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By M. MAC LEAN.

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AGRICULTURE.

From the Southern Cabinet.

Old Point Comfort, Aug. 22, 1841.

Dear Sir,—I enclose you a copy of a letter received from Mr. McClean on the subject of drilled wheat. His experiment is a very interesting and important one, and deserves to be prosecuted farther. I saw this wheat and think I never saw a more luxuriant growth or one that promised a greater yield; but Mr. M. omits one important fact—it suffered somewhat from the rust.

The objections urged to drilling wheat in this country, where land is cheap and labor high, are first, that the drilling is expensive, and secondly, that to secure any advantage from drilling, the crop must be worked; or in other words, that drilling is only to be resorted to, as it enables you to work the crop. If this fact, I should say, that no Virginia farmer would be justified in drilling his wheat; but the fact is the reverse; for drilling is attended with no increased expense, (other than the cost of the drill) and the labor of working the wheat would be thrown away. The increase of product therefore, arises from the more equal distribution of the seed, the uniform depth at which it is covered, the free circulation of air through the drill, and the better condition in which the land is left by the operation of the drill plough.

Very respectfully,

Your obedient servant,

R. ARCHER.

Elizabeth City County Aug. 17, 1841.

Dr. ROBERT ARCHER.

Dear Sir,—Late in October ult. I thought I would experiment a little by drilling two-thirds of an acre of wheat, believing that drilling a full crop would pay me much better than a crop sowed broadcast.

In this two-thirds of an acre, the rows fifty to sixty yards long, there were sixty-three rows fourteen inches apart.

If any difference in quality or quantity of wheat in these rows, it was in favor of those seven inches apart, where five pecks were drilled to an acre.

At the rate of ten pecks, were drilled on two beds, drills seven inches apart: this I found by far too thick; the wheat did not produce so well, and looked sickly from the time it first came up.

The wheat came up well, but looked no better than my crop in general, until it began to head. Early in April I ran a large row over it; thought it improved its appearance; latter part of April or first of May I ran a cultivator between the drills (fourteen inches apart) on two beds; but at reaping time I found no material difference between that worked and that unworked. The weeds were completely kept under where the drills were close; not so with those fourteen inches apart.

On this two-thirds of an acre I made fourteen bushels, and had it all been drilled seven inches (which produced as well or better than the fourteen inches) I would have made twenty-one bushels, a yield of thirty-one and a half bushels to the acre—three times as much as my general crop averaged.

I am so confident of the success of drilling, that I intend to drill thirteen acres this fall. I have a machine made by Mr. Jabez Parker, of Richmond, invented by Mr. Andrew Bartle, of this county, by which wheat can be drilled with less trouble than it can be sowed broadcast, provided the wheat is to be ploughed in.

This drill can in a few minutes be attached to any plough by any common hand.

I shall be able, after my crop of thirteen acres is reaped, to give more on this drilling system.

I am, most respectfully, yours,
A. B. McLEAN.

From the Southern Planter.

AN OBJECTION TO BERKSHIRES.

My Dear Sir,—I have seen and heard much of the Berkshires and have no doubt that for some purposes they are the most improved hog now known to the agricultural world. But I maintain that they are not calculated for this particular region. My objections are that they fatten too easily and arrive at a heavy weight too early. With the exception of a few jockey pigs, raised about the house, we must continue to range our hogs, and hence they must ever be exposed to depredation. Now a round fat sleek Berkshire a temptation that the pilfering propensities of our negroes cannot resist.

Our only safety is in your long legged lean and hungry alligator, which he could not catch if he would, and would not if he could. If any man attempts to keep a large number of Berkshires in this neighborhood, he must house them every night under lock and key.

Again, as to the bacon they make. I am old fashioned in my taste, and prefer a Virginia ham to any other eating in the world. Now I do not believe that a prime ham can be made of the true flavor out of any hog less than two years old, or from any except a poor hog just fattened up. But your Berkshire never gets poor, and at the end of two years is an overgrown mass of grease, well adapted probably to making grass meat for negroes, but totally unfitted for the delicate highly flavored table ham. That new flesh affords the most delicate food is no new idea, but one well recognised amongst beef eaters, who all admit that the most delicate eating is obtained from an old worn down ox just fattened up.

