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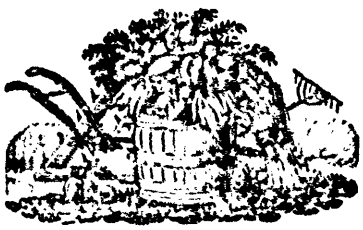
THE COLONIAL FARMER,

DEVOTED TO THE AGRICULTURAL INTERESTS OF NOVA-SCOTIA, NEW-BRUNSWICK, AND PRINCE EDWARD'S ISLAND.

VOL. 2. HALIFAX, N. S., APRIL 1, 1843. NO. 19.



THE COLONIAL FARMER.

HALIFAX, N. S., APRIL 1, 1843.

HIGHWAYS.

"Kings works:" This unlucky term has cost the Province ough to make a good road from Halifax to Windsor; happily it s not now do any great harm, although there are still in cer places remains of the old feeling; fifty years ago when the ple turned out to perform their statute labour, it was rare to a party that did one third the work they might have done; , however, usually flattered themselves that they had done a d days work for "Kings works," and frequently observed that hen a man worked for nothing, and found himself, it was not e expected that he would hurt himself by hard work." As they y felt a little ashamed of their scanty work, they devised many ious apologies. A considerable number had no teams, and ed that it was very unjust that they were compelled to make for those that were richer than themselves without any com- ation; numbers who had teams asserted that they would work a hearty good will, were it not that their roads were more out by the inhabitants of the next village than by them- s. Every one gave some good reason for idling away his . Now these men did not all act like fools at all times, but practice was common enough to prove that it is not a hard to teach men to be fools. Good roads are necessary to all; particularly to the Farmer, who can hardly succeed without , and when he is repairing roads he is working for his own t as much as he is when he is driving his load of hay upon . We well remember the time that what were called Roads ughout the Province were in a most wretched condition. ax was supplied with veal, mutton and poultry from Boston, ork and beef, and the greater part of the butter came from nd. A vessel was expected from Cumberland in the fall with r and some cheese; and some butter came by land in tubs were brought in bags slung across the horses backs, for we w roads upon which a wheel carriage could pass in Novem- and it was often necessary so assist the cattle that were driven n, to get out of the mire, which in many holes in the roads yard deep. Upon the level part of the road to Cobiquid at time the foot passenger had the choice of stepping into a pud- of clayey water about six inches deep, or of placing his feet the ridges of mud between the puddles, where he would only to the tops of his shoes. The faces of the dry hills between hers and Fultz's resembled the beds of dry brooks, being hollow channels full of rolling stones. To Sir John Wentworth and the late Hon Michael Wallace must be attributed the honor of commencing in serious earnest to open and improve the roads. The effect was soon perceptible Country produce arrived in town in quantities that surprised the Inhabitants, who soon discovered that the mutton and poultry of this country tasted as well as that which came from Boston. For some time the majority of the Inhabitants believed that the butter was inferior to the Irish, but most finally learned to prefer it. There was more difficulty in introducing the pork, it being generally asserted that it was impossible to raise such as would be fit for salting, and had there not been in the town a few who having been American farmers, had been accustomed to raising and salting pork, this prejudice would have kept it out of the market for a long time. It was however finally discovered that good pork could be raised here as well as in Ireland; and it was also discovered that the countrymen would raise something to bring to market as soon as they had roads they could pass with carts.

Our present custom of appointing overseers and commissioners of roads necessarily puts this business into hands of inferior skill in many cases. We are not born with the knowledge of road-making any more than we are with that of any other mechanical art. By long practice we acquire skill, and when this skill is transmitted to others who learn something themselves, it in time becomes an art which can be committed to memory, and which will point out a correct practice to those whose talents would never have enabled them to discover it without such assistance. The art of making roads is a branch of engineering, and there are books which give much useful information on this subject, but they are, in general, works which are not easily procured in this Province, even at a high price. We have however reason to believe that this desideratum will soon be supplied by the publication of a cheap work which will contain an abstract of all the principal improvements in roadmaking which have been introduced into Britain of late years. We recollect the admiration which was generally expressed by teamsters upon passing the road near the Lodge, and the road to the Tower, made under the direction of the Duke of Kent. Such roads had not before been seen in Nova Scotia, and it had been generally supposed that there was no such thing as a road without ruts; but as the remarkable ease with which loads were drawn upon these *smooth hard roads* was observed by all, attempts were soon made to imitate them, generally in a very imperfect manner, as our road makers did not understand the principles of their work. Had there been such a Treatise as the one referred to generally circulated when the improvement of our roads commenced, we are convinced it would been of more advantage to the Province, than all the money that was ever expended on the roads in any one year.

CUCUMBERS.

The last season was so warm that the insects who produce the black spots on this fruit appeared again in those places where they prevailed before the cold seasons. The Cucumber should not therefore be planted on the ground where they grew last year, nor in any place where they were affected with black spots within twelve years, for there is reason to believe that the eggs of these

vermin like those of Grasshoppers will retain their vitality for many years while in a dormant state, ready to come forth in a favourable season. Hot beds should not be made in the situation they occupied the last season; the frames and sashes should be thoroughly wetted with strong brine, and not a handfull of rotted manure from the old bed should be put in the new one.

PEAS.

Do not sow peas upon the ground where they were raised last year. This precaution may sometimes be neglected with impunity in small gardens in town, but in the country if they are raised for two years in succession on the same ground, the roots will certainly be attacked by the peaworm, and yellow leaves will appear as soon as the blossoms. Dry grass land that has been broken up, and produced one crop of potatoes will always bear a good crop of peas.

CABBAGE AND SWEDISH TURNIPS.

Remember that no manure which contains the scrapings of a cellar where turnips or cabbage have been kept, nor any rubbish from a yard where the parings of turnips, or cabbage stumps have been thrown, should ever be used for these plants, as it will produce the disease called Club foot, Anbury, or fingers and toes. There are some grounds where Cabbage and Turnips have been often raised, that are so full of bugs or their eggs, that the plants will be clubbed even when stable manure is used. It is best therefore to use ground where such plants have not been previously raised, but in gardens where there is no choice of ground, either mix a portion of salt seaweed with the manure, or else sprinkle a little pickle of fish or meat over the land after sowing the seed. Salt in any form destroys many eggs of insects.

