

fore, sets it free. For this purpose the lime should be freshly burned, and its beneficial action will be seen in the amelioration of heavy clays which contain much ferric par. In this case a similar means may be taken to liberate the potash from the green sand marls; trials having shown that about two per cent. of the potash can be set free by digesting, in a wet condition, with quick-lime for a few days. Reasoning by analogy, the same method would prove advantageous with leached wood ashes, which have much potash not extracted by ordinary leaching, but which would be likely to yield to caustic lime kept in the presence of moisture. — *Prairie Farmer*.

HOW MUCH PORK WILL A BUSHEL OF CORN MAKE?

Some years ago, when I was just beginning to farm, I was desirous of knowing the best way of fattening hogs, and I determined to try the different plans and also to ascertain how much pork a barrel of corn would make. I made a floored pen and covered it in; weighed three hogs and put them in the pen. I also weighed three of the same size and put them in a dry lot—average weight one hundred and seventy-five pounds. I fed six barrels of corn to the six hogs. They were forty days eating the corn, with a plenty of salt and water. Their average gain was seventy-five pounds. The hogs in the lot gained the most. One that was fattened in the lot gained eighty-eight pounds. One in the pen gained eighty-four pounds; the others were not so thrifty.

These hogs were about fourteen months old when slaughtered. I put them up to the 25th of October. There was a good deal of sleet and snow during the month of November, which gave the hogs in the pen an advantage they would not have had if the weather had been favorable; they were each fed on the same quality of grain. It also shows that one bushel of corn will make fifteen pounds of pork, and that the six barrels of corn made eleven dollars and twenty-five cents worth of pork, at two and one-half cents per pound; and that the farmer gets twelve and one-half cents for his labor of feeding per bushel, over selling at twenty-five cents per bushel. Hogs will fatten faster in September and October than they will in colder weather.

Another very important question or inquiry suggests itself in the foregoing, and that is, What is it worth to raise hogs to the average weight of one hundred and seventy-five pounds? It may be difficult to determine the exact value of the grass clover and grain feed that the hogs feed on while growing to a gross weight of one hundred and seventy-five or two hundred pounds, but with these assistants I can raise a hog to weigh one hundred and seventy-five pounds and over, with one barrel of corn. It will be seen from these estimates that two barrels of corn, with the advantage of grass, clover and grain fields, will produce about two hundred pounds of net pork to two hundred and fifty pounds gross.

Hogs do best in large fields, with plenty of water, and the farmer who cuts up his corn in the months of September and October, and hauls it out on his fields, will be amply paid for his labor in the improvement of his land, from the stalks and manure of hogs. It is a great saving of labor to turn the hogs in the field when the quantity of hogs and the size of the field suit. — *Cor. Ohio Farmer*.

Agricultural Items.

STUDY YOUR SOIL.—Mr. T. Gniwits, of Montgomery County, N.Y., makes the following judicious remarks on a very important subject to farmers, which we copy from the *N.Y. Tribune*:

"The importance, the absolute necessity, of an intimate knowledge of one's own land is a matter not sufficiently considered. Analysis may aid, but chief dependence must be placed on experience and experiments, extending often through a long series of years. Our most successful farmer hereabout is fully impressed with this idea. He has been occupying the same land since 1830, and to his careful observation each season reveals new secrets of his soil, and the influence of climate, &c. He is intelligent, and experience is the lamp by which his feet are guided. He made one of the best farms out of a poor one. He has been adding by purchase to the original acres until now he has a large area of land, all alike good. Knowing the land well, being in the same locality, he gives the new acquisitions similar treatment, and in a few years they are like the rest. The treatment is entirely different from that it usually received. Generally the land is plowed deeper, the manure all kept at the surface, and grass and clover are grown. Where drainage is necessary, it is

done at once. Corn is grown and so managed that it is always a good crop. Heavy sod is selected and the proper soil, with treatment according. Now and then wheat is raised, and sometimes peas. Sometimes winter wheat follows a heavy crop of peas, the peas leaving the land in a rich, mellow condition. Sometimes the fallow is resorted to, as when a newly-purchased piece requires cleaning. Here is success of a high order—perhaps the highest, when we consider profit on the investment. This man knows nothing of the science of farming as popularly taught; he has his own science gathered from his own experience, the science of his locality. To move to another place, with soil and climate different, and apply the same treatment, would be injudicious. The knowledge of the locality must first be acquired, and that can only be done by experience, taking time. The same products are not grown, or not to the same extent; different management is required. And so, not only in different localities suggest each its treatment, but the same farm and even the same field will often vary, and that not unfrequently with apparently the same quality of soil. There is a secret, particularly as it affects the quality of produce, notably the grape and tobacco, that is yet to be traced. Test alone will determine this. Our scientific and practical men are the best farmers, but only when they are thoroughly practical as well as versed in theory. Practice must be the first—in importance—as it embraces the local facts not otherwise obtained. It can be aided by theory, and that decidedly. But it will be only aid, as books are an aid to the thinking man, not the whole of the main thing, as they are so often made."

