

# THE GLEANER:

AND NORTHUMBERLAND, KENT, GLOUCESTER AND RESTIGOUCHE

COMMERCIAL AND AGRICULTURAL JOURNAL.

OLD SERIES]

*Nec araneorum sane textus ideo melior, quia ex se fila gignunt, nec nosior, quia ex alienis lebanus ut apes.*

[COMPRISED 13 VOLUMES.]

NEW SERIES, VOL. V.]

MIRAMICHI, TUESDAY EVENING, APRIL 13, 1847.

[NUMBER 24.]

## Agricultural Journal.

### From the British American Cultivator. ON THE USE OF LIME AND ASHES.

We are intimately acquainted with the writer of the following interesting letter, to the editor of the *Ohio Cultivator*. Mr Ladd belongs to the Society of Friends, and may with much propriety be termed a junior farmer, his age not exceeding twenty four years. He is, however one of the most intelligent and enterprising young farmers that it has ever been our lot to meet with. He has received a most liberal education, and in fact has been solely educated with a view of fitting him to manage his father's estate, in a manner that would appear in keeping with the genius of the nineteenth century. Canada is capable of affording talented young farmers as any other country; and we trust that the junior readers of the *Cultivator*, will take a leaf from Mr Ladd's book, and make the attempt to write for their own Magazine, so that its editor would not have to be dependant upon the American writers for suitable matter for his paper. There are hundreds who are capable of writing for the press. The only thing required is a simple statement of facts and experiments clothed in common sense language—and in any brushing up, or improvement in style be required—we shall feel a pleasure in performing that part of the task.

Friend Mr. Bateman.—I observe in No. 1 of vol. 3 of the *Ohio Cultivator*, some enquiries signed W. W. B. Harrison county, and a young farmer, Medina county which I shall endeavour to answer.—This I undertake with some diffidence, being a ware of my incompetency to instruct to any great extent; yet being in possession of some facts both from my own experience and that of others in the use of lime and ashes, I feel willing to communicate them.

1st. In regard to applying lime to the winter season—I may state that I spread some 2500 or 3000 bushels in the depth of last winter on clover and wheat; the effect on the clover fully came up to my most sanguine expectations, yielding more than double the amount of hay and pasture, that I obtained of the same number of acres of the same quality of land without the application of lime or other manure. I could not see much difference in the wheat; there was a very strong growth of grass, however, which leads me to the conclusion that those who wish to see immediate effects had better apply lime to grass than wheat—and consequently that W. W. B. had better spread his now, on the ground that he designs for wheat the coming season; this will produce a luxuriant crop of grass, which should be plowed under about the 1st of 6 mo. (June) and stirred just before sowing in the fall. This is the mode adopted by the best farmer with whom I am acquainted and I think can be philosophically proved to be the best.—The opinion of some of your last year's correspondents to the contrary notwithstanding.

The substance used by us designated common lime is the air slacked or carbonate of lime. Gypsum or Plaster Paris being the sulphate of lime. The organic constituents of all plants are hydrogen, oxygen, carbon and nitrogen, the two first from water, and two second carbonic acid, the first and last ammonia. Water, carbonic acid ammonia, then, or their elements, compose the organic part of all plants.—Lime, according to Depra as a neutralizer, a decomposer, and a converter,—neutralizes acid saline, decomposes metallic substances, and converts insoluble or solid vegetable fibre into soluble vegetable food. Now add the gelic acid &c. contained in a luxuriant crop of clover or other grass, to the metallic substances of the soil, and we have a vast field for the action of this great agent hence the policy of excluding the vegetable matter from the action of the air, &c., and turning it up in connexion with the lime just at the

time you want these, properties made available food for the young plant.

2nd. In regard to the worth of leached ashes according to chemical analysis, that part which is soluble in water contains about three ingredients, sulphuric acid, muriatic acid and potash—which are not contained in the insoluble. Some chemists, therefore, conclude that where soap boilers have used lime with the ashes to strengthen the ley, that leached are worth nearly as much as unleached ashes.

3d. Will lime destroy the Hessian fly? I think not, except some few which might possibly come in contact with it in a caustic state. It may however be of service in enabling the plant by a vigorous effort in the spring to overcome the depredations committed in the fall.

Ashes are recommended by chemists, both theoretically and practically, as an excellent manure for almost any soil; 50 bushels per acre producing very visible and decidedly favourable results; therefore J. W. B. had better haul the ashes. Respectfully submitted.

