour mill, and separating almost

seven-eighths of the nerve food from their wheat, had fed his soldiers with the unnatural manufacture; may not we be allowed to think there would have been equal trouble? For one cannot imagine such a large diminution without a corresponding lack of tenacity in those tissues needing and accustomed to a full supply. To put it differently, suppose Cæsar had removed 87½ per cent. of his soldiers' proper nerve food from their wheat; would he not have had a right to expect only 12½ per cent of energy, tone or vital force in those soldiers' nerves? And yet this is just the state of things our boasted modern civilization has put us into. Because public opinion says that the whiter and lighter the bread is baked the better it is, therefore all Christendom acknowledges the declaration, and eats the food which contains the less of solid, substantial elements the whiter and lighter it is. It cannot be denied that neurotic complaints are very common and chronic. Never were there so many insane people; never were physicians called upon oftener to treat nervous diseases than at present. How often people drop dead from heart disease, found upon examination to be solely from the want of proper innervation. How marked is the prevalence of paralysis. How the nerves of special sense suffer. We have trouble with the eyes very commonly. Our children, if we have any, grow up thin, unreal, *nervous*, anæmic. They die of consumption, and break down readily under the discipline of schools. Then we see a vast amount of nervous diseases in women of every condition and class of society. Go into any public assembly in New England; see the cry of distress and care impressed upon the countenances, a cry for something they lack. It is a beseeching look. Some say it is from hard work! Well, it is hard work to fight the battles of life with but 12½ per cent. nerve food!

May it not be that the diet of our farmers, *white bread, pies, cakes, doughnuts, crackers*, deficient as they are in the full amount of nerve food, is partly the cause of their own and particularly their wives' decay, and distressed looks, and decayed teeth, and weak nerves, that tremble shake and ache when engaged in services which should be pleasureable not painful? Consider also the amount of nerve force it takes to digest the starch which is a main constituent of flour, compared with the amount required to digest animal food containing the same amount of nerve food. Sometimes cases of dyspepsia (difficult digestion) seem to depend upon the fact that the nerve power (so scantily fed upon flour) is all used up in labor and work, and in carrying on the other functions of the body so that there is none left to digest the food. In other words, the system is too tired to eat. What follows? As a matter of course the whole sytem is unnourished, the other functions fail in their full performances, and if this be carried too far the nervous system rebels, and we have neuralgia, headaches, and distress in various parts of the body; and, if these things be continued, disease results, sometimes followed by death.

The fact is that we are surrounded constantly by the causes of disease. Vegetation is subject to the same law. The moment animal and vegetable systems are reduced in their vitality, then step in parasites, animal and vegetable, which are called disease. In potatoes, for instance, that rot, it has been found that there is a withdrawal of lime to nearly 75 per cent. of the normal quantity. The aphides and fungi and microscopic algæ prey upon the tubers, and by some are thought to be the cause of the potato rot; but, as they are found wherever there is decay, animal or vegetable, it is more probable that the loss of the mineral constituents so weakened the vitality of the potatoes that they fell an easy prey to the insects and spores which are everywhere present, ready to act if they get a chance. Our present system of agriculture allows the ground no time to rest, and, when the soluble salts of mineral plant food are exhausted from the soil, plants grown in that soil The old Mosaic law of letting the ground enjoy the rest of a sabbatic year, (one in seven), allowed the undissolved lime, soda, potash, magnesia, salts, etc., to become soluble under the atmospheric influences, so that when the land came to be planted the next year it possessed the materials in a soluble form for making growths with their full amount of mineral constituents. Thus built up, the plants resist the aphides, and the fungi, and, as people say, they do not rot.

Dr. Nichols, the able editor of this paper, said that when he gave his land a dressing of salts (sulphate of magnesium) then it bore perfect wheat, while before it was a failure. The same gentleman has a cold grapery in which he raises large quantities of perfect and most beautiful fruit, entirely free from rust, mildew, smut, mould, or insects. The peculiarity of this grapery consists in having no manure but mineral manure in the form of salts of the various alkaline earths. The supply was put in the border outside, and is calculated to last for thirty years! Eight of these years have passed and the abundance, perfection, and beauty of the fruits are a growing and indisputable comment upon the doctor's wisdom and the law of the indispensableness of mineral food to perfection in vegetation.