To have good heads of large kinds of Cabbage they should not be planted nearer to each other than thirty inches. On very rich land the distance may be three feet. Two or three plants may be set together, and when they have grown so much as to be out of danger from grubs, pull out the weakest and leave but one in a place.

TIME OF APPLYING MANURES.

Manure produced the greatest effect spread on grass land in the spring, as soon as the field appeared green.

When spread on either grass or plough land in the fall there was a loss of nearly one third the value of the manure.

When spread on plough land in the fall, and ploughed in, there was a loss of more than three fourths.

When spread on grass land directly after the hay was taken off, in a very dry season, there was a loss of one half.

When spread on grass land at the same time, in a wet season, there was but little loss.

These experiments were made on a dry gravelly soil.

When the wash of the kitchen is thrown upon rotten chips or sawdust it makes an excellent manure for many purposes, but should not be used for potatoes, as it always contains a great number of the small hair-like worm, which by eating the skin from the potatoes makes them what is called "scabby." A mixture of decayed tanners bark has had the same bad effect upon potatoes.

In old gardens which abound with wire worms, sow beets as early as possible. If they are sowed late the wire worms will cut them to pieces after they have sprouted, and before they reach the top of the ground.

POISON FROM DECAYING SAUSAGES.

"The poison of bad sausages belongs to this class of noxious substances. Several hundred cases are known in which death has occurred from the use of this kind of food. In Wiirtemberg especially these cases are very frequent, for the sausages are prepared from very various materials. Blood, liver, bacon, brains, milk, meal and bread, are mixed together with salt and spices, the mixture is then put into bladders or intestines, and after being boiled is smoked.

When these sausages are well prepared they may be preserved for months, and furnish a nourishing savory food; but when the spices and salt are deficient, and particularly when they are smoked too late, or not sufficiently, they undergo a peculiar kind of putrefaction, and they are found to contain free lactic acid, or lactate of ammonia, products which are universally formed during the putrefaction of animal and vegetable matters.

The death which is the consequence of poisoning by putrefied sausages is preceded by very lingering and remarkable symptoms. There is a gradual wasting of muscular fibre, and of all the constituents of the body similarly composed, the patient becomes more emaciated, dries to a complete mummy, and finally dies. The carcase is stiff as if frozen, and is not subject to putrefaction. During the progress of the disease the spittle becomes glucy, and acquires an offensive smell."—*Leibig.*

We have never heard of a case of the above described disease in this Country, but we know that sausages resembling those described are used by some people in the Province, and publish this extract that if such a disease should appear, the cause of it may be known and avoided; we are inclined to believe that this malady is confined to Europe; it is very remarkable that it reduces the body of the patients to the same state as those of birds and other animals which are impregnated with Arsenic or Corrosive Sublimate to preserve them.

IMPORTANT TO PAINTERS AND PLUMBERS.

Leibig asserts that the *Painters Colic* is unknown in all the manufactories of white lead in which the workmen are accustomed to take as a preservative a drink made by putting a little sulphuric acid (Oil of Vitriol) into sweetened water.

HALIFAX AGRICULTURAL SOCIETY.—The prizes for grain offered by the Halifax Agricultural Society, were competed for on the 7th inst. at the farm of John Winters, Esq. Messrs. Lovett, Kent, Mitchell, and Rugg, were appointed Judges. The prizes were awarded as follows:—

To Henry Pryor, Esq. the first prize for Wheat, 63½ lbs. per bushel; the second prize to Edward Pryor, Esq. jun., weight 62 lbs. 5 oz. A sample from the Farm of Mr. W. S. Moore, was of equal weight. Mr. Archibald McCulloch's wheat was only one ounce less. The other samples were from 60½ lbs. to 61 lbs. per bushel. The first prize for Oats was given to Mr. Archibald McCulloch for a superior sample, weighing 46 lbs. per bushel, and the second prize to Mr. W. S. Moore, whose Grain weighed 45 lbs. All the samples brought forward were pronounced by the Judges to be of superior quality, and highly creditable to the Agricultural spirit of the Peninsula.

EXCRETIONS OF PLANTS.—From an essay on the Radical Excretions of Plants, by A. Gyde, he infers from a series of experiments:

1. That most plants impart to water certain soluble substances or excretions.
2. That this is identical with the sap of plants.
3. That plants have no power of selection, but take into their texture any solution offered to their roots, and that they have little or no power of a gain excreting it.
4. That plants watered with excretion receive no injury from

For the Colonial Farmer.

ELEMENTS OF AGRICULTURAL CHEMISTRY AND GEOLOGY.

COMPOUNDS OF INORGANIC ELEMENTS.

[Continued from Number 18.]

5.—*Ammonia.*—With the exception of atmospheric air, the substances which we have hitherto noticed can furnish no nitrogen to plants; this they in great part derive from the compound now to be considered. Ammonia is a compound of nitrogen and hydrogen (N. H. 3.) Though composed of two gasses destitute of taste and smell, and itself a gaseous substance, it has a burning taste and pungent smell. Anomia is absorbed by water to the amout of 670 times its own bulk; when thus dissolved in water, it constitutes the common spirit of hartshorn, whose taste and smell are those of the Ammonia which it contains. It also combines with acids forming salts; the most common of which are, Sal Ammoniac, which is a cumbination of Ammonia with Muratic Acid, and Smelling Salts, in which it is combined with Carbonic Acid. The properties of Ammonia which, are of most consequence to vegetation are,

1st.—Its being produced in the decay of all animal and many vegetable substances. The strong smell of stables and urine, and other animal matters in a putrid state, is principally owing to the escape of carbonate of ammonia; hence the wastefullness of allowing rich manures to remain exposed to the air, until this valuable ingredient becomes almost entirely dissipated.

