

is, and bringing thoroughly skilful and industrious culture to bear on the desired end. The same means which made one pound of potatoes yield 609 pounds, could make a hundred bushels yield in like proportion. Messrs. Bliss's first premium was given for a yield at the rate of at least 1000 bushels per acre, that is on the supposition of one barrel of potatoes cut to single eye, being enough seed for one acre. What can be done on one acre can be done on a larger area, and what one man can do, another can do. We have here the whole theory of high farming in a nut-shell, with a practical home-appealing illustration. The most ignorant man who never read a line in an agricultural book or paper, thinks he can grow potatoes, and does it after a fashion, but there is a mighty difference between 100 and 1000 bushels to the acre. It is a waste of land, time, interest, and profit, to pursue the system of poor, low farming, now so much in vogue. Good farming alone really pays. That must pay and will. When it ceases to do so, no other kind of business will prosper, for all else depends on profitability of farming.

Fertilizers—Composting Muck.

The Chairman of the New York Farmers' Club read the following communication from Dr. O. S. Stillwell:—

"A farmer in Saratoga Co., N. Y., asks for information respecting the treatment of a new farm he has purchased. He describes his land as a sandy loam, poor, and run out, but naturally good.

"In describing the qualities of land it is always well to give the character of the trees growing upon the soil, or those which thrive best, or whether hard or soft wood, whether birch, maple, hickory or pine. In this way you arrive at facts. To say soils are loamy, clayey, or sandy, gives a vague idea as to their latent qualities. Our grand-mothers, in setting up a leach tub for soap, always selected a red wood ash to fill it, for experience had taught that only from these could potash be obtained. So, when a farmer sees hickory, maple or oak, growing here and there on his farm, then the fact is established that his land contains potash sufficient for ordinary crops, and intelligent cultivation will soon bring it up to a high condition. There is no general specific treatment for soils. Instruction or advice must be conducted on general principles, and the successful application depends upon the intelligence of different parties. The question is asked—what fertilizers are to be used to obtain economically the best results? How to use and compost swamp muck?

"A person who possesses a bed of swamp muck upon his farm is apt to believe he has a bed of ready made manure. He will be disappointed. Swamp muck is much overrated and underrated. It is valuable, and at the same time it may not pay for carting. It will pay fivefold by proper manipulation. Let us examine its composition, and how formed. Muck, or humus, is generally the deposit found at the bottom of ponds and lakes, or where they have been filled up through the course of ages by the decomposition of water plants. All water plants are deficient in agricultural salts. If you plant grain upon a bed of muck, you obtain at first a rank growth of straw, which soon breaks down, or 'lodges,' as the farmers say, from a deficiency of the silicate of potash, and no grain will be formed. Notwithstanding it is valuable when first carted out, it is sour muck, and unproductive. If you take a barrel of clean sand and pour liquid manure upon the top, it will leach through the same; but if you will place a layer of dry muck in the barrel the liquid will come through clear, showing the muck has absorbed the manure. Here, then, is a valuable quality, showing it possesses the qualities of carbon in the soil. Again, it imparts a dark color to soil and absorbs heat. I believe the best treatment of it for manure is the following: Cart it out from its bed in the autumn or winter to be acted upon by the winter frosts. The chemistry of nature is most wonderful, and not appreciated by agriculturists. The frost and sun sweeten the humus and decompose it. If hard wood ashes can be purchased up to twenty-five cents a bushel, they are the best for composting with muck, next lime. By mixing ground bone with wood ashes, and wetting or dampening the heap, letting it lie for a few weeks, then composting with swamp muck, you will have a special manure for potatoes, or for top-dressing for any grain or grass. Cart out muck for your cattle to stand upon, put it into your pig-pens and hen-coops. Place a heap near the house where the slops of the house can be thrown upon it, and use it as an absorbent for liquid manure. Econ-

omize your labor, for labor is money. Cart out your manure from your pens at convenient times, irrespective of season, upon your grass land, or land you intend to cultivate. Spread it upon your land at any time, except when it is frozen. Instead of ploughing your manures in deep, with a plough, harrow them in upon the surface. Do not listen to those who tell you they will waste and pass off in the atmosphere. Wage an incessant war upon weeds. Do not sell any hay off your farm unless you buy ashes or bone with the proceeds. Give your cattle warm stables. They will not eat so much. Give them plenty to eat, with variety, and oil meal to improve the manure. Dig up head lands—ridges under fences—for your compost heap, and collect all heaps of leaves for your pens and yards."