NEW DRAINING PLOW.—Recurring to the subject of plowing, I am led to mention a new draining plow lately invented in England, which seems good in theory, as far as it goes, but which will require some additional improvements to make it fulfill all the conditions of a successful invention. It is described as comprising "a series of plows placed one behind the other, and arranged in the same vertical plane, but at increasing depths below the surface of the ground, so that each plow may cut off its own horizontal slice of the required thickness." The trouble with the apparatus will be found in making the soil rise on the plows to the surface and out laterally to the ground at the edges of the ditch (without increasing inordinately the length of the machine), as the earth can hardly be forced up an incline of more than twenty-three degrees by the simple forward motion of the plows. Some mechanical device to aid the upward and backward movement is required, and it is to be hoped may be provided; for there are few improvements more needed in American farming, than cheap and simple means of making drains. It may be remarked, with reference to agricultural machinery, many inventions of foreign origin have a direct bearing on some of the more extensive branches of farming here. As for example, an Australian harvesting and threshing machine, brought out a year or two since, and designed for the same purpose as several harvesters of Californian origin, namely, of "heading" standing grain, threshing the heads, and winnowing and sacking the grain. It differed from the latter in combining off the heads by a kind of metallic comb, instead of severing them by the vibratory movement of a harvester sickle. In the operation of the last mentioned device a somewhat audacious idea has been suggested in England, and, if I remember rightly, patented in that country. It is to attach the connecting rod of a small steam engine direct to the sickle or cutter of a reaping machine, thereby getting power enough to cut a swath twelve or fifteen feet wide, the strength of the horses attached being exerted simply in moving the apparatus over the ground. More recent than the above, and in quite a different line, is a Vermin Asphyxiator, exhibited at the late Cardiff show in Wales. A small vessel is provided in which noxious gases are generated by chemical means, and which has a fan-wheel worked by hand to force the gases out in a stream through a pipe. By thrusting the nozzle of the pipe into a rabbit hole the animal is quickly driven out. Perhaps the device could be applied to the capture of prairie dogs, gophers, woodchucks, and similar burrowing quadrupeds,

to the profit of the farmers in some cases, and the delight of the boys in all. — *J. A. Whitney, New York*.

LONGEVITY OF FARMERS.—The difference of longevity among the members of the primary vocations is, if we can rely upon statistics, very marked. Dr. Farr, the accomplished Registrar-General of England, to whom we are largely indebted for information in relation to the laws of health and sanitary progress, has, in his Fourteenth Report, given the world the result of his labors. Of the ordinary occupations, he makes twelve classes, viz.:—Tailors; shepherders; farmers and graziers; carpenters and joiners; butchers; manufacturers of wool, cotton and silk; bakers and confectioners; hotel-keepers; grocers; miners; laborers (agricultural and otherwise); and blacksmiths. Of all these classes, farmers were found to be, on the whole, the longest lived, although, strange as it may seem, the mortality among young farmers was, between the ages of twenty-five and thirty-five, higher than the mortality among laborers at corresponding ages. The classes among which the heaviest rate of mortality was experienced were miners, bakers, butchers, inn and beer-shop keepers. Between the ages of forty-five and fifty-five the annual rate of mortality among the whole population of England was 18 in 1000. Statistics show that, out of the same number of farmers, twelve died; of shoe makers, fifteen; of weavers and others employed in the manufacture of silk cotton and wool, fifteen; of grocers, sixteen; of blacksmiths, carpenters, tailors and laborers, seventeen; of miners, twenty; of bakers, twenty-one; of butchers, twenty-three; and of inn and beer-shop keepers, twenty-eight. [Such is the great longevity of farmers compared to other classes of society.] — *Industrial Monthly*.

POTASH IN THE SOIL NECESSARY FOOD FOR THE POTATO.—In order to produce good crops of potatoes it is necessary that the soil wherein they are planted have within itself, or supplied to it by manure, a sufficient quantity of potash. Every potato crop takes from the soil a quantity of potash and of phosphoric acid, which must be supplied anew. Dr. Nichols, in an address to a board of agriculture, thus tells why a crop of potatoes exhausts the fertilizing qualities of the soil:—"A field of potatoes yielding 200 bushels to the acre will remove from the soil in tubers and tops at least 400 lb. of potash; also it will remove 150 lb. of phosphoric acid." Now, these amounts are very large, and show that the potato plant is a great consumer of the two substances, and also show that in order to restore our potato field to their former productive condition, we must supply phosphatic compounds and substances holding potash in large quantities. For six or eight generations our farmers have been exhausting the soil by these agents in their potato and other crops, and we have reached the time when the vegetable is starving in our fields for want of its proper food. Our farmers have found that new land gives the best crops, and this is due to the fact that such fields afford the most potash. A potato field which gives but one hundred bushels to the acre, requires at least one hundred and forty pounds of potash; but by allowing the tops to decay upon the field, sixty pounds are restored to the soil again, as that amount is contained in them.