Remember, sir, I am speaking of the delicacy of bacon without regard to the expense of making it, which by the by no true lover of bacon will ever regard. My devotion to the article may make me over particular, but I must confess I look upon one of your overgrown Berkshires with great distrust, and set down to my favorite ham with a melancholy foreboding that its delicate sweetness is destined to yield to the greasy rankness of the new breed.

AN AMATEUR BACON EATER.

New, Kent Virginia.

From the Farmers' Register.

EXPERIMENTS TO SHOW THE PROPER STATE OF WHEAT FOR REAPING.

[Continued from last week.]

From the above details, it would appear that it is the farmer's interest to cut his wheat before it becomes thoroughly ripe. Many, no doubt, will be disposed to doubt deductions of such importance drawn from such limited experiments. This objection the writer anticipates, because it is a natural one, which he felt himself, when he considered the most important conclusions which resulted; when, however, he retraced, step by step, his investigations, without any variation in that result, he could no longer refuse to believe it true till he proved it untrue. He is aware that there are other points of consideration in this nature—that there are peculiarities in the subject of land, of seed or of season, and that there is, as in all man's investigations, a possibility of error; any of which circumstances might materially affect the result of experiments upon so limited a scale as the present one; and for this reason he will, if all be well, give the subject a trial in the ensuing harvest, on a much more comprehensive scale. That the results of these experiments will be corroborative in the main points, he has no doubt, and for this cause he feels no hesitation in laying the preceding "details" before the agricultural world; moreover, as he has in no case given a deduction without the grounds upon which it rested, the degree of "acceptation" which the reader may give it rests with himself. The most sceptical, he however flatters himself, will think it "worthy" of being tested, if of nothing more.

In testing, however, the conclusion which the foregoing experiments warrant, there are some other advantages which strengthen that conclusion, which must not be forgotten. That they have not been considered in the preceding pages, is not because they are of no import, but on the contrary, because they are of such consequence that the writer could not assign them an adequate momentary value. And had he attempted to do so, he would have at once made the details of his experiments valueless, by mixing the real results of practice with the imaginary ones of opinion. Before the subject, however, can be thoroughly sifted, they must be considered. The circumstances are these:—independently of the 4 per cent. gain (according to the foregoing experiments) by reaping our wheat a fortnight before it is ripe, we have

1st. Straw of a better quality.

2d. A better chance of securing the crop; and

3d. A saving in securing it.

1st. "Straw of a better quality." This is easily demonstrated both for the purpose of food and manure.

As an article of food the value of any vegetable depends upon the gross quantity, or upon the combination of certain substances termed soluble, from their entering into union with water. This rule applies particularly to the grasses which are used for the purpose of feeding stock. The substances generally found in these grasses are saccharine matter or sugar, mucilage or starch, and gluten or albumen, and bitter extract and saline matters. Of these the sugar is no doubt the most, and the extractive matter the least, nutritive; the latter having been found, by experiment, to come away in the dung of the animal consuming it, while the

* "The mode of determining the nutritive power of grasses by the quantity of matter they contain soluble in water, is sufficiently accurate for all the purposes of agricultural investigation." Sir Humphry Davy in his "Account of the Results of Experiments on the produce and nutritive qualities of different grasses and other plants, instituted by John, Duke of Bedford."

other matters were absorbed by the body.

Now wheat is a species of grass, and the value of the straw, as an article of food, depends upon the quantity of nutritive matter contained in it. "This nutritive matter must be very small in straw, as now generally used," the practical farmer will say, "for straw per se is but poor food, and scarcely able to sustain life." This is true; "from 400 grains of dry barley straw," says Sir H. Davy, "I obtained 8 grains of matter soluble in water, which had a brown color, and tasted like mucilage. From 400 grains of wheat straw, I obtained five grains of a similar substance." With this paucity of nutritive matter in the straw before us, how can we account for the fact that, in the sap of wheat, the straw, and all succulent plants, there is naturally a great proportion of mucilaginous and saccharine matter? The answer is this. In all grasses and succulent plants, the greatest proportion of this is present before the flower is dead ripe. So in wheat, when we allow the straw to remain till thoroughly ripe, a portion of the sugar is converted by the action of light, heat, &c. into mucilage, and a great proportion of the nutritive powers of the grass absorbed by the atmosphere, or lost in some manner; for, as Mr. Sinclair observes, in his "Report of Experiments on Grasses," "there is a great difference between straws or leaves that have been dried after they were cut in a succulent state, and those which are dried (if I may so express it) by nature while growing. The former retain all their nutritive powers, but the latter, if completely dry, very little, if any."