2.—Its great soulubility in water. The Ammonia which the careless farmer allows to escape from his stable and dung heap, is not lost, but only added to the general stock of nutriment for vegetation, Every shower washes from the air a quantity of Ammonia, and to this the rain water owes both its softness and its superior power of nourishing plants, compared with pure water. The moisture of the soil also serves to retain, and convey to the roots of plants, the Ammonia produced by the decay of manures which may be buried in it.

3.—The ease with which it may be decomposed, and separated from other substances, when combined with them. In the former respect, it cannot be doubted that it may, like water, when introduced into the vessels of plants, be readily divided into its constituted elements, and applied to the purposes of nourishment. And of the latter the readiness with which its compounds undergo changes when exposed to the action of other bodies furnishes conclusive evidence. When lime is added to animal manures, a strong smell of carbonate of Ammonia is instantly exhaled, and hence the injurious effect of lime when applied to such substances. When lime is buried in the soil, however, this decomposing power may serve to set free ammonia, in circumstances favourable to its being absorbed by plants.

When common gypsum comes into contact with Carbonate of Ammonia, a *double* decomposition takes place, so that

Carbonate of Ammonia and Sulphate of Lime	are changed into	Sulphate of Ammonia and Carbonate of Lime.

Now Carbonate of Ammonia, as before stated, evaporates rapidly when exposed to the air; whereas the Sulphate of Ammonia is not thus volatile; and the circumstance of a volatile Salt of Ammonia, being thus changed by the agency of gypsum, into one that is fixed, is of great assistance to the Farmer. Thus when gypsum is strewed on the floor of a stable, the Carbonate of Ammonia, which is formed in such places, instead of being permitted to escape into the air becomes converted into the Sulphate, and remains united with the gypsum, every pound of gypsum thus saturated with Ammonia, is able to supply all the Nitrogen required by 12 pounds of wheat. Of all the manures produced on a Farm, urine is undoubtedly the most valuable; but a great part of its utility depends upon the quantity of Nitrogen which it contains, and if it be allowed to dry up alone, much of this escapes as Carbonate of Ammonia, this loss also may be prevented by Gypsum. A part of the influence of Gypsum, when strewed upon fields, may also be explained by this property; for the gypsum lying on the soil, not only *fixes* and prevents from escaping the Ammonia which may rise from the ground, but attracts it from the air; and thus from the very winds that blow over it gathers valuable nourishment for the growing crops.

4.—Ammonia is largely absorbed by various substances. Powdered charcoal absorbs 90 times its bulk of Ammonia, and decayed wood 72 times its bulk; hence these substances when plentifully contained in a soil, are capable of collecting and retaining, for the use of plants, an abundant store of Nitrogen In a manner somewhat similar, burned clay, coal ashes, and the red Oxide of Iron (red ochre) absorb Ammonia from the air. The effects of burned clay as a manure, and the fertility of those bright red soils which are colored by oxide of Iron, are partly to be ascribed to this cause.

By referring to the little table of the composition of wheat oats, &c. formerly given, it will be seen that nitrogen constitutes but a small portion of these and other vegetable substances. From this however we must not conclude that nitrogen is of little importance; all these parts of plants which afford the most valuable articles of food to animals contain nitrogen; and the production of such nutritious substances is the principal object of Agriculture. Thus wheat contains more nitrogen than oats, and these more than potatoes; and the nutritive properties of these three substances, are in proportion to the quantity of nitrogen which they contain; so also, in some degree, are their values in the market. It must always be an object with a Farmer to produce the most nutrative and valuable crops; and since these are the crops which contain the most nitrogen, it must be of importance that he should supply as much as possible of this element to his fields, It is also known, that not only does the quantity of nitrogen vary in different plants, but also that it varies in plants of the same kind, in proportion to the quantity supplied by art. Thus if one half a field of wheat be manured with substances containing ammonia (urine for example) not only will that half bear the most abundant crop, but the wheat which it produces, will be more nourishing, will make better flour and better bread than that of the other half. Nitrogen then being of so great importance, and Ammonia being one of the principal substances, accessible to the farmer which can yield it to plants its utility and the attention which it deserves are evident.

6. *Nitric Acid*—Is a compound of nitrogen and oxygen (N. O. 5) and when dissolved in water is the substance commonly known as aquafortis. It combines with a great number of substances, and it is in these states of combination that it is usually found in Nature; common saltpetre is composed of nitric acid and potash. When applied to plants, nitric acid and its compounds act by supplying nitrogen, and perhaps also oxygen. In some plants, such as tobacco, which contains much nitrate of potash, it remains in an unaltered ferm.

In warm climates, decaying animal matters often produce nitric acid instead of ammonia,—this, however, does not so often occur in temperate regions. In them, however, it may be obtained in a different way. If heaps of earth, mixed with decaying matters, be left for some time exposed to the air, and if the earth be afterwards washed with water, a quantity of nitrate of lime, potash, &c. will

be obtained from it. In France and Sweden, saltpetre for the manufacture of gunpowder, is obtained in this way. The sides of limestone caverns, the mortar of cellar walls, the earth of mud dykes, and compost heaps, become impregnated with nitrates in a similar manner. In the district of Arica in Peru, deposits of nitrate of soda are found beneath the soil, and the mineral dug thence, is exported to Britain, where it is advantageously employed as a manure.

In this climate nitric acid and its compounds cannot be so abundantly obtained as ammonia, and are not so much under the control of the husbandman; but whenever they can be procured, in any of the ways noticed above, they will be found extremely beneficial.

7. *The Organic matters contained in the Soil.*—Every fertile soil contains a portion of vegetable or animal matter produced from plants which have grown upon it, or artificially added in the form of manure. Such matters have always been considered very efficacious in increasing the productiveness of a soil, we must therefore now enquire how and to what extent, they can afford nourishment to crops. This enquiry becomes more important, when we consider that all the substances hitherto noticed are furnished to vegetation by the atmosphere, and consequently that if plants rarely derive any *organic* matter from the *ground*, on which they grow, it must be furnished by the substances now to be considered.

In the very outset of this investigation, we find some facts which limit the amount of influence attributable to organic manures.