If mineral salts are so necessary to healthy vegetation, is it unfair to reason that animal life needs them just as much? And as nerve force is so indispensable a part of animal life, do we reason incorrectly when we assert that in our opinion nervous disease would not be so prevalent if the human system were fed with all the 100 per cent. of phosphoric acid that God intended it should have? Ours is such a bustling, active, nervous age, that we need more nerve food than ever before in the history of the world. How many of us wear out, how many of us suffer, how many of us fail from want of proper nerve food none can tell. One thing is certain the old Roman soldier did not give out until the introduction of wealth brought on an age of the most extravagant living the world ever saw. If the diet and habits had been kept down to the wheat standard in the palmy days of the empire, Rome too might have withstood decay (other things being equal) a much longer time. And what perpetuity can we expect for our own country, if we rear a weak race with feeble nervous systems on food which has lost nearly 87½ per cent. of phosphoric acid?

The subject is one of importance. If the case has been made out, even feebly, public opinion should be moulded in the right direction. This can be done only by united, continuous effort of right-minded people. Let these, when convinced, say so, and become centres around

PROVINCIAL EXHIBITION.

(From the "Colchester Sun," 26th January, 1876.)

From the present aspect of affairs we think we are safe in concluding that Colchester County will this year, 1876, hold what may be termed a "Provincial Agricultural and Industrial Exhibition." As many of our readers are doubtless aware, applications have been made to the Central Board of Agriculture of this Province, asking for Colchester the privilege of holding such an Exhibition, in terms of the Act passed during the last session of the Local Legislature, which gives a bonus of $4000.00—to be expended in prizes—to any County willing to erect suitable buildings and otherwise satisfy the Central Board that such an Exhibition will be successfully carried out. This responsibility Colchester is, or, at least, will in a few days, be prepared to assume.

Yesterday a meeting was convened in Truro, in response to a circular issued by W. M. Blair, Esq., President of the Onslow Agricultural Society, who, it will be remembered, was appointed at a public meeting held in January, 1875, to look after the interests of this County in the matter of a Provincial Exhibition, and to communicate with the authorities on the subject, when the proper time and opportunity were presented. The meeting was

not as large as we could wish, still there was a fair representation from some Agricultural Societies, particularly that of Onslow. Other interests than those of Agriculture were represented, and we feel certain that the gentlemen who compose the committee will do all in their power to further the best interests of the Exhibition, and that possibly a more judicious selection could not have been made had the meeting been twice as large.

At 11 o'clock, a. m., the meeting was organized by appointing J. B. Fraser, Esq., of Shubenacadie, as Chairman, and Isaac Barnhill, Esq., of Onslow, as Secretary. After a few remarks by several gentlemen, the meeting unanimously adopted the following resolution:

Resolved, That this meeting highly approves of the action of W. M. Blair, Esq., in applying to the Central Board of Agriculture on behalf of this County of Colchester, with the view of holding a Provincial Exhibition during the current year, in terms of the Act passed by the Provincial Legislature in the session of 1875.

After a series of remarks on the part of many present, all being favourable to the holding of the Exhibition, and all sanguine as to its success, the following gentlemen were unanimously chosen as the Executive Committee:

W. M. Blair, W. N. Dickson, I. Longworth, J. B. Fraser, C. P. Blanchard, George Layton, Gardner Clish, J. B. Calkin, J. F Blanchard, and the Presidents and Secretaries of the different Agricultural Societies throughout the County.

The following resolution was adopted without a dissenting voice:

Resolved, That each individual present guarantees, *pro rata*, the sum of $50.00 towards any deficiency in the expenses of the Exhibition.

Still further towards this object, it was resolved that steps should be taken to place the matter beyond the possibility of a doubt, and a committee, consisting of James D. Ross and James A. Leaman, was appointed to circulate a paper for the purpose of raising a large guarantee fund.

The idea is not a new one, and has worked well in other places, and we trust that this community will show its appreciation of the efforts being put forth to secure the holding of this Provincial Exhibition in Colchester, by swelling the list to gigantic proportions.

Let the whole County move in this matter of an Agricultural and Industrial Provincial Exhibition, and we shall never have cause to regret it.

RHODODENDRONS.

