



AGRICULTURAL.

HINTS ON MEADOW DRAINAGE.

The poaching of meadows by the feet of cattle and the wheels of carts, is not always a damage. In some cases it is a decided benefit, as on a light brown loam used as permanent meadow, or on a black peaty soil always moist but never drowned with stagnant water, and of course better without drainage than with, for the reason that a porous subsoil already drains it just enough for growing hay.

We once had a case of this kind. In a beautiful meadow, near a highway, there was an unseemly mound. The top was neither pointed nor oval, nor level, but dish-form, a sort of hollow on a hill top, lowest in the centre, with a rim some 25 to 30 feet across, rising a foot or two higher than the centre. This rim we removed, mainly for improving the appearance of the lot. The work was done with ox-teams and scrapers, about the last of March, when the grass had become quite green. The soil drawn off was scattered along slopes, and what was left on the scraper, after getting outside of one acre or a little more, was dropped in low places that wanted a little filling up, to make the face of the whole lot so perfect that a mowing machine could do its work smoothly, and without the risk of injury to itself or the driver. In doing the work the soil was so trodden and mixed, for five or six inches deep, over about one acre, that every spire of grass had disappeared.

Our intention was then to sow on mixed grass seeds. But we had to leave home the next day, and did not return for two or three weeks; when we returned the buried roots had thrown up sprouts of grass so plentifully as to show that no seeds were needed; and the first crop, cut and cured the last days of June and the first of July, yielded a crop which was estimated by good farmers to be at the rate of $\frac{1}{2}$ tons to the acre.

This may have been an over-estimate, but we have never seen heavier grass before or since. The second crop was more than half equal to the first, and that spot has produced, with very little manure, much larger crops than the rest of the meadow ever since, about twenty-five years.

This case, in connection with others that have fallen under our observation, leads us to believe that some lands are better for permanent mowing without draining than with; while we believe most firmly in drainage on heavy soils with no porous subsoils just beneath.

Farmers may ask, "How shall we know whether a meadow has a subsoil through which heavy rains will readily pass?" There are two ways by which that question may be decided:

1st. Bore down six feet with a post-hole augur, in different parts of the field, and if the soil brought up is light, crumbling readily as it dries in the air, showing no signs of clay or any sticky, dingy matter, you may be quite sure that the moist soil over it, if it has a reasonable depth, say from ten to fifteen inches, needs no drainage.

2nd. There is a still cheaper way of coming to a decision. If you have mowed the land for a number of years, and if, with but a moderate allowance of manure, it has given large crops of sweet, upland grasses, with no mixture of sour, unwholesome water grasses, you may know, for absolute certainty, that no drainage is required so long as you choose to grow grass for hay upon it; and you may be nearly certain that such land is more valuable for the production of first quality hay than for any other use.

Or even if on small spots a few spires of water grass appear, they can be cured in an easier way—simply by digging or boring four or five feet under the water grass spots, and filling the holes with pebble stones up nearly to the surface. But as we cannot affirm without seeing the land, that this would be sufficient in all cases, a few patches of water grass might be so treated first as an experiment, which would show in a year or two whether it would pay to treat others in a like manner.—*Ec.*

COCKLE IN WHEAT.

A correspondent writes as follows:—"You can get rid of cockle in a single year by the use of a good fan, and in summer weeding out as much ground as will be sufficient

for your seed in the fall. I have a rich soil, excellent for weeds, and some farmers would say natural for chess, and yet I know from experience that I have neither cockle nor chess in my wheat if I choose to do without it."

We can endorse the last paragraph from the pen of our correspondent, but not the first one. We do not think that cockle can be cleared out in one year. It is true that enough may be picked over to issue clean seed for next sowing, but if the whole crop is not so picked over the cockle seed will be threshed out of the wheat, and pass into the barnyard with the straw and chaff the next season, if the manure is put in for wheat, the cockle seed will sprout and produce a fine crop.

If our correspondent will add one year to the time for getting rid of this pest, we will then endorse him, but we do not think it can be done the way he proposes; simply picking over enough for seed.—*Journal of the Farm.*

ASHES AS A MANURE.

Wood ashes constitute a most valuable manure on almost every soil. There chemical constituents consist of saline, alumina, oxide of iron, oxide of manganese, potash, soda, and phosphate. These constituents are essential to the growth of plants, but potash is most important to all. It is always needed to decompose the various organic substances which exist in the soil—a change is requisite to their becoming food for plants.

Potash also renders inorganic substances soluble, thus converting inert minerals into plant food. Sandy soils are the most benefited by the application of ashes, and they are most particularly useful for the following crops of potatoes.