1 Their very urine shows that they themselves are products of vegetation, so that a time must have been when there was no vegetable mould. The first plants that grew in any place, must have been nourished solely by dead inorganised matter.

2. In accordance with this, it is found that plants supplied with salt water, carbonic acid, and Ammonia (or watered with, rain water, which contains the other substances) will grow in sand or clay altogether destitute of animal or vegetable manure.

3. Plants growing in a wild state, add to, rather than diminish the quantity of vegetable soil. Land left long in grass or covered with forest trees becomes richer in vegetable mold; green crops, such as clover, when ploughed in, act as manure to soil, which would be impossible if their own substance had been derived from it; and in moist places, vegetables often add to the soil so much organic matter that thick beds of peat become accumulated.

It is evident therefore that plants can obtain from the air and water, substances such as the first six compounds which have been described, can convert them into vegetable matter, and when they die, leave this to form vegetable mould. But it is equally evident, from the experience of all farmers, that organic manures greatly increase the luxuriance of crops; this may be accounted for in four ways.

1. Some organic substances, such as gum and sugar, are soluble in water, and when plants are watered with solutions such as these, their vigour is increased. It is however plain that no manure applied by the farmer, can contain much matter of this kind, and very little of it can be left in the soil, by plants which decay where they grew.

2. Vegetable matters placed in the soil soon begin to decay or ferment, and in the earlier stages of these processes, several substances are produced different from any which existed in the living plant, but capable of being taken into the sap of other vegetables, and aiding their growth. Most of these half organised substances produced in decay, are like woody fibre,* compounds of oxygen, hydrogen and carbon, but in different proportion: and many of them are acids, so that they are capable of combining with lime, potash and similar substances, and carrying them with them into the roots of plants. Two of the best known of this class of substances have received the names of *humus* and *humic acid*. The former is merely woody fibre in a particular stage of decay, and the latter is produced from humus, when potash or other alkalies are brought into contact with it.

3. The final result of the decay of animal and vegetable matters in the soil, is that they become resolved into ammonia, carbonic acid, and the other substances which we have already considered; and their slowly producing these, around the roots of plants, probably explains a large portion of their efficacy as manures. It also partially explains the utility of loosening and pulverising the soil; for decay being a slow process of combustion, air is necessary in order that the manures may be rendered available, and this is more readily admitted into the loosened soil.

4. We must not forget that all vegetables yield a quantity of ashes, or inorganic matter, and this also is set free when they decay in the soil. Their effects, in this way, cannot at present be considered, but we shall hereafter see that they form a most important part of the action of organic manures.

While therefore plants can obtain the greater part of their organic constituents from the winds and rains of heaven, they are also greatly assisted by the presence, near their roots, of matters which have already formed part of organic structures. These are particularly important in the earlier stages of growth, as a plant which is enabled by their means to attain a state of vigorous health, will possess a greater power of attracting and assimilating substances not yet organised, than its more weakly neighbours, which have been forced, from their very infancy, to depend upon the kindness of nature for a subsistence; hence the improvement which careful cultivation can affect in vegetables of every kind; and hence the luxuriant herbage which springs from the well-manured field of the careful and industrious farmer, is able, by means of its well developed roots and abundant foliage, to use, in its own increase, all the matter brought by air or water within its reach, while the bounties of Providence are in a great measure lost to the starveling crops of an impoverished farm.*

RECAPITULATION.

Before leaving this part of the subject, it will be useful to repeat the most important of the conclusions deducible from what has been already stated.

We have seen that plants contain a variety of *organic* substances differing from any forms of dead matter, and of *inorganic* matter derived from the mineral matter of the soil.

The organic part of plants we have found to consist of three gases, oxygen, hydrogen and nitrogen, and one solid substance carbon; and these are obtained in the following ways. 1st. The *Oxygen* of plants is obtained principally from water, and carbonic acid. 2ndly. Their *Carbon* is nearly all derived from carbonic acid. 3rdly. Their *Hydrogen* is obtained principally from water but probably in part from ammonia. 4thly. Their *Nitrogen* principally derived from ammonia, and partly from nitric acid. 5thly. A portion of all these substances is obtained by plants from the remains of other vegetable which have existed before them. Some of the reasons why these views of the supply of food to vegetation, should be adopted, as well as some of their practical

* Woody fibre is best known in the form of wood of trees, but the stems, roots and leaves, of nearly all plants, in great part consist of it.

* A beautiful, and, in some respects, original, view of this subject, is given in the Letters of Agricola, No. 32.

festions, have already been mentioned. They will however more fully appear, after we have examined the *Structure of Plants*, and the means by which they convert their food into the various substances for which they are cultivated.

BONE SPAVIN.

A Bone Spavin is a hard swelling on the inside of the Hock, and is so called, not only because it resembles a Bone in hardness, but to distinguish it from a Blood Spavin, which is soft, and is also seated in the Hock.

But, in order to understand the true nature of this malady, it will be necessary to remember what has already been taken notice of in the anatomical part, viz. that the two ranges of small bones in the upper part of the Instep and lower part of the Hock, where the Spavin is seated, are united and received into one another, and are placed in such a manner as to prevent a dislocation of that Joint, which without them would easily happen, and likewise to facilitate and give a spring to the motion of the Hock In young Horses, and almost all other young quadrupeds, they are in a great degree cartilaginous, moist, and pliable, which is necessary to quick and vigorous action, to which all young Horses are disposed by nature. In old Horses these little bones grow more hard and solid, and are joined almost in one, and in a manner make a part of the Instep and its *Apiphises*, insomuch that in some it is difficult to separate them asunder, which is the cause why old Horses always grow stiff in their joints: The cement by which they are united, is a mucilage not unlike glue, which condenses and fastens them very fast together. When this happens to be redundant, and overflow, from whatever cause or accident it proceeds, it then forms a swelling under the Skin and Membranes of the Hock; and sometimes the broad Ligament that covers these small Bones being soaked with too much moisture, protrudes and rises into a swelling, which soon condenses and forms a Tumor, which at first is no other than a hardened glue, but by length of time grows like the callus of a fractured Bone, resembling a piece of flint, without any visible Pores or Interstices, except the Foramina or little Holes for the passage of Nerves and Blood vessels, such as are to be found in all other Bones that compose the Skeleton.