About the finest of all hardy evergreen shrubs is the Rhododendron, whether you take it for its hardiness, effectiveness in pleasure-grounds, anywhere and in any form, game cover—owing to its freedom from the ravages of hares and rabbits—for its splendid flower, which so beautifies the landscape for many weeks and months together in spring and early autumn, its kindly disposition to being forced into flower early, or its general decorative qualities, which are splendid in the conservatory or elsewhere. All these qualities being put together no other genus can approach or in any way equal it. In parks, where it luxuriates like a Bay Laurel in its native soil, it grows very rapidly, and literally runs along the ground, and roots and perpetuates itself freely. When it does this it makes splendid cover for game. This remark, however, applies chiefly to the ponticum breed; and, when it holds good, it is a sure sign that most of the whole tribe of hybrids will thrive equally well. We are indebted chiefly to the Waterers for our great variety of hybrids, which are endless; and, seeing that they are such hardy, fine shrubs, it is as well that the variety is great, or the few colours would otherwise perhaps render them too monotonous when in flower.

It is generally undersood that the Rhododendron will not thrive in soils that are calcareous, and no doubt this is so: but in plantations where accumulations of leaves, weeds, and sticks have been going on for years and years, they soon establish themselves. Many instances may be pointed out where utter failure to grow the Rhododendron in newly formed gardens has occurred in the older and shadier parts they have recovered and grown into luxuriant flowering shrubs. No shrubs stand shifting from place to place better than the Rhododendron, and they may be lifted at almost any season, except perhaps just at the growth-making time. The Rhododendron bears pruning and cutting into shape quite as well as any evergreen, and should, therefore, never be allowed to run away unshapely for want of the pruning knife. Standard Rhododendrons are magnificent objects when associated with dwarf ones, and amongst large trees and grass they have a fine effect. It has been noted how well they thrive in connection with Oak trees, much better than with Beech or Elm, and no doubt this is owing to the Oak not being such a greedy surface-feeder as the other trees, and is more contented to take for its motto, "Live and let live."

One of the most enjoyable of walks is one of grass 10 or 12 feet wide run through a plantation, and planted on either side with Rhododendrons. Such a one is found at Floors Castle, where a broad border on both sides is planted thickly with thousands of the finer hybrids and ponticums, and dotted at certain distances with standards such as the Waterers of Knap Hill and Bagshot are famed for. Another broad gravel terrace walk borders a portion of the park, above a mile long, and, supported and fenced from the park by a sunk stone dyke, has the wood side planted again with many thousands of the finer hybrids and brilliant standards towering above them at irregular distances. These extensive borderings of Rhododendrons are occasionally thinned out, and other plantations are made gay with the thinnings, and thus a healthy state of matters is kept up for those left and those taken away, both being benefitted, and extra growth and flowers is the consequence of those thinnings. All the leaves that fall from the trees are allowed to remain about them, and the rakings of the walk and broad grass border are also scattered in about them during the leaf-fall, and thus a natural protection is afforded them, and at the same time food if supplied in the form of surface dressings, which is the essence of growth to this handsome family.

A common practice with most people is to dig their borders every year. If the object is to have long sticky growthless plants do so by all means, but where a healthy shrubby plant is wanted a spade should never be used after it has been once planted. A Rhododendron is a flat surface-rooting plant, and it stands to reason that if you practice digging for the sake of appearance (?) you must sacrifice the surface-feeders, which means simply a stagnation of growth. A Rhododendron is more inclined to shoot surfacewards and upwards than downwards, and hence we have never hesitated to plant on an old tree-stock or on a big stone sooner than go to the expense and trouble of grubbing it out: these have thriven amazingly well, thanks to top-dressings alone. It is useless giving a list of Rhododendrons, for all are more or less beautiful when the different shades of the same colour are grouped together. As a rule, however, I prefer the standards of the brilliant crimson and rosy kinds with their splendid flowering heads towering above their compeers, with a dense background-work of Privet, Laurel, Bracken, &c. *K—Gardeners' Chronicle.*

THE CENTENNIAL.

From the "Live Stock Journal."