J. D. LADD.

### From Allen's American Agriculturist. SUBSOILS AND THEIR MANAGE- MENT.

The efficiency of soils for producing good crops, depends much on the subsoil. If this consists of impervious clay or hard pan, so as to oppose a ready escape to the water, it is evident that the accumulation of the heavy rains, will materially injure the vegetation above them; for it is certain that while nothing is more essential to productive crops than an adequate supply of moisture to the roots, nothing is more injurious than their immersion in stagnant water. When such is the character of the subsoil, it should be under drained if possible, or if this be not practicable, it should be broken up and loosened by the use of the subsoil plough.

A variety of ploughs have been constructed for this purpose, but unless it be intended to deepen the soil by an admixture of manures, care should be taken to avoid bringing up the subsoil to mix with that on the surface. In addition to the more ready escape of water thus secured by breaking up, the air is also admitted, which enables the roots to strike deeper, and draw their nourishment from a great depth.

The increased distance through which roots penetrate, furnishes them with additional moisture during a season of drought, thereby securing a luxuriant crop which might otherwise be destroyed. This is frequently a great item in the profit of the farmer, as besides the increase of crop, which follows a hot dry season when a full supply of moisture is furnished, the product is usually of better quality; and the general deficiency of agricultural produce, which ensues from seasons of drought, makes his own more valuable.

As a result of this practice, there is also a gradual increase in the depth of the soil, as the fine and more soluble particles of the richer materials above are constantly working down and enriching the enclosed earth below; and in time this becomes good soil, which in proportion to its depth increases the area from which the roots derive their nutriment. So manifest are the advantages which have followed the use of subsoil ploughs, that they have been extensively introduced of late years among the indispensable tools of the better class of agriculturists.

When the subsoil is loose and leechy, consisting of an excess of sand or gravel, thereby allowing the too ready escape of moisture, and the soluble portions of manures, the subsoil plough is not only unnecessary, but positively injurious. In this case the surface soil should be somewhat deepened by the addition of vegetable manures, so as to afford a greater depth through which they must settle before they can get beyond the reach of the roots; and the supply of moisture is thereby much augmented. It is better however to keep lands of this character in wood, or permanent

pasture. They are at best ungrateful soils, and make a poor return for the labour and manure bestowed upon them.

If there be a diversity in the character of the sub and surface soil, one being inclined to sand and gravel, and the other marl or clay, a great improvement will be secured by allowing the plow to reach so far down as to bring up and incorporate with the soil some of the ingredients in which it is wanting. This admixture is also of remarkable benefit in old or long cultivated soils, which have become deficient in inorganic matters and in their texture.

The effect of long continued cultivation besides exhausting what is essential to the earthy part of plants, is to break down the coarser particles of the soil, by the mechanical action of the plough, harrow, &c. and in a much more rapid degree, by the chemical combinations which cultivation and manuring produce. A few years suffice to exhibit striking examples in the formation and decomposition of rocks and stones.

Stratocites and various specimens of limestone, indurated clays, sandstone and breccias or padding stones, are formed in favourable circumstances, almost under our eye: while some limestones, shales, sandstones, &c., break down in large masses annually, from the combined effect of moisture, heat, and frost. The same changes on a smaller scale, are constantly going forward in the soil, and much more rapidly while under cultivation. The general tendency of these surface changes is towards pulverization. The particles forming the soil from the impalpable mite of dust, to the large pebbles, and even stones and rocks, are continually broken up by the combined action of the roots and the constituents of soils, by which new elements of vegetable food are developed and become available, and in form so minute as to be imbibed by the spongioles of the roots, and by the absorbent vessels they are afterwards in their appropriate places in the plant. Where this action has been going on for a long period, a manifestly beneficial effect has immediately followed from bringing up and mixing with the superficial earth, portions of the subsoil which have never before been subject to cultivation.

A subsoil which is permeable to water, is sometimes imperceptibly beneficial to vegetation, not only by allowing the latent moisture to ascend and yield a necessary supply to the plant, but a moisture frequently charged with lime and various saline matters, which the capillary attraction brings from remote depths below the surface. It is probably from this cause that some soils produce crops far beyond the yield which might be reasonably looked for from the fertilizing materials actually contained in them. This operation is rapidly going forward during the heat of summer. The water thus charged with saline matter ascends and evaporates at and below the surface, leaving them diffused throughout the soil. After long continued dry wether a thin white coating of these salts is frequently discerned on the ground.