The Fuller's Thistle, or Teazle.

The invention of man has sought out many contrivances, and it is quite wonderful to see the many operations in the arts that were formerly performed only by cunning fingers, now performed by machinery which is carried on with the perfection of clock work, and which does its work with an accuracy unsurpassed by hands guided by human intelligence. Fingers have been made that feed printing presses, that pick up shoe pegs that put metallic eyelets into shoes, and that do a hundred other things a thousand times faster than human hands could do them. But there are certain processes that no machine can perform, there are important operations in the arts upon which the inventive genius of man has made no improvement. With all his skill in the creation of chemical dyes, nothing has yet been found to take the place of indigo in coloring blue, and for that particular finish upon woollen cloth known as "raising the nap," no invention has yet been found to take the place of the teazle, or fuller's thistle, the ripened head or fruit of a plant known to botanists as *Dipsacus Fullonum*. This plant is remarkable for producing at the end of the little leaves at the base of its flowers, called bracts, a spine which curves downwards, and this acts as a kind of hook brush for pulling up loose particles of cloth. It is just stiff enough to raise the nap, but too yielding to tear the cloth. Various substitutes for the teazle have been tried but all to no purpose. Formerly, these teazles were held in the hands of workmen, and pulled across the web of cloth suspended on a frame before them—now they are attached to a cylinder which revolves upon the cloth, and the loose particles are raised so they may be easily sheared or cut off to give the goods the fine appearance it assumes after this process is completed. The plant is a native of the south of Europe, the Levant, and the Cape of Good Hope; but has become naturalized in this country and grows in hedges and road sides from Massachusetts to Louisiana. In some parts of England it is made a leading crop, a good yield per acre being five "packs"—so called, each "pack" consisting of about twenty thousand heads, and worth \$25, or \$225 per acre. The cultivation of the teazle is a somewhat uncertain business, it is an exhaustive crop, and its culture is seldom carried on in good farmed districts.—*Alfane Farmer.*

Cheap Board Fence.

Usually in the winter most of the farmers cut and haul out what logs they wish to saw for fencing boards. I think that there is too much lumber used in the fences for profit. Some six years since we built a board fence, and it is seeming as good to-day as when put up and stands as far. The posts were some old joists we took from a building when we took it down. They were four inches square set in the ground two and a half feet. The boards were four inches wide and one inch thick, fifteen feet in length, one post in the middle and one at each end. The top of the first board was nailed four feet from the ground and the others were put equal distances apart from each other. This fence is not raked by the wind nor does it stop the snow, and it gives full protection from the cattle.

At \$15 per thousand feet the boards only cost 30 cents for 15 feet in length, and our readers can guess at once the cost of the posts. We think it preferable to split with a saw all posts that are large enough, so as to have a fair surface to nail to, and it makes the fence stiffer. Also the flat surface in the ground stands better and will not be raked so much by the force of the wind. Farmers can just as well cut their logs the right length, and save lumber.

We had one pasture of nearly a hundred acres, which we fenced with only one board, in height 33 feet from the ground, and found no difficulty in keeping the cows and horses in the pasture.—*Cor. Maine Farmer.*

POTATOES IN NEW-HAMPSHIRE.—At the late meeting of the New Hampshire State Board of Agriculture, reports were made of crops ranging from two hundred and fifty to five hundred bushels of potatoes per acre. Most of the surplus crop in that State is made into starch. One bushel will make, on an average, eight pounds of starch, for which is received from six to seven cents per pound. One bushel of potatoes was exhibited in which were just forty potatoes. In Coos county, oats yielded from fifty to seventy five bushels per acre.—*Co. Gentleman.*

PROFITS OF GOOD CULTIVATION.—A correspondent tells the *Western Farmer* that from less than four acres he gathered a crop of onions worth \$2,450, as they yielded at the rate of 1,045 bushels per acre, and cost at least \$200 per acre. He adds that he does not believe that a single acre of that land would ten years ago have produced 60 bushels of the odorous esculent in question, and he shows plainly that good cultivation is the secret of his success, for he says, "small crops will not pay; moderate crops are little better; large crops pay well, and very large ones will pay splendidly every time."

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 quicklime, gypsum, charcoal dust, etc. Prof. