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MANURES.

[Prize Essay of Ill. Ag'l Soc. for 1870.] By R. GIDDINGS, Rockford, Illinois.

Engaged, as we have been, in the business of market gardening and seed growing, we long since learned that our net annual income can almost certainly be predicted from the amount of manure secured. Knowing so well its importance we have naturally been led to make it the subject of some thought, and not a few experiments, the practical results of which we shall seek to embody in this paper. We shall make no effort to discourse learnedly upon theories, or the teachings of the books, but rather to tell simply and briefly the methods we find most profitable in saving, manufacturing and applying manures.

From the moment we come into possession of it we find the chief difficulty with manure, as with riches, is to keep it. If our fields be idle and free from frost, we can at once put it under the surface. But this is possible for only a small portion of the year, and often for a long time it must lie out where the hungry atmosphere drinks up its richness, the winds dry up its juices, the fires

of fermentation within send up its fragrance in rising clouds, and the leaching rains wash out its strength. Thus our chief losses are to be attributed to evaporation, leaching and "fire fang," and the problem before us, in successful husbandry of manures, is how to defeat these forces. In the first, the moisture is lost so that not only the manure ceases to decay, but the searching winds and the drying sun cause the loss of many valuable elements along with the moisture. In leaching the finer, more available and valuable portions of our manure wash away in a liquid form, and though they go somewhere upon the face of the earth, to the benefit of organic nature, yet it is apt to be in the shape of a good

pickerel to the profit of some lazy sporting man instead of being to the profit of the industrious but negligent farmer in the shape of corn. In the case of "fire fang" -which means simply burnt up by fire-the nitrogen, which is the most costly and most desirable element of our manures, forms a chemical ture or water in the manure, and they become ammonia, an exceeding volatile substance, which at once passes off and is lost, if not fixed or absorbed, leaving the manure little better than so much of ashes. Where horses, whose manure is highly nitrogenous and liable to heat and fire fang, are stabled together, with or near cows or horned cattle, whose manure brings less nitrogenous, acts as cooler and absorbent, their droppings can be thrown together, and if well mixed will suffer little, if any, loss from this source. In our own stables this course, with the addition of dry earth as an absorbent constantly in use, is entirely successful in resisting all these several sources of loss. But with manures from town, which are usually highly nitrogenous, so simple a process cannot be employed. And yet something must be done, for nothing is more discouraging, after a small mountain of fertility has been accumulated by labor and money, than to thrust in a fork and find it burned till no better than chaff. The most common expedient and the universal advice is, to fork it over repeatedly. This is a considerable expense, oftentimes fails us-almost always in dry weather—and no small amount of ammonia is lost for the want of an absorbent. Having noticed the most satisfactory effects from the use of our hot-bed manure which rarely showed traces of fire fang and gave evidence of retaining its ammonia, we were led to seek to bring about the same conditions in our large manure piles. For this purpose the manure was put in long piles, four to five deep and ten to twelve feet wide. As soon as thirty or forty loads are put in pile the water cart is brought into use and the whole pile is thoroughly drenched, i. e., filled with all the water it will hold without leaching. It is then covered with earth, two to four inches deep, and left eight to ten weeks, or till wanted, when it is found so short and fine and strong as to tickle any good farmer. The past season was so unusually dry for so long a time that we opened the pile and gave a second soaking; but in ordinary seasons this is not necessary. We have a water box to use on a one-horse cart, useful for many purposes in the garden, and with this we hauled the water, raised with a portable pump, from a creek on the premises. From an accurate account kept we find a good soaking costs us two cents, and the covering one cent a load. Of course those not having so good facilities might not be able to do it as this trifling expense, while

others having force pump and wind mill

favorably situated could do it for even less.

ESTABLISHED IN 1841.

"THE FARMERS' RING."