Where rain seldom or never falls, this result is noticeable in numerous and sometimes extensive beds of quiescent (not shifting) sand. Deposits at times occur several inches in thickness. Such are the impure muriate of soda and other salts in the arid deserts of California; in the northern parts of Oregon; the nitrates found in India, Egypt, Peru, and various parts of the world.

To keep away Rats.—The *Boston Cultivator* recommends lime as a preventive against the aggressions of these troublesome visitors, and says:—A gentleman in this city, who had occasion to use considerable lime about his premises, which had hitherto been much infested with rats, informed us that these destructive vermin had suddenly ceased to appear of annoy him. Before using the lime, says he, you could scarcely walk across the yard after night without treading on them, he showed us several of their

principle holes around which he had deposited a small portion of fresh unslacked lime, which evidently had the effect of driving them from these places, which they before resorted to in great numbers. The above is a simple and cheap method of getting rid of this annoying and destructive pest.

## Provincial Legislature OF NEW-BRUNSWICK.

EXTRACTS FROM THE JOURNALS.

HOUSE OF ASSEMBLY, March 26.

### RESTIGOUCHE BYE ROADS.

- £50 for the road leading from the flat lands to Mr Keddie's at the mouth of the Metepediac.
- £30 for the road leading to the settlement in the rear of James Christopher's.
- £30 to open a road to the settlement in rear of the flat lands, on the line between P. Ryan and Thomas Connor's.
- £30 for the road to the Sugar-Loaf Mountain settlement.
- £40 for the road to Lilly Lake.
- £20 for the road to the Colebrooke settlement.
- £20 for the road from Miller's hill towards the forks of Eel River.
- £40 for the road leading to the settlement at Marl Lake.
- £20 for the road leading from Donald Fraser's, past Gaudin's.
- £50 for the road leading from the new bridge on the north branch of river Charles to the settlement in the rear.
- £40 for the road leading in at Alexander M'Pherson's to the settlement on the second Concession.
- £20 to open a road on the west side of Benjamin river to the shore.
- £15 for the road on the east side of said river to the shore, on the line between Ferguson and Cook.
- £25 to open a road from the great road to the bay shore, on the line between Charles and Ronald M'Alister.
- £20 for the road leading to the settlement on Nash's creek in rear of Harvie's.
- £30 for the road to the Doyle settlement.
- £20 for the road to the settlement in the rear of Black and Archibald's.
- £20 to open a road from the shore to the great road, leading on the line between Black's and John Bishop's, as laid off by the commissioners.
- £12 to finish the road leading from the great road to the shore, on the west side of M'Nair's mill stream.
- £30 to open a road to the second Concession on the line between Farnham's and Richard Doyle's.
- £14 for the bridge over Louisa's brook, and towards the Beate road in the second Concession, at the Doyle settlement.
- £5 for the road leading to the shore in the Eel river settlement near James M'Pherson's.
- £60 for the road from the forks of Eel river towards the Colebrooke settlement.
- £30 for the road leading to the second Concession, on the line between Davis's and Serrell's.
- £50 from Christopher's brook, towards Pollock's hill.
- £30 towards the road round Pollock's hill.

## AN ACT

To Incorporate the Miramichi Mechanics' Institute.

Passed 12th of March 1847.

Be it enacted by the Lieutenant Governor, Legislative Council and Assembly, that the Miramichi Mechanics' Institute, now established in the town of Chatham, in the county of Northumberland, for the purpose of instructing Mechanics and others in Physics, Literature, and the different branches of Science, be incorporated, and that the Honourable Joseph Cupard, James Johnson, James A. Pierce, George Kerr, John M. Johnson, Junior, Gavin Rennie, George Johnson, John Patrie, George Letson, William Manderson, John Nicholson, John M'Enigall, John H. A. James Caie, Shepherd J. Frost, William Rennie, and Michael Dann, and such other persons as are or may become members of the said Institute, shall be and they are hereby constituted a Body Corporate, for that and no other purpose, by the name aforesaid, with all the general powers and privileges incident to Corporations by act of Assembly in this province: Provided that the said Body Corporate shall not exceed eight hundred pounds.