From hence it will appear manifest, that a Bone Spavin taken its beginning and growth from the matter that nourishes the Bones and Ligaments of the Hock, and generally happens to young Horses that have been used too roughly before they are arrived to their full strength, forcing them to leaps that are too high, or putting them too much upon their Haunches, which relaxes the Ligaments and Membranes, and enfeebles all the Junctures of the Hock. Sometimes Spavins are thought to proceed from natural weakness, and so to be hereditary, some Horses being more subject to such maladies than others, and put out Spavins even where there has been no violence or ill-usage; sometimes Spavins put out after sickness, especially in distempers that affect the Limbs; and sometimes Spavins proceed from blows and other accidents ill-managed, or whatever else may cause too great a derivation of humidity and moisture upon the part, as lying too long at grass, or feeding too much with hot meat, or any other soggy moist diet; want of sufficient exercise, or on the contrary too violent or ill-timed exercise. All these things may produce Spavins, Splents, and other excrescences upon the Bones or Joints.

A Spavin that begins on the lower part of the Hock, is not so dangerous as that which puts out higher between the two round Processes of the Leg-bone; and a Spavin near the edge is not so bad as that which is more inward towards the middle, as it does not so much affect the bending of the Hock. It may also be observed, that a Spavin that comes by any common accident, as a kick or a blow, is at first no true Spavin, but a contusion; and therefore is not so dangerous as when it proceeds from a natural cause; neither are Spavins that put out on Colts and young Horses so bad as those that happen to Horses in their full strength and maturity; and in very old Horses they are seldom curable, being the effect either of some violent distortion of the small Bones above mentioned, or of some very ill habit of the Body.

The usual method of curing a Bone-Spavin is by blisters and firing, without any regard to the situation or cause from whence it proceeds. If a fullness on the fore-part of the Hock comes upon hard riding, or any other violence, threatning a Spavin; in that case, coolers and repellers are only proper, viz a cold charge bound round the part, and renewed several times a day, with the other use had above described in bruises and contusions; but if the swelling be owing to other causes, it should be treated accordingly. Spavins that happen to Colts and young Horses, are generally external and superficial, and may be cured with milder applications than what are commonly made use of for their removal, and with less danger of breeding collections in the Joints; for it is better to wear out these maladies by degrees, than to strive to conquer them all at once.

The blisters or caustics commonly used to take off Spavins, are made with Euphorbium, Arsenick, or corrosive Sublimate, in the following manner, viz. Hog's Lard and Train Oil, of each an ounce; Bees wax, two ounces, Honey and Nerve Ointment, of each two ounces: these being melted, and the mixture almost cold, they add half an ounce of Sublimate Corrosive, and two drams of Euphorbium in fine powder. A sufficient quantity of this spread on the part pretty thick, sometimes succeeds when it digests and runs. I have seen many recipes of this kind that have have been tried with various success, but for the most part they leave a continual baldness, and often a remaining stiffness, which can never be removed. Some make their blistering ointments after this manner, viz. Ointment or Oil of Bays, and Nerve-Ointment, of each an ounce; Spanish Flies in powder, about a dram; Sublimate, two drams. Others use Euphorbium alone without the Sublimate; but that is not so well, for the Euphorbium is of a caustic nature, but seldom enters further than to harden into a scab or thick scurf, without coming to digestion, and therefore often causes much pain, heat, and anguish; and by that means derives a flux of humours upon the Hock, so as even to affect the nervous parts, which ought to be avoided. Some mix butter of Antimony with their blisters, others only clip off the hair, rub the Spavin till it is almost raw, and then lay on a plaister with Pitch and Sublimate, or Arsenick, and let it lie on till it fall off, when it brings along with it a thick slough, but seldom with any good effect. Many of these things, and such like, I have known tried to take off Spavins, but never found them succeed so well as the following, only that it must be often repeated, and so requires a good deal of time before the cure is complete and perfect.

Take Nerve Ointment and Ointment of Marshmallows, of each two ounces; Quick silver, an ounce, the Quicksilver must be rubbed in a mortar, with an ounce or an ounce and a half of Venice Turpentine, till it is of a lead colour and that none of the globules appear. Then mix it with the other, and when these are well incorporated, add a a dram and a half of Cantharides, made into a fine powder; one dram of Sublimate, and two drams of Oil of Origanum.

The Cantharides must be fresh, not of a yellow or brown colour, nor of a foetid stinking smell; for if they be corrupted and rotten, they lose their efficacy. The hair is to be cut as close as possible, and then the Ointment or Ilotore applied pretty thick over the part; this should be done in the morning, and the Horse kept tied up all day, without any litter under him till night, only so much as will encourage him to stale, if it be his custom to stale upon his litter; at night he may be untied, that he may lie down as usual, for by that time the blister will begin to take effect; and a plaister of pitch may be laid over it, or any other sticking plaister bound on gently with a piece of broad tape or list.

After the blister has done running, and the scabs begin to dry and peel off, it may be applied a second time in the same manner as before. The second application generally takes much greater effect than the first, and sometimes in Colts and young Horses makes a perfect cure; but when the Spavin has been of some standing, it will require to be renewed, perhaps five or six times, only that after the second application, a greater distance of time must be allowed, otherwise it might leave a scar or cause a baldness; and to avoid this, and to prevent a remaining stiffness, I usually cause a fresh application to be made once in a fortnight or in three weeks, which always has a good effect, especially upon young Horses that abound much more with moisture about their joints than those that are old. I have continued blistering in this manner six or seven times, without the least blemish, and have seldom been disappointed of success. The Horses have constantly had their exercise in a moderate degree between whiles, and sometimes mild purging physic, and diuretics at proper intervals, and afterwards Guiacum boiled and mixed with their water, the better to promote perspiration, and to dry up superfluous humidity,

which I conceive to be a help in all cases proceeding from viscid juices and relaxed habits. And in such cases I likewise keep them from the use of moist diet, except when they take purges, and then I allow them but small feeds of scalded bran, their common diet being only oats with the driest and sweetest hay that can be got; for a moist diet, long continued, relaxes the whole habit, and must therefore be improper, if not prejudicial in all such cases.