For the first time in the history of legislation in the West, that we are aware of, there comes the alleged charge that the farmers have united to pass enactments for the benefit of the industrial people. In the Springfield correspondence of the Chicago Times, and in the editorial columns of that paper, it is alleged that a "Farmer's Ring," has been organized in our state legislature,

which professes to rather run things in its own way, and, especially, in opposition to the lawyers, over which class the farmers have a

majority of one or two. our cotemporary is not strictly in accordance with the facts, we are glad to say that there is a grain of truth at the bottom of it. The farmers have not organized as a class to make war upon another class, but they have come to the very wise conclusion that there are the rural population of the state; enactments that this population which does threefourths of all the labor and pays threefourths of all the taxes, have never been able to get before, which may be had without interfering with the just and legitimate rights

the requisite number of votes, to pass these

enactments.

They do not vote blindly upon these bills, but at the meetings of the Legislative Farmers' Club, organized for the purpose, they discuss the merits and demerits of all work and bills pertaining to the industrial interests. Several of the members of this club are lawyers, and they meet and vote with the farmers. The farmers in the Illinois legislature make no war upon lawyers or any other class. They merely insist upon the just recognition and protection of the interests they represent. In the matter of the salaries of the judges of the supreme court, they made their power felt, voting solidly against the lawyers; but as these salaries come largely out of the farmers and mechanics, it was but right that they should see to it that the salaries are not exorbitant; besides, in their position, they but sustained vention. And, supposing it to be true that the farmers have a "ring," how much better in effect it must be than are "Railroad rings." "Warehouse rings," and "State House rings," which depend not so much on the number of railroad, warehouse or state house men actually in the legislature, but upon the number of votes a corrupt lobby can influence by fair or foul means. If there are to be combinations, those based upon classes are far the more legitimate and far the less mischievous in their workings.

For ourselves, we are heartily glad to see the charge brought against the farmers and mechanics that they have formed a ring, though, as we see, the charge is not actually true. It shows that the power of these classes will be recognized whenever they decide to assert it; and the fact that much more than the usual amount of legislation regarding matters that pertain to the farmer and the mechanic, is being enacted in the present legislature, is proof that the proper people are beginning to rule in our legislative halls.

Success, say we, to such a "farmer's ring" as exists at Springfield to-day! May such be organized at the capital of each of our States, and at the capital of the United States, must be the wish of all who value the welfare of the producing classes. We look upon the charge of a "farmer's ring," as something for the people to be proud of, and upon which they may congratulate themselves and take fresh hope in the war against transportation and other monopolies.

REFORM IN HIGHWAY LAWS.

Having noticed from time to time, articles in your paper in reference to a reform of our present (as I consider) very inefficient road system, I have felt it incumbent on me to give my views on the subject. Having held the office of highway commissioner for the last opportunities to be posted as to the merits and demerits of the present system, and accordingly would recommend to the people of the state the following plan for a reform:

First, that the present system should be abolished, with some of its better features readopted. I contend that the property of the community should be taxed to raise a cash fund for the support of roads and bridges in the same manner as the fund for the support of schools is raised. This fund shall be raised by taxing the real and personal property a certain per centage, not to exceed as a maximum say \$1.00 on the \$100 value of the previous year. This fund shall be at

sioners, (elected as at present provided by law,) and shall be expended by them whereever required. The people at their annual town meeting shall elect one of the two commissioners (whose time is not expired) as a general superintendent of roads, whose duty it shall be to hire men or teams and implements, if not already owned by the town, and personally superintend the work done on the highways by the force under his control—this force to be paid out of the fund on hand. The superintendent as well as the board of commissioners shall report annually to the board of town auditors, as at present provided. I propose to abolish the Now while this assertion on the part of office of overseer of district highways, also the poll tax. The last feature, I am aware, will meet with opposition, but the fact is the majority of those under the age of fifty years who now pay a poll tax are property holders, and that property can be taked enough more to be equivalent to it. The micertain enactments needed for the benefit of nority are generally men who work by the month, and hangers on in the railroad towns, who often refuse to pay or work, and having no property which can be levied on for the tax, the tax is lost to the town; consequently there is not much object as I consider to retain the poll tax. The duties of highway commissioners, in relation to laying of roads, of other classes, and they propose, having settling fence and ditch disputes, to be the same as heretofore.