What a grand opportunity for a retrospect; and what class more need a review of their past, and a good resolution for the future, than farmers. We do not propose to review the past century of agricultural progress, for our space is quite too limited, if we had the facts at our command, for this purpose. But a cursory examination of all the inventions which have enabled the farmer to dispense with nine-tenths of the hand labor, will find them nearly all within the century of our existence as a nation; and many of the most important, such as the mower, reap-

er, thresher, horse-rake, horse fork, and steam plow have come within the last twenty-five years, and the last is yet to be perfected to adapt it to general use. The grain raiser of to-day cuts and shocks ten acres of wheat with four men, while less than a century ago the four men would only cut and shock two acres. The improved implements now enable the intelligent farmer to work a two hundred acre farm as easily as fifty acres in that early time. And, when a hundred acres of grain is harvested, he may thresh at the rate of 500 to 1,000 bushels per day. But, perhaps, with all these facilities for raising crops, the price may be so low as to be unremunerative? No, the price is generally higher than in those early times. Wheat, oats, barley, rye, corn, bear a higher average price than fifty years ago. If we turn to the dairy, we find the price of butter and cheese has quite doubled in that time. The price of meat is much higher, a yoke of oxen brings double, a span of horses three times former prices. It therefore follows that a farmer may get a better living with much less labor, and yet he complains of hard times, of difficulty to make his income and expenditure correspond. But with easy getting has come much easier spending. Extravagance and show has reached even the farmer. He has caught the infection from other classes, who, if they had only their own, are less able to spend than himself. His productions are the source of nearly all profits, but, making little study of trade and commerce, he allows the lion's share to go to the non-producers.

But the farmers have been learning for the last twenty years as never before, that if they are to reap the advantages which their position as the great producers entitle them, they must study their business and its relations to all other interests as much as do manufacturers or mechanics. And, taking a lesson from other industries, they saw that an intimate knowledge of all the details, a constant effort to cheapen the cost of production, and a coöperation of the producers to control commercial value, prevailed generally. Hence, to this end come agricultural societies. dairymen's associations and patrons of husbandry. All these tend to the same end, the harmonious coöperation of farmers as a class. They saw great corporations combining to unreasonably assess their crops on the way to market, and they answered combination with combination. They saw that, if numbers and unity had power, they could offset the kings of the soil against the kings of the rail. The kings of the rail, with millions of money, succumbed to the kings of the soil with millions of votes. These lessons on the practical operation of unity of numbers has given a powerful stimulus to the order of Patrons of Husbandry, and, through this organization, (which is only a well organized farmer's club), farmers are likely to make much greater progress in social and industrial education in the future than in the past. These granges, which reach every neighborhood, are to become the primary schools of the farmer. Here he discusses all the questions pertaining to his interest, and he soon learns how to ship his own products even to foreign countries. It seems likely to lead to a complete coöperation of the three millions of farmers—not all of them joining the order, but those who are in it will be the most influential and carry the rest in the current.

Farmers are thus becoming more independent and self-reliant than ever before. We think that a survey of the field will convince any one that the farmer, least of all, has reason to complain at the beginning of this Centennial Year.

SHORTHORN SALES FOR 1875.

It seems that neither panic nor depression in general business can affect the appreciation in which these cattle are held. The sales of the past year aggregate nearly twice as much as those of 1874, being $1,832,383 to $1,004,159. In 1874, 2,592 animals were sold at an average of $387, while in 1875 4,347 animals were sold at an average of $422 per head. This increase in the average price is noteworthy, when we consider the greater number sold and the greater dulness in general business. It may be considered remarkable that while high bred and thoroughbred horses have declined materially in price, thoroughbred Shorthorns have risen, not only on the best strains, but $39 per head, on the general average, of 4,347 animals.

Perhaps the difference in the cases may be accounted for on the ground that Shorthorns, as improvers of the blood of our common cattle, are needed over a very wide territory; and, reducing the time required to grow a 1,500-pound bullock, thus bringing so much quicker returns, they have made their way faster than thoroughbred horses, which require two years more time to mature for market. In fact this is the reason given by English farmers for raising cattle rather than horses, enabling the breeder to receive his compensation one to two years sooner. We give large space to Shorthorns in this number, not because they are the greatest stock interest of the country (as one of our Western contemporaries seems to think, for it claims to be the great representative of stock breeders, and then occupies all its cattle space with Shorthorns, when the dairy interest of two counties in New York represents more capital and more income than all the Shorthorns of the United States), but because they are the seed from which the great mass of common cattle is to be improved. We think the future of the Shorthorn will be greater than its past, and that its blood is to regenerate and improve all our beef cattle from the Atlantic to the Pacific.—*American Live Stock Journal.*

THE ALDERNEY AND GUERNESEY COW.