As a manure, too, the straw cut "raw" is equally superior to the ripe; for, as it is an agricultural axiom that the better the food of an animal is, the better the manure from it, the manure from a stock consuming this straw, containing a fair proportion of nutritive matter, must be more valuable than that from stock consuming the ripe with scarcely any in it.

But a great proportion of the farmer's straw is converted into manure without undergoing the process of mastication and digestion. For this purpose the unripe straw is equally preferable, as all unripe vegetables are manures without preparation—the soluble and nutritive extracts which they contain, being the principal agents in forming vegetable manure; as they not only combine to render the process of decomposition the more rapid, by breaking down the woody fibres, &c. in the manure heap, but are also in their pure and separate states stimulants to vegetation.

It may be urged that the increased value of the straw is more in favor of that cut very green (No. 1) than that cut a fortnight later (No. 2). This is true; but, to produce this increase of value, if we cut our wheat so early as No. 1, we have a desiccation of the grain to such an extent as to diminish the measured produce above 12 per cent.; while, by reaping with No. 2, we are, so far from injuring either sample or measure, actually improving both, and at the same time gaining above 5 per cent. in the weight, and at least as much in the quality of the straw. For the increase of weight in the latter is not produced by a greater produce, but by the presence of a greater portion of those

† "The fluids contained in the sap-vessels of wheat and barley afforded, in some experiments which I made on them, mucilage, sugar, and a matter which coagulated by heat." Sir H. Davy, Agricultural Chem. 142.

‡ Vide Agricultural Chem. Sec. 6, p. 264.

* The inferiority of the quantity of sugar in the summer crops, probably depends upon the agency of light, which tends always in plants to convert saccharine matter into mucilage. Ibid. p. 414.

† "Green crops, or any kind of fresh vegetable matter, require no preparation to fit them for manure."

‡ "All green succulent plants contain saccharine or mucilaginous matter, with woody fibre, and readily ferment. They cannot, therefore, if intended for manure, be used too soon after their death."

§ "When green crops are to be employed for enriching a soil, they should be ploughed in, if it be possible, when in flower; for it is at this period that they contain the largest quantity of soluble matter, and that their leaves are most active in forming nutritive matter." Sir H. Davy, Agricultural Chem. p. 264.

¶ "Vegetable manures, in general, contain a great excess of fibrous and insoluble matters, which must undergo chemical changes before they can become the food of plants. It will be proper to take a scientific view of the nature of these changes, &c."

§ "If any fresh vegetable matter, which contains sugar, mucilage, starch, or other vegetable compounds soluble in water, be moistened and exposed to air, at a temperature from 55 to 80 degrees, oxygen will soon be absorbed, and carbonic acid formed; heat will be produced, and elastic fluids, principally carbonic acids, gaseous oxide of carbon, and hydrocarbonate, will be evolved; a dark colored fluid, of a slightly sour or bitter taste, will likewise be formed; and if the process be suffered to continue for a time sufficiently long, nothing solid will remain, except earthy and saline matter, colored black by charcoal."

¶ "In proportion as there is more gluten, albumen, or matters soluble in water, in the vegetable substances exposed to fermentation, so in proportion, all other circumstances being equal, will the process be more rapid." Ibid. p. 257.

§ "Mucilaginous, gelatinous, saccharine, oily, and extractive fluids, and solution of carbonic acid and water, are substances that, in their unchanged states, contain almost all the principles necessary for the life of plants." Ibid. p. 256.

soluble substances which are alike necessary to animal and vegetable life—are alike the nutritive part of food and the quickening principle of manure.