This is the outline of a new system, which I think would be better than the old, mainly because the support of the roads and bridges of a community would be better and cheap er done in the end on a cash and regularly organized system, than as at present, when private and public interests, as relating to roads, clash with each other. Men will not leave their business willingly to work on the highways, when in a busy season they are losing by so doing, oftentime, double what the law allows them for time spent on the highways; consequently they'do not accomplish much when they do work. Indeed they would prefer paying their road tax in money, rather than to be called away in a

There is another view of this matter which I wish to set forth; and that is, the the opinion of the late constitutional con- inadequate compensation of road officers, which deters capable and energetic men from serving in that capacity. Under the new system that I propose the highway commissioners shall have two dollars per day allowed; and the general superintendent of roads, in consequence of his arduous duties, should have three dollars per diem for time actually spent in his department.

A. P. HUDGENS.

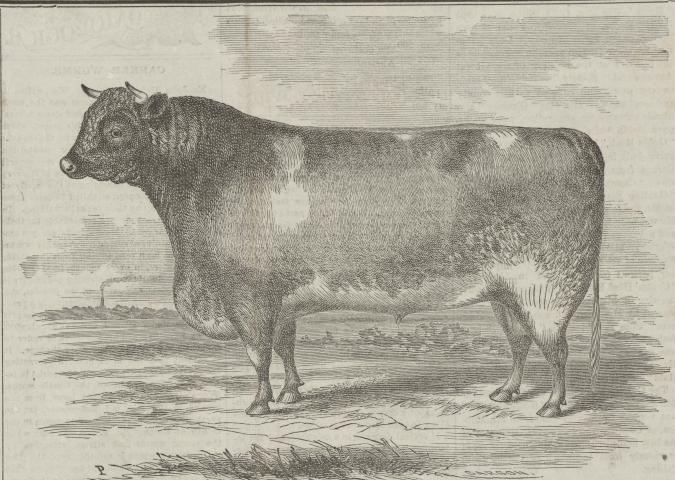
AGRICULTURAL MATTERS AT THE EAST .-- NO. VII.

I write the eighth day of March, with the song of the blue bird and robin sounding in my ears. The great snowfall from which we anticipated damage, when it should suddenly be converted into water, has left us, only swelling our rivers so as to make further apprehensions of low water-that condition of things so dreaded and so costly in the East-for a time baseless. Since March came in, the weather has been marvelously mild; some of the days reminding one of June, rather than the March of blustering, raw winds, and disagreeable and frequent storms. Some pieces of land are ready for the plow, and before this letter reaches your readers, not a few farmers in the latitude of New York City (probably) will have commenced their first preparation for sowing spring

Store stock, and especially cows, are remarkably low, average dairy animals selling at about forty dollars the head. They will be higher the first of June. Not a few farmers are feeding Western corn for lack of hay, and are paying at least ten cents a bushel more for it now than it cost in December; and ten cents more for it, in the matter of freights, than it should cost at any time. This "watering stocks," so common with the leading railroad lines, is costly business to Eastern farmers as well as others. It adds to everything we buy West, from seven years, I think I have had abundant | five to fifteen per cent., according as it is light or heavy when compared with its cost; and therefore keeps us from buying as largely as we otherwise should, and of course, subtracts to this extent from the profits of the Great Interior.

It is too late now to remedy the grievous and great wrong, and the consequences will be felt all through this century and into the next. It makes no small difference whether we help to pay ten per cent. dividends on fifty millions of railroad stock, or a hundred millions, where profits on farming operations are never over large.