CAUSES OF DECREASED YIELD OF FARM CROPS.

"Worn out soils" and "exhausted lands," are phrases that have no place in the vocabulary of advanced agriculture. Deterioration is not the legitimate result of culture. When retrograde is the rule in the rate of yield, either a declining agriculture, or a primitive or unorganized one may be assumed. In all the new states of this country, it has often been stated, the yield of the principal products tends rather to decline than to advance. The assumption is correct. Should this fact be deemed an industrial disgrace, and an indication of the inefficiency and unskillfulness of our farmers? Not necessary.

If we regard pioneer agriculture as only an incident to land speculation—the means by which a poor and farmless man may obtain a title, at a nominal cost, to land that will make either himself or his children rich, as settlement and social perfect the advance from nominal to intrinsic value—it is seen to have a basis of sound sense. If, on the other hand, wasteful and depleting methods are continued, and temporary want of system becomes habitual chaos, a stigma is assuredly placed on such practice, and the result is disgraceful and ultimately unprofitable. The tendency to a settled habit of shabbiness and wastefulness is so strong that the pioneer is naturally expected to sell out, remove, and open more wild land before the advancing wave even of a somewhat more methodical and scientific agriculture.

If our yield of wheat, for instance, is decreasing slightly, it is not because of the absence of all progressing elements in our agriculture, but from the fact that most of it is grown on new lands, by pioneer farmers, for the temporary purpose of money making, without regard to a slight deterioration. Nor is the decline in yield wholly or mainly the result of depletion; it is often caused by careless culture, which fails to check the growth of weeds that ultimately overshadow and strangle the crops.—*American Department of Agriculture Report.*

ARRESTING DECAY IN POTATOES.

Various plans for arresting decay in potatoes after digging have from time to time been made public, such as dusting with quick lime, gypsum, charcoal dust, etc. Prof. Church, of Leicester, England, the eminent agricultural chemist, announces that sulphate of lime appears to exercise a very remarkable influence in arresting the spread of decay in potatoes affected by the potato disease. In one experiment the salt was dusted over some tubers, partially decayed from this cause, as they were being stowed away. Some months afterward the potatoes were found to have suffered no further injury. A similar trial with powdered lime proved to be much less effective.

THE FUTURE OF FARMING.

Sixty years ago the farmers were the ruling class. The towns then had not acquired there present preponderance, and the electors in the country districts, whether for county or borough, were entirely in the landing interest. Perhaps nothing so contributed to their loss of power as the practical introduction of steam and the consequent enormous development of trade. But after half a century indications are not wanting of the inevitable compensation which sooner or later follows human changes. The development of trade and manufacture causes a corresponding increase of population, until at the present moment they demand for bread so largely exceeds the home supply that the imports of foreign corn are enormous in bulk. At first they reduced the political and commercial status of the farmer still lower; his produce was driven out of the market by vast consignments from above. But with the demand for corn came a still larger—a disproportionately larger—demand for meat. Corn could be imported, meat could not (at least not in any appreciable result. As soon as this was felt, wasthere a rise in the prosperity and importance of the farmer. His attention was at once turned to the production of meat. The cattle, it is true, were not actually fed on corn, which should be human food, but in effect they were, since the vegetables and products upon which they were fattened were either manufactured from or took up the room of such food, thus still further reducing the real—though not, perhaps, the apparent—supply of English corn. Gradually, in fact, England is becoming a meat producing country as opposed to cereal crops, and the land is turned into vast fattening stalls for the city markets.

So closely does the actual supply of meat correspond with the demand, that a very slight derangement of ordinary conditions is sufficient to cause an appreciable disturbance; and even a permanent increase of prices. Such a derangement was the visitation of various contagious diseases. The numerical loss from these inflictions was comparatively small, when arrayed against the tale of the vast flocks in the kingdom, yet it exercised a very decided effect, the prices took a rise which have never since been lowered. Without taking an alarmist view of the question, it has become sufficiently clear to all that, if the population should increase in its present ratio, the margin between an adequate supply and the chances of a partial famine would be very small indeed. The consciousness of this state of things has been already making itself felt in attempts to increase the production of meat. Obviously, to do this requires an increase in the number of cattle kept. To the Londoner, who has seen the crowded dairies of Islington or Bayswater, this may appear easy enough. If 100 cows can be kept in a building which occupies no more space than an ordinary garden, surely the farmers, with their hundreds and thousands of acres, can support a proportionate number. The number they now keep is ridiculously small in comparison. But these dairies are chiefly fed from the refuse of distilleries, and the result is milk, indeed—London milk but the best becomes skin and bone. There is no meat here, unless, indeed, the cattle are fed on artificial food; but first, now is sufficient artificial food to be obtained to feed these contemplated additional millions of stock; and, secondly, how is it to be paid for? Where is the artificial food to be derived from? It must be grown somewhere, but if it be grown in exceptional quantities, it must be by the use of exceptional and expensive manures. Where are those manures to be got from in such incalculable quantities? Another attempt has been made—by increasing, not the number, but the meat-bearing power of stock—to so modify their shape and so increase their assimilating powers that one animal might carry the meat of three. This has been attempted, and with considerable success, both with sheep and cattle; but the result is practically the same. These beasts require more artificial food, and hence more artificial manure. They cost more to produce. The problem, therefore, simply increases the difficulty; it is not solved. This grievance implies that if he could only employ a large amount of capital he could greatly increase the produce. To some extent this is undoubtedly true, but only to some extent. In the first place, there are already many individual cases in which compensation is guarded, and what is the result? These favoured persons do probably produce slightly in excess of their competitors, but