2d. We come now to the second advantage, the "better chance of securing the crop."

This is self-evident. We gain a fortnight at the commencement of harvest. If the weather be good, we can secure a great portion of our wheat before we should scarcely have begun upon the old system. If not, we can wait; so, under any circumstances, our chances of securing the grain must be greater. Moreover, if we take a retrospect of the harvests for a number of years, we shall find that nearly all the early harvests have been what we term "good" ones, i. e. good as regards weather and the condition in which the grain was secured.—When the peculiarities of our climate, its general fickleness, and its still greater liability to change as the autumn advances, are considered, this will require no explanation.

If we look, too, at the later harvests, we shall, I venture to say, find that, in nine cases out of ten, the grain which was cut first was secured in the best condition. As an example of this, the crop of 1839 will suffice. The crops were late, the beginning of reaping the same, and the result was that in the north of England full 75 per cent. of the whole wheat crop was damaged. And full 75 per cent. of that which was uninjured, I will also venture to say, was that which was cut first. In Yorkshire this was especially seen; for the earliest wheat was with the greatest difficulty secured. In this village (North Deighton) not a sheaf was in stack till the day before, and on some farms, the very day on which the rainy weather set in.

The frequent recurrence of such years as this, will teach the value of even a fortnight better than any thing that can be said here. And that they will recur is beyond a doubt. What has happened once may happen again, but what has frequently happened, (as this sort of harvest has,) with the same causes in operation, we are warranted in saying, will happen again and often.

3d. The saving in securing the crop is a double one. In the first place, there is less waste in moving or reaping, and no danger of "shaking" or "necking" in strong winds. In the second place, there is an absolute economy in the expense of reaping the crop, which may be thus illustrated.

The busy period of harvest with the farmer generally extends over four or five weeks. In this month a certain portion of his work is done by his own hands, i. e. by the regular laborers and servants of the farm; therefore, by beginning a fortnight sooner, and extending the season of harvest over six weeks instead of four, it is evident that these regular servants would cut a much greater proportion of his crop—in fact one half more. By this he is rendered less dependent on those extraneous "helps" or "takers" who, in the seasons of hurry and anxiety, fix their own terms.

How often do we, especially in the north, behold a force of reapers in almost every field. The reason is this: the wheat, oats, and barley, are often ripe at one time, and aware as the farmer is of the injury which strong winds and showers would do them, he has to hunt up laborers at any price. And, after all this extra expense, it is extremely probable that, having the whole of his harvest upon his hands at once, he is compelled to let some part of his grain have too little or some too much weather. By commencing his wheat harvest a fortnight earlier, these evils would have been prevented; by the time that his barley and oats were ready, most or all of his wheat would have been cut, and some of it fit for the stack, and that, too, by the exertions of his regular workmen only. And being neither pressed for time nor laborers, his harvest would have been finished at a less expense, and his grain secured very probably in a much better condition.

To assign a value for these advantages, as has been said before, for the farmer himself; and it will not be an insignificant one. For if beginning harvest a fortnight earlier enables him to save a crop from spoiling once in a lifetime,—if the improved quality of his straw as food for his stock allows him to plough out an acre more, or to pasture another acre of clover with feeding stock, instead of mowing it for his lean stock, every grain saved, every extra bushel of corn produced, and every extra head of stock fed, is a benefit to the whole community as well as to himself—is so much added to the gross produce and wealth of the country. There being, in fact, an increased return without an increased outlay.

The Food of Plants.