The "help question" is still an absorbing property, ascertained by the assessment of topic. Men are scarce who are desirous or even willing, to work on a farm; and when the control of the board of highway commis- a good man is found, he generally names! Give them a dry bed to lie on.



IMP. GEN. NAPIER, AT TWO YEARS OLD, (A. H. B. 8199, U. H. B. 26239,) RICH ROAN. Calved May 2, 1868. Property of C. C. & R. H. Parks, Wankegan, Ill.

from twenty-five to twenty-eight dollars a month and board, as compensation, which no farmer who expects to keep out of the bankrupt courts can afford to pay. Not a few men will do what they can themselves, and let their lands go unimproved rather than incur liabilities that they might not be able to meet. We need cheaper labor or better markets, and if we cannot get the last we shall get the first, and if the "Meathen Chinee" can be made to see it for his interest to do our work at reasonable rates, within ten years he will have the offer. If the facilities for getting help of this kind had heen good not a few car loads would have through your Garden City to the needy East, during the months of March and April. Of course, there is great prejudice, in fact opposition, among working men to any movement of this kind, but it is utterly useless to attempt to hinder the inevitable. Where work is to be done, those must be found who will do it, and the law of labor as well as trade is, the one that sells the cheapest gets

the business The outlook for the farmer is quite discouraging. No product bears a good price except potatoes. They are selling at from one to two dollars a bushel, but unfortunately, and of course, nobody has potatoes to sell, scarcely to eat. Butter is talked of as bringing from thirty to thirty-five cents for the season. The hope is that it will be sold for the last named price. Spring calves just now being sent into market, are selling at seven and run it through slowly. The coarsest cents, live weight, against nine a year ago. And at the heighth of the season will not be over six, and perhaps, not over five.

There will be less money put into artificial manures at the East this year than usual. Some of the compounds are excellent, but most are comparatively worthless. A neighbor of mine paid last year sixty-four dollars for a load of a highly recommended fertilizer, and I think that he got, possibly, sixty-four cents from his well meant investment. It may not have been wholly in the manure, but some property it contained may have been in abundance in the soil with which it was incorporated, or the soil may have lacked something that the material applied did not contain, and so the money was thrown away.

Traveling somewhat in a rural district, I noticed a growing disposition to make the homestead beautiful. There is an increasing demand for white lead and oil. The cattle are shut from the houses by ornamental as well as serviceable fences. Hogs have their domain, instead of monopolizing far too much of the land adjacent to the dwelling, as in other and worse times. A little plot is reserved for flowers, and everywhere evidences of taste manifest themselves. All this is as it should be. There is an ideal as well as an actual farmer's life, and the blending of work with the cultivation of the higher faculties is all important in making farming a business satisfying equally to the body, the mind H. L. R. and the soul.

BECAUSE wool and mutton are cheap is no reason why lambs should perish by neglect.

A SUBSTITUTE FOR THE IRISH

The destruction of the potato, the past year, in a large portion of the Northwest, by the Colorado bug and drought, leads us to inquire for a substitute for this valuable

Twenty-five to thirty years ago carries the writer back to a residence in the southern part of the States, where the Irish potato was a rarity, but its place was in a measure supplied by a very palatable dish, called hominy-coarse ground, white corn, freed from the hull or skin, and the found their way from the Western Slope, after being ground or broken, boiled rather thin in water and served warm.

If the dish was properly served to a stranger, I think he would be unable to tell of what it was composed-would probably think it was some rice preparation.

The difficulty we have in introducing hominy as a substitute, is custom; further, our mills do not understand its preparation, and our cooks cannot get their minds from off "samp" and "mush and milk," as connected with corn. But however discouraging the prospect, here is our plan of pro-

Take dry white corn (the color is only fancy)-if of the flint or Yankee variety, all the better-get the mill to crack it as for "samp," and if it can be run over a screen, to take out the finer parts, all the better.