But the Spavins that put out on older or full-aged Horses are apt to be more obstinate, being the effect of some ill habit of body, but chiefly of Hurts and Strains, whereby the small Bones of the Hock are jarred and loosened; for this sort is always seated more inward than that above described, which rises more superficial and flat; and therefore, when the Spavin puts out towards the hollow and rises upwards, it proves obstinate, and hard to cure; and if it run inwards among the sinuosities of the joint, it is for the most part incurable, because it lies then very much out of the reach of applications. In an out ward superficial Spavin, the Horse only goes stiff at first, and the Spavin soon appears plain and visible to the eye; but in the other, a Horse sometimes goes lame a considerable time before the Spavin shews itself, and so passes only for humors. I have known Horses in these circumstances purged and oiled both in the Hock and Stifle, till a Spavin has been discovered deeply situated, and extremely hard.

This case is both difficult and uncertain, not only because of its situation among the sinuosities of the joint, but because it is, for the most part, condensed to an obstinate hardness and insensibility, before it grows so much outward as to be discovered. The usual way in such cases is to fire directly, or to use the strongest kind of caustic blisters, and sometimes to fire and lay the blister immediately over the part; but this method seldom succeeds so far as not to leave both a blemish and a continual stiffness behind it, though indeed it may put a stop to any further growth of the Spavin and the Horse, notwithstanding the stiffness, may be useful in several businesses. I should therefore first of all chuse to try a more gentle method, because Horses are often worse after the use of forcible means to remove Spavins than they were before, which breeds such a disposition in the part, as scarce leaves room for any further trial, it being difficult to keep a just medium where such powerful applications are made; for though the Bones, and all bony excrescences are of themselves insensible, and without pain, except when they turn carious, yet whoever considers the many tendinous and nervous substances about the Joints, will easily be convinced, that pain and anguish must be unavoidable when these are touched with fiery and caustic applications; and we see daily instances how easily these sensible parts are hurt, even from the most trifling accidents. And therefore, if the owner can be persuaded to allow sufficient time, the best and safest way is to make trial of some mild caustic or blister, such as the blistering ointment above inserted. The first application will probably prevent the increase of the Spavin, and the continuing it, according to the prescribed method, will sometimes cause a dissolution of the hardness, and so wear it out insensibly by degrees. Of this I have had instances in my own practice; the blistering at times was continued several months; the Horses were also made use of in the intervals to all common business, except hunting or other very laborious exercise; so that they were not altogether a charge and burden to the owners. A very fine Horse belonging to an officer of distinction in the army, was cured of a large Spavin by this method, even after he had been fired, and the part rendered extremely hard and callous for the space of two years or upwards, and when he recovered his lameness, I caused him to be fired again, very gently, all over the Hock, but in such a manner as to leave little or no scar or disfigurement. I took this method to secure him, being a managed Horse, and having a natural disposition to go upon his Haunches, which tries the Hocks and Pasterns more than any other action.

However, some Spavins lie so deep, and run so far into the hollow of the Joint, that no applications can reach them, so as to make a perfect cure, and sometimes Horses have been rendered altogether useless by the attempts that have been made to remove them. A charge or caustic ointment, with Sublimate or Arsenic, is the most likely to succeed in this case, if it be used with proper cautions; because these things will act forcibly, so as to enter deep, and make a very large discharge, and by that means destroy a great part of the substance, and perhaps cause the remainder to dissolve and run off. I have known some bold ignorant fellows succeed in such cases, though more by accident than from a sound judgment.

But when an old Horse happens to put out a Spavin, it is commonly the effect of some violent wrench or strain of the Hock, and for the most part proves incurable, especially if the small bones be any ways jarred or displaced, which sometimes happens; and when it is so, the swelling generally appears on the middle and fore-part of the Hock, and not towards the side of the Hock, as almost all Spavins do. The Horse is always extremely stiff, and scarce able to move; but this is properly a luxation, and not a Spavin, as has been observed already. And therefore, if any thing be done to remedy this malady, it must be to force the Bone into its place; to fill up the fore-part of the Hock with tow, and the cavities on each side; and all the other cavities and vacant spaces should likewise be filled with the same, applying a piece of pasteboard soaked in Vinegar on the inside over the distortion, binding the whole with a roller or a piece of broad soft list, and the Horse should not be put upon exercise for a considerable time. But when Horses meet with such unlucky accidents, they are seldom fit for any thing afterwards but to draw in some light easy carriage. A true Spavin in an old Horse proves no less difficult; and in such cases, firing all round the Hock, and afterwards turning them out to grass, is the most likely to succeed, so far at least as to fit them for some sort of business; though the stiffness of the Hock will be but little abated, even if the Spavin be removed, stiffness and bending of the joints being an infirmity to which all old Horses are more or less subject, even where there is no manifest malady or disease.—*Gibbon on Horses.*

From the New York Central Farmer.

ON DITCHING.

As I agreed to give you a description of my mode of ditching, I now redeem my pledge. About twenty years ago, I purchased my farm in Whitesboro, and on this farm was about 130 acres on the Mohawk flats, and about 60 acres of that was covered with blackash timber, alders and bogs, and the water stood on it nearly the whole year; the 60 acres were not worth as much for any use then as 5 acres are now. Not being acquainted with farming much I did not know how to commence right, but my first object was to improve my low grounds. I commenced by making small ditches which would soon fill up. I then made a bank or dike with a small ditch on each side, but that did not altogether answer the purpose intended for a ditch and fence. About three years ago I commenced in a different way, which seemed to answer all the purposes intended for, that is, to drain the land effectually, and at the same time make a good fence. I make my ditches six feet wide at the surface of the ground, and three and a half or four feet deep, as the land may require, with a slope so as to bring it about one foot on the bottom, and take the turf from the top of the ditch and lay it up on each side with the same slope as the ditch, about one and a half feet high, leaving a lip of about four or five inches on each side of the ditch; or placing the row of turf that distance back from the ditch, to prevent its caving in by the frost till the bank becomes solid. I make small sluices in the lowest places, through these side banks, for the water to draw off from the top of the ground. The raisings of the banks on each side makes the ditch about 8 feet on the top, with slope bank, so that horses or neat cattle cannot easily get over it; sheep will run over it. I lay out my lots from 20 to 24 rods wide; three ditches drain the land effectually. I have raised a very good crop of corn on some of the lowest of this land this year, and it has been a very wet season.