I cannot but think we are greatly at fault on this question. There is much that is clouded and obscure, as well as confused, connected with the subject. Science has been seldom consulted on the occasion, and speculation and theory have been confounded with the sound rationale of practical detail. The problem seems to me more complicated than is generally supposed, and the invention depend on more subtle elements than usually enter into the estimate. Food, to serve

as nutriment and be assimilated, is one thing; and stimuli, to impart a tone to or excite the functions belonging to vegetation, so as they may exercise their office in a healthy condition, is quite another affair. I am not quite sure that because we find on chemical analysis, sulphate of lime in wheat, nitrate of soda in barley, phosphate of lime in the oat, and so on with others, it necessarily follows they must be supplied with these several earthy alkaline salts, until it be clearly proved by experiment, that the salts are really absorbed and selected with rare discrimination from the soil, and not produced from the plant. If the former be ascertained, then "sweet to the sweet," sugar to the sugar-cane, pungent solutions to the Piper Nicum, Capsicum, Zingiber, &c., as well as alkaline matters to Saleconia Sal-sola, Kali, &c. I believe that they are fatal antipathies among plants, as well as reciprocal affinities. In 1839 I proved clearly that roots possess secreting organs as well as absorbing in vessels. This fact was subsequently verified by Maquire and others. It explains the necessity of the rotation of crops, as well as the phenomenon of individual plants never perishing in juxtaposition with several of their congeners—while they luxuriate in health and vigor near other plants. On the simple principle so frequently exemplified in the animal world as in hares, goats, sheep, &c., what is food for one is poison to another. In vegetable therapeutics we are miserably defective; indeed, nothing has been done. Charcoal, the scalpel, the syring, fumigation, &c., external and mechanical acts, constitute the sum total, with a change of food, of our treatment of invalids. No medicine has been administered internally to the sickly plants. If growing chamomile will restore (as it constantly does) health to diseased and drooping vegetation, then let an infusion of chamomile be tried, and so on. I merely, meantime, throw out the hint; hereafter I may send you results of experiments.

J. Murray: Gardeners' Chronicle.

Methods of Healing Wounds made in large Trees by Lopping.

The branch is cut off at a distance of three or four feet from the tree, care being taken to support it in a manner to prevent it from splintering the stump. The bark of the stump is then cut into narrow longitudinal strips, which, after being carefully peeled off with a barking tool as far as the body of the tree are tied back so as to keep them clear of the saw in the amputation of the stump close to the body of the tree.—The saw-cut surface is then smoothed with a wide mortice chisel, and is covered with the strips of bark cut and fitted to it as accurately as possible, and fastened down with brads driven into the depth of about one-eighth of an inch.—The wound and surrounding parts are next covered to the depths of two or three inches with a cataplasm, according to the following receipt:—Clay, 4 parts; fresh cow-dung 2 parts, finely sifted wood-ashes, 1 part; add cows' hair, such as that used by plasterers, a handful or more, according to the quantity of the composition required. Mix these materials together in a very regular manner, moistening them with water to bring the whole to a proper consistence. To preserve the cataplasm from injury, stout canvass is passed over it and sowed round the body of the tree; both of which must remain for 6 or 8 months; their removal depends solely on the healed state of the bark. When the bark is healed, the part of the tree where the branch was amputated will appear as if no limb had grown there. The operation should not be performed in the winter months, for the bark will not run or separate from the wood, and the wounded part would be liable to be attacked by frost.

Mr. Henry Smith: Transactions of the Society of Arts.

WATER-PROOF DUBBING FOR LEATHER.

Keep your feet dry and head cool.—To render leather water-proof, and at the same time to preserve its elasticity, is a matter of great importance, as it increases its durability, and protects those who apply it to shoes or boots from the mischievous effects arising from damp or wet feet. The following receipt followed out carefully, it is believed, will effect this object. Take a pint of linseed oil, two ounces of bees-wax, two ounces of spirit of turpentine, and a half an ounce of Burgundy pitch, and slowly melt them together, continuing to stir them so as thoroughly to incorporate them, being careful not to set the mass on fire, as the ingredients are all combustible. When this compound cools, it will be found to be about as elastic as leather ought to be. If it were harder, it would cause the leather to crack or break when bent; and if it were softer, water would enter and wash it out. To apply it, re-melt it, warm the shoes, or boots, and put it on with a small brush or a sponge, or piece of cloth tied on the end of a stick; continue to warm it till the leather is well saturated with it, and particularly the bottoms of the soles and heels. It should always be applied when the boots or shoes are new, and then lay them by to season some time before wearing. Leather thus treated will be found impervious to water, and will wear twice as long as that to which it has not been applied. The writer has used this article

for many years, and can testify to the great benefits derived from it; and he has no doubt but his shoemaker's bill has been reduced to one half by the use of this composition; and what has been saved by doctor's bill he is unable to estimate.