CHAPTER IV.—Continued.

An animal always cold is always uncomfortable, and a large proportion of the food she takes is consumed in keeping up the heat of the body, instead of making milk,—warmth is therefore, in effect, food to the Cow, and may be obtained at little cost and with little trouble by means of a shed as recommended, and where this is dry and clean, the Cow will resort to it spontaneously, whenever she knows it to be conducive to her comfort, which, as above said, is her food to a great extent. Cold and sudden chills, on the other hand, are a great detriment to the appearance of the Cow, and are frequently the cause of her falling off in her milk so early in the season.

So important is it to provide against great alternation of temperature, that the impossibility of doing this in large pasture, has within the last few years engendered the lung disease which has been so destructive among cattle. Formerly pastures were small in extent and defended by large and thick hedge-rows as well as trees, but the practice latterly having been to open the fields and to divest them of everything which could form a shelter for the cattle, what has been gained in increasing the quantity of feed, has been lost by the disease which the inclemency of an unsheltered field has engendered. It is much to be questioned, whether nature was not the best judge after all.

Much injury is likewise done by turning cattle out too early in the season—changing them from a warm yard or shed, (especially just after calving), to pass the night in the open air, before the season is sufficiently advanced to make such exposure bearable.

In proportion as the breed of cattle has improved, so has the necessity of care become apparent, delicacy of constitution and physical sensitiveness always increasing with high blood. As a principle of economy, I strongly advocate the practice, (which is lately gaining ground), of bringing milch Cows in all night, *all through the year*,—for they spoil much grass, especially in full strong pasture, during the night, and are not benefitted by being in the dewy grass too early in the morning; the manure also would be

in the yard, where it is valuable, instead of under the hedge, where it is lost, and where the cattle would naturally lie for protection.

During the winter, when tied up in stalls, great advantage is derived from thoroughly cleaning the cattle occasionally with a brush, as they cannot then turn round and lick themselves, or rub as they would in the field.

The feet should also be examined lest they should get too long, and thereby weaken the pasterns, which is easily remedied by removal of a portion of the toe with a small saw.

CHAPTER V.

As a general principle, Cows should be milked twice a day, and the times of milking should be invariable all the year round, viz., at six in the morning and six in the evening. If after calving, in the early state of milk, it should be found that the bag becomes too full, from extreme heat or other cause, it will be advisable to reduce the bag in the middle of the day, in which case eight o'clock in the evening will be early enough for the last milking: but some judgment is requisite in putting this into practice, as too great eagerness to relieve the bag may have an injurious effect, by weakening its power of retention. Before, and during the time of milking, the Cow should have some good hay or chaff, (or meal, as is the custom in Yorkshire). This is beneficial in two ways—first, it is a wholesome stay to the stomach, and secondly, it engrosses the attention of, and quiets the animal during the operation.

The hands should be dry and clean—wet hands chap the teats in cold weather, and want of cleanliness produces warts. Take great care that the last of the milk is withdrawn, as one pint of this is richer for the production of butter than two quarts of milk first drawn off. This point is of paramount importance, as independently of the quality thus produced, imperfect milking will dry the Cow much earlier than if properly milked, and tends to decrease the quantity. Milk as quickly as possible, and never leave the Cow during the operation: an active milker may milk five Cows an hour, therefore, with a dairy of ten or twelve Cows, two persons should be employed, and so in proportion, or regularity will be interfered with. Six weeks prior to the time of calving, commence to dry the Cow by milking once a day, for three or four days, which will decrease the quantity, taking care that the bag does not get over filled by the cessation, (which must be very carefully observed in hot weather); after this the judgment must be exercised as to any future milkings, which, if possible, should cease altogether one month before calving. In all cases thoroughly cleanse the bag, as should any milk be left, disease may be originated by the remaining secretion, which will be very injurious at the next time of calving. A few days prior to calving, should the bag be found much distended, it should be thoroughly relieved. This system I have pursued for many years, having a hundred calves annually, without the loss of a single Cow.

Whatever may be the cause of restlessness or irritability of the Cow during milking, gentleness is the only treatment that should be allowed,—violence, or even harshness, never. There are many causes, after recent calving, that may produce inquietude, but no other remedy will be effectual. A yound animal never forgets ill-treatment, and a recurrence of similar circumstances will remind the Cow of former punishment.

(To be continued.)

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