I will now say a few words about my mode of cultivating these low grounds; they are most profitable for meadow—I therefore seed them down as soon as they are subdued by ploughing, or the ground is smooth, they may be brought into a good quality of grass by sowing on seed and harrowing. I find it very profitable to give these lands a thin dressing with manure; it improves very much the quality and quantity. Managed in this way, I get three or four tons of hay from each acre; I have taken four tons from 140 rods of ground, well dried. The best time to put on manure is soon after mowing; it will not need it more than once in four or five years.

I have made nearly 500 rods of these ditches; they cost about 6 shillings per rod; they are the cheapest fence I can make, and by cleaning out the ditches, you can keep the fence in good repair

From the Massachusetts Ploughman.

TILLING CORN AND POTATOES.

Farmers are late this year in performing the first ploughing and hoeing; the cold first and then the wet weather contribute to this

It is of no use to plough or hoe when the ground is muddy; but it is certain that stirring the surface when it is rather wet hastens the process of drying—and that stirring the earth when it is very dry contributes to render it more moist.

In tilling corn or potatoes, or indeed any other vegetable, we never promote their growth by merely hilling up or burying the roots deeper than nature has taught them to run; but it is often more easy to kill the weeds in the hill by burying them than by cutting them up, and most of the weeds buried are converted at once to manure, as any one may see if he will uncover a mess of weeds after they have been buried two or three days.

ON THE USE OF THE CULTIVATOR.

This instrument is quite handy in stirring the surface of the earth when green sward is tilled, since it does not tear up the furrow as a plough will. But on old ground, without sward, the Horse-plough is a much better instrument than the Cultivator, since it renders the soil lighter and tears up the weeds more effectually and *buries* more than that or any species of harrow

Many farmers fancy it very injudicious to cut or break any of the roots of corn or potatoes. They therefore run the plough or the harrow midway between the rows and leave the hoes to perform more than half the labor. Such farmers are governed more by theory than by experience; for any one that will make the trial will learn that stirring the earth deep close to the *young* plant and cutting off millions of its little roots *will not check its growth.* It will only render the soil more light and more easy to be penetrate by the little prongs that shoot out almost immediately after they have been cut off by the plough or hoe.

If a plough is used therefore, it should run close as possible to the young corn and potatoes, on the first tilling, and turn a furrow from the plant. At the second ploughing this may be turned back again so as to leave the surface nearly *level*—not even; for we would leave the surface rather rough than even.—The following rain will then partially move earth in the absence of the plough and hoe.

IMPROVEMENTS IN BLACKSMITHING.

Sawing heated iron or steel, is not known or thought of by blacksmiths; and when several forks or branches are to be formed from one stock, even if the branches are required to remain eventually, nearly in contact and parallel to each other, the usual method is to split the end of the iron with an awkward cold chisel, thereby deforming the edges of each branch; on which account, the branches must be bent assunder for the purpose of hammering, squaring and shaping the edges of each; after which they are brought together as well as may be, usually retaining a roughness of form, if not a deficiency of size and strength, near the juncture of the branches. Instead of this tedious process, the iron when heated may be put into a vise, and the the end may be readily slit with a suitable saw, which would save much labor of hammering and filing. A saw for this purpose, should be made thicker at the edge than at the back, and with uniform teeeth about one twefth of an inch apart. The saw, when used, must be often dipped in water, to prevent its becoming too much heated There is also a method of cutting or sawing hardened steel, which is not so generally known as it should be. A circular piece of common thin iron plate, or sheet iron, being adjusted in a lathe, or by other means put into a violent rotary motion, it will readily cut off a file, cutting tool, or a tempered steel spring, without drawing or reducing the temper. There is much mystery in the wonderful effect of this buz, and its cutting property is attributed to electricity. It answers a very convenient purpose, however, when the shape and form of articles are required to be altered, without affecting their temper It furnishes a convenient method of cutting teeth to large saws, but is objectionable on account of the newly cut surface being left so hard that they cannot be readily filed by a common file. Connected with the subject of "mysterious effects," it may be stated that a bar of iron almost any size, may be instantly sundered while hot, by the simple application of a piece of common roll-brimstone. A knowledge of this fact will be useful, when some piece of iron work is required to be severed, but which, as is sometimes the case, is so constructed and situated that no ordinary chisel or cutting tool can be brought to apply. Holes may be instantly perforated through bars or plates of heated iron by the application of a pointed piece of brimstone, and that instantaneously. This phenomenon is curious, although it seldom affords much practical utility.—*Am. Farmer*