Common grease applied to leather tends to rot it, and it is soon washed out in wet weather.—Farmer's Cabinet. O.

From the British Farmers Magazine.

Manure.

Allow me to point out the enormous waste of manure, in the shape of muck, resulting from badly constructed farm-yards, and by mismanagement. And first by way of hint to landowners, there are but few farm-yards in the western part of this country, that are situated and apparently formed for the purpose of washing away into the brooks and streams this muck.—The sites which have been selected for the sheds, commonly called "hays," are placed on an eminence with the yard of "bardon" on an inclined plane—frequently on a considerable declivity. The consequence is, the valuable property of the muck is either wasted by evaporation or washed away the heavy rains and by the accumulation of water from the roofs of water from the roofs of the sheds, mounting, when the fall of water is heavy, to a flood. This waste of manure, in too many instances, goes on throughout the winter. What then must be the amount of waste and loss! The blood-colored streams of water, by the mucilaginous and extractive matter—the soluble essence—flowing a way throughout a long winter, is the best answer. It is so novel to see an accumulation of stabling at the door, or placed near, and under the eaves, smoking with excessive fermentation, and driving off in gaseous form, carbonic acid and ammoniacal matter—the constituent property of good farm-yard manure; the residue merely woody fibre, and scarcely worth taking away. All farm-yard dung, and particularly that from high-fed cattle, deteriorates from the same cause. It is too much the practice to let dung accumulate through the winter, till the cattle are about to be turned to grass, and to collect the whole into large dunghills; by this practice, on badly constructed farm-yards one-half of the quantity, and three-fourths of the quality, are lost to the farm and to the public. The landowner would do well for his tenant, in diverting the water from his farm-yards, by shoots being fixed to the eaves of the buildings; the tenant would soon discover his interest, by preparing layers of soil, from 1 foot to 18 inches thick, for a base, cast on his dung as soon as made, and seal it down with another layer of soil, &c.—of compost for light or gravelly land, and vice versa. Sir Humphry Davy has informed us, that when dung heats beyond 100 degrees of Fahrenheit, deterioration commences. He subjoins a test: "When a piece of paper, moistened in muriatic acid, held over the steam arising from a dunghill, gives dense fumes, it is a test that the decomposition is going on too far, for this indicates that volatile alkali is disengaged." Having given my opinion on the economy of farm-yard dung, I shall conclude, on the present occasion, by detailing the practice I adopt in further preparing these compost heaps, preparatory to being laid on the land intended for its reception, &c. Early in the spring, and when the temperature rises, these composts should be well turned and mixed; this cannot be too effectually performed. When heat is generated in the composts, which is generally the result in ten days or a fortnight, according to the temperature of the atmosphere, they should be re-turned and intimately mixed again; and this process should not, on any account, be neglected; the non-deterioration of the manure will not be safe till it is well amalgamated with the soil intended for cropping.

A NORTH-WEST SOMERSET FARMER.

Abuse of the President's Confidence.—The individual referred to by the National Intelligencer of yesterday, as having wormed himself into the confidence of the President, and who is connected with the New York Herald, has given another evidence of his unworthiness of the partiality which seems to have been conferred upon him. He started from Washington on Thursday, at 12 M., with a manuscript copy of the veto message, in the handwriting of the President's Private Secretary, which he exhibited to the passengers on board the steamboat from Baltimore; boasting at the time, of his familiarity with the President, and his previous knowledge of the contents of the veto message.

These facts reach us from three individuals who were on board the boat at the time; and whose statements are entitled to confidence. The explanation of this disgraceful betrayal of confidence, as stated to us, is that the impudent fellow was "in his cups." But the President should not extend such confidence, to any one, and last of all to the one in question.—He is an adventurer from abroad, a notorious libeller of our institutions, and his presence in the Executive mansion is a dishonor to the President, and a disgrace to the country, to say nothing of the confidence reposed in him. As the President now understands this matter, we doubt not he will save us from further humiliation.—Phila. North Amer.