it is only by an extension of the same conditions. They employ no more powerful manure; they invent no more efficient artificial food and until this is done, enabling a vastly larger number of cattle to be kept, no appreciable alteration will ensue. The same question occurs:—Supposing compensation for unexhausted improvements was the rule, and supposing unlimited capital was ready to be invested, where then would the artificial manure in such enormous quantities be obtainable? The present source would simply materially raise their price; not that such a movement should be opposed, but it is a delusion to think by that means alone any serious alteration is possible. Since, however, England is to be a meat growing country, it is clear that the colonies must be retained in close connection with the mother country as sources of corn supply. It may yet come to pass that those vast uninhabited regions may produce some kind of vegetable in quantities sufficient to feed the stock of the future, or some mineral manure with power to treble the number and amount of our home crops of cattle food. The real question is this, where are the necessary supplies of artificial manure and artificial food to be obtained? The questions of lease or yearly tenancy, or local taxation, compensation, &c., are all mere minor matters before the great national demand for meat. It is obvious that if they can become the agent for the production of sufficient meat, a great future lies before the English farmers. They will occupy their old position as the most powerful class in the country. Coal and iron, all must yield to meat; and the denser the population the more secondary will become these hitherto all-powerful materials. But on the other hand, with increased prosperity, and increased political weight, there will be some corresponding responsibilities; and the force of public opinion is now so great, that any abuse of these advantages will be certain to bring retributive ruin. Should the population still increase, and no further addition be made to our present means of providing meat, the concentration of interest upon the farmer, as a very middle-man between food and famine, will become almost painfully intense.—*Richard Jeffries, in London Farmer.*

WOOD ASHES AS A FERTILIZER.

This is one of the most valuable fertilizers within reach of the farmer. The unleached article has the more potash, but the leached is thought quite as valuable. In leaching they shrink a good deal, and lime is usually added, which increases their value. They are generally sold, too, at a less price.

Ashes are well suited to all farm crops, and are very beneficial in the orchard. Most farmers still sell wood in the cities and villages, and, rather than go home empty, they should carry back ashes and other fertilizers to replace the potash, lime, and phosphoric acid that have been carried off in the crops and animals sold.

Ashes show immediate effects from their application, and, at the same time, last long in the soil. They are very highly appreciated in the onion-growing districts, but may be applied with equal advantage to ordinary farm crops. They should be kept as near the surface as possible, spread and harrowed into the seed bed, or applied directly to the growing crops. Make a business of saving, buying, and storing ashes during the winter for the next season's operations.—*Extract from American Agriculturist for November, 1863.*

DECIMAL WEIGHT.

We clip the following from the *Monetary Times*:

"By an official notification from the Department of Inland Revenue, traders and others are informed that the provisions of the present law relating to the weight of grain, seeds, roots, fruit, &c., will cease to have effect on and after the 1st day of January, 1874, and thereafter, all these articles, when bought or sold by weight, shall be specified by the cental or parts of a cental—that is, one hundred pounds. Those, therefore, who after that date make contracts based on the bushels, will only be bound by the bushel of capacity and not of weight. The important change may be attended with some inconvenience for a short time, but will on full trial prove as satisfactory as did the exchange of f. s. d. currency for the decimal.

The western Illinois, are of the potato. The Colorado war upon from all quarters. This causes the principal of potatoes \$1, and in Colorado \$1.25. This out of the articles of stringent in price, but supply is yet further advanced. Wcents, poor even with all kinds of potato reach man must other cheap body together. But it will live so well—generally prevailed for liarily unfort scarce and ward."

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