METHOD OF ASCERTAINING THE WEIGHT OF CATTLE WHILE LIVING.—This is of the utmost utility for all those who are not experienced judges by the eye, and by the following directions the weight can be ascertained within a mere trifle Take a string, put it round the beast, standing square, just behind the shoulder blade; measure on a foot rule the feet and inches the animal is in circumference; this is called the girth; then with the tring smeasure from the bone of the tail which plumbs the line with the hinder part of the buttock; direct the line along the back to the fore part of the shoulder blade; take the dimensions on the foot rule as before; which is the length, and work the figures in the following manner: girth of bullock, six feet four inches; length, five feet three inches, which multiplied by twenty three, (the number of pounds allowed to each superficial foot of all cattle measuring less than seven and more than five feet in girth,) makes 713 lbs.; and allowing 14 lbs. to the stone, is 50 stone, 13 lbs Where the animal measures less than nine and more than seven feet in girth, 31 is the number of pounds to each superficial foot. Again, supposing a pig or any more small beast should measure two feet in girth, and two feet along the back, which multiplied together, makes four square feet; that multiplied by eleven, (the number of pounds allowed for each square foot of cattle measuring less than three feet girth,) makes 44 lbs, which divided by 14 to bring it to stones, is three stones two pounds. Again, suppose a calf, sheep, &c. should measure four feet six inches in girth, and three feet nine inches in length, which multiplied together make 16½ square feet; multiplied by 16 (the number of pounds allowed to cattle measuring less than five feet and more than three feet in girth,) makes 264 lbs, which divided by 14 to bring it into stones, is 18 stone 12 lbs. The dimensions of the girth and length of black cattle, sheep, calves, or hogs, may be as exactly taken this way, as is at all necessary for any computation or valuation of stock, and will answer exactly to the four quarters, sinking the offal, and which every man who can get over a list of chalk may easily perform. A deduction must be made for a half-fatted beast; of one stone for twenty from that of a fat one; and for a cow that has had calves, one stone must be allowed, and another for not being properly fat. —*Cattle Keeper's Guide.*

THE HORSE RAKE.—A very large proportion of farms within thirty miles of Boston have acres of mowing land on which a horse-rake would operate to advantage and save much labour *Young men* have not *you* enterprise enough to give such a tool a trial? We have used one of these for many a day and can assure you it requires but little time to learn how to handle them well.

We have procured a number to be made in the most simple form and we will sell them at the factory cost, adding only the charge for bringing them into this city.

The price will not be far above four dollars each, and this is much less than any one can be made for singly, in any part of the country.

With a little practice any lad of eighteen will rake an acre in in a half hour; and he will gain enough in a single day to pay for his rake!

The rakes may be seen at the warehouse of Ruggles, Nourse & Mason, in Quincy Hall. They are for sale also at the residence of the editor of this paper, at Framingham.—*Massacusetts Ploughman.*

SUBSTITUTE FOR THE ROLLER.—Messrs. Editors—One of our farmers, Mr John A Merselis, uses the following article, instead of a roller, with good effect. He takes a slab, or outside cut from a log, two or three inches thick, nine inches wide, and about seven feet long; a rope is fastened in each end, and then by means of a clevis, he fastens his team to the middle of the rope. If the driver is a heavy person; he uses the flat side down next the ground, if he uses the flat side down next the ground; if he is a light person the round side down: going over the field several times, until the

ground is sufficiently pulverised, the driver standing on it, to keep it in close contact with the ground. By rubbing over the ground, it pulverises it thoroughly. The past season, I saw two of his fields, one planted with corn, on out Mohawk flats, which looked like a bed in a garden, the rows of corn could be seen across the field, when only an inch or two high. The other was upland, clay and slate gravel, sown with oats, which was equally smooth. I believe when he uses it, he does not previously harrow. He invented it to cover a narrow fat pea, which, by harrowing, he was unable to cover. He even uses it to cover his potatoes after planting them.—*Correspondent of the Albanay* (N. Y.) *Cultivator.*

EXTRACTS.

FATTENING SHEEP.—An experiment was made at Shrewsbury in fattening three sheep on peas, allowing them at the same time to run in pasture. They gained 39lb. in 21 days, an average of nearly 10oz. each per day, which we think extraordinary.

SULPHATE OF AMMONIA.—Is much used now as a topdressing on grass, wheat, and other grain.

GREAT WEIGHT OF TWIN STEERS.—A pair of these were killed by Mr. Dawson, Rutland, at two years and five months old, which weighed 1,788lb.

LIME-WATER TO KILL WORMS.—To six quarts of water, add half a pound of caustic lime, and after letting it stand a few minutes, commence watering the ground infested by worms, and they will soon be seen rising to the surface writhing about and will die in a few minutes, especially if a little more of the lime-water is then sprinkled on them.

The number of cattle in Great Britain and Ireland, is estimated at 7,000,000, that of sheep 32,000,000, the total value of which at present prices there is £110,000,000.

AGRICULTURAL CHEMISTRY.—Dr. Tilley is at work upon a new treatise on agricultural Chemistry for practical purposes, including the best methods of feeding stock and fattening cattle. He intimates that this work will be unincumbered by scientific terms, but how that can be, and clearly express his ideas, we are at a total loss to divine.

RECIPE FOR THE HOVEN IN CATTLE.—The Hadleigh Farmers' Club recomends the following recipe for blown or hoven cattle. 1 lb. glauber salts, ¾lb of treacle, and 1 oz. of ginger, mixed with one pint and a half of warm water. Powerful stimulants, such as ammonia, are also recommended.

SHEEP STOCK.—After discussing the management of sheep at the Framingham Farmers' Club, it was resolved that they should have free access to either rock or common salt—that nothing is preferable to common hurdles for folding them in fields—that pasturing old clover leys with them, destroys many of the slugs and wire worms, and that their feeding the young wheat in the spring is beneficial.

SCOURS IN SHEEP.—In case of their being thus attacked a small dose of castor oil should be given to remove any offending matter from the bowels, after which four grains of opium and 1oz. of chalk, and then put them upon dry food.

In the "Gardener's Magazine" for February, we find that charcoal as a manure, is coming into pretty general use. It proves very beneficial, wherever applied.

POMERANIA CABBAGE is highly spoken of as being the best autumnal kind.

MAY'S RED VICTORIA CURRANT.—The berries of this magnificent currant are said to measure not unfrequently 1½ inches in length. The fruit is of a beautiful scale, and the flavour excellent. The foliage is thicker than the common red currant, and hangs on later, and of course assists in prolonging the fruit.

TAN AS MANURE.—This is found to answer an excellent purpose in improving the sheep pasture on the downs.

The brine in which cucumbers have been preserved, is said to be fatally poisonous to cattle and hogs. One of our citizens a few weeks back lost a cow from her having eaten a great quantity of pickles which had been thrown out in an exposed situation.

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