Prepare your fanning mill as for wheat part will come out in place of the wheat, a finer sample will be deposited in the screenbox, and the skins or hulls and mealy portions will be blown out. That from the screen box and spout of the mill may be called hominy and will require more boiling than meal, but its freedom from meal will render it less likely to burn, or will admit of less

stirring while cooking. A friend from Virginia, says the corn should be dry, placed in a basket or leaky vessel and boiling water poured through it. Then place a blanket over it for an hour before grinding. He says that this process will more effectually free it from the hull of the grain. If our Southern readers can give us information upon this subject better adapted to our wants, they will place us under great F. C. CURTIS. obligations. ROCKY RUN, WIS.

POTATOES DO NOT MIX IN HILLS.

"SUBSCRIBER," Piper City, Ill., wishes to know if potatoes mix when planted side by side, or even in the same hill, or whether they remain distinct varieties. They will not mix when so planted. The

potato planted is not a seed, but is a thickened underground stem. The eyes are small sunken buds. These eyes send up shoots and thus continue the variety. Roses, blackberries, lilacs, peppermint and great numbers of other plants multiply themselves by underground stems, in a manner similar to the potato. So willows, grapes, currants and gooseberries are multiplied by cuttings from stems above ground. The sprouts from apple or cherry trees will be of the same variety as the main trees, unless the sprout came

from a root into which the main trunk was once engrafted. Now, varieties of potatoes are obtained by planting the seeds from the little balls which grow on the tops of the vines. So we get new varieties of peaches, apples, cherries, &c, by planting their seeds.

A DISCOURAGING BORE.

String Prairie, Illinois, extends from Carrollton, on the Jacksonville division of the C. & A. R. R., across Greene county, in a north easterly direction. The land is well adapted to grazing and corn growing. Stock raising is the chief source of income; but one great want is felt by all, viz., the lack of a supply of stock water: during dry summers and falls, ponds and wells both fail. To test the matter of artesian wells, Mr. Geo. L. Burras, six miles east of Carrollton, commenced drilling a well on the 7th of November, 1867. The general opinion was that flowing water would be found at a depth not exceeding 600 feet, as no wells had ever been sunk to a depth of more than 100 feet in this county; the work was more difficult, there being nothing known of the geological formation The first 300 feet was almost entirely through clay and shale that caved in badly. On the 2d of March, 1868, the drill reached the depth of 370 feet, and was working in a hard, white limestone, when shale, from between 200 and 300 feet, fell in on the tools, sticking them fast, and on March 16th, after various attempts to get them loose, they broke and the greater part was left in the well. The remaining entire machinery was

moved about 7 feet, and on the 31st of March a second well was started. This well was cased 300 feet with sheet iron casing, which gave way on June 18th, the well at this time being 415 feet deep. The work was now suspended until artesian tubing (light gas pipe) could be shipped from Philadelphia. This arrived August 25th. Four weeks were spent in getting out the sheet iron casing (much of which had to be drilled out) and in putting in the heavy casing. The work then went on until July 2d, when the depth of 880 feet was reached. Up to this time the tools were the ordinary rope tools, used in the oil region, the size of bore, 41/2 inches in diameter. They were now found to be too light, and no more was done till Oct. 29th, 1870, when new machinery and pole tools were put in, and work again resumed. At 940 feet a soft blue shale was struck which caved in badly, but did not impede the drill much until it reached 1,000 feet. After spending nearly two weeks, working out what caved in, it became evident that nothing more could be done without enlarging the bore and casing through this shale. Jan. 11th, 1871, the work was abandoned entirely having reached 1,004 feet.

For the most of the time the drill was run night and day, requiring four men and a ten horse power engine, with rope tools, and five men and fourteen horse power engine, with pull tools. The aggregate of materials passed through were, soil and clay, 47 ft.; shale, 334 ft.; sand rock, 117 ft.; lime rock, 506 ft. This experiment shows that if artesian

water can be had here, it is too deep to be of practical value to stock raisers. CARROLLTON, ILL.