LETTER FROM FRANCE.—We give some extracts from the correspondence of the *Iowa Homestead*:—"Crops of 1872.—This year the harvest is exceptionally good, which makes farmers forget former losses and previous sorrow. Spain ranks next to France in having well filled granaries, then Switzerland, and finally Germany. Root crops promise well though the blight has in some districts attacked the potato. Black cattle and hogs are very dear, and, as elsewhere, the meat question is one of prominence. Fall plowing.—French farmers, as soon as the corn is lifted, or even when it is ranged in shocks, break up the stubble, either by a skid plough, or, better, by a scarifier. The advantages of a short fallow are thus secured; the light covering the seeds or weeds are subjected to induces them to sprout and consequently to be destroyed by subsequent tillage. The practice deserves rid of the weeds beyond doubt, to say nothing of the benefit the exposed soil derives from the atmosphere.

CORN LAND FOR WHEAT.—The culture of corn stubble for spring grain should begin in the autumn—in fact the succeeding crop should be kept in view when tilling the corn in the summer, and an extra cultivation given quite late, in order to destroy weeds to as great an extent as possible; for the weeds which ripen

their annual seeds, or strengthen their perennial roots after mid-summer, are great pests of the grain crop the following year. But after the crop is off the field, preparation for the next crop should begin by levelling the surface with the plow and harrow, to be followed by plowing. This fall ploughing should be done as early as possible, and when the ground is fairly dry, and if sub-soiling could be done, it would prove highly beneficial, as the frost would thus better ameliorate the subsoil than if left unstirred. — *Am. Rural Home*.

THE PORK AND CORN CROP.—It is the opinion of those best informed that the hog crop this year will be 25 per cent. greater than last season. The corn crop is now matured, and advices from various parts of the country indicate that it is one of the largest ever raised in the West. This, with the large surplus left over from last year, will keep the price low, and have a tendency to keep pork down. Packers seem to think that they must buy at less than \$4.00 per hundred to make a safe business. In some portions of the country there is a scarcity of hogs to consume the corn, which may tend to keep prices up. Live hogs are keeping up in Chicago to \$5.00 yet. — *Iowa Homestead*.

THE POTATO DISEASE.—Dr. Kuha has shown that the fungus which causes the potato disease (*Botrytis*, or *Peronospora infestans*) only propagates itself while the potato plant is living. Therefore, the potato tuber receives its infection from the haulm or stems, and one potato cannot communicate the disease to another.

CURING MEAT.—The *German Town Telegraph* says:—"To one gallon of water add one and a half pounds of salt, half a pound of sugar, half an ounce of saltpetre, half an ounce of potash. In this ratio the pickle to be increased to any quantity desired. Let these be boiled together until all the dirt from the sugar rises to the top and is skimmed off. Then throw it into a tub to cool, and when cold pour it over your beef or pork, to remain the usual time, say four or five weeks. The meat must be well covered with pickle, and should not be put down for at least two days after killing, during which time it should be slightly sprinkled with the powdered saltpetre, which removes all the surface blood, etc., leaving the meat fresh and clean. Some omit boiling the pickle, but the operation of boiling purifies the pickle by throwing off the dirt always to be found in salt and sugar. If this recipe is properly tried it will never be abandoned. There is none that surpasses it, if so good."

TURNIP-FLY.—For the last fifteen years, on sowing turnips, I provide, ready slaked, one ton of lime per acre. As soon as the plants appear, the lime is spread from a cart over the young plants in the rows. In hot seasons the plants have had rough usage from their tormentors, but sufficient plants escape. I never missed a crop, nor have I had to sow a second time. If evenly spread over the row, the young plants will push through the coat of lime and present a beautiful green line on the white surface. The lime must be put on dry, and on a warm or hot and dry day; for if any dew or moisture be on the plants they will be destroyed. The lime must be ready to be put on the moment the mischief begins, for in the twenty-four hours of a hot season the fly can ruin any crop; it is of no use then going for the lime. — *Mr. Bainbridge, of Oulton Hall, Essex, England*.

CARROTS are recommended as feed for farm horses, as they save oats and give a fine gloss to the skin, besides promoting a healthy condition of the system. From 14 to 21 pounds is a liberal allowance, anything over that being apt to affect the kidneys and induce excessive staling.

PROLIFIC.—A Prescott paper speaks of a stool of oats grown by Mr. Daniel Carghey, which contained 55 shoots, each shoot averaging 150 grains, or 8,250 grains in all. A pretty good crop from one seed. It is an imported variety.

IN ENGLAND there are about 40,000 acres of young oaks and other growing timber planted in enclosures, by authority of acts of Parliament, of which 10,000 were planted last year.

ROSELLA RICE tells the *Ohio Farmer* that it is a great help in dog days to add a gallon of cold water to cream just before churning.

RESOLUTIONS.—The man who will not execute his resolutions when they are fresh upon him, can have no hope from them afterwards; they will be dissipated, lost and stifled in the hurry-scurry of the world, or swamped in the slough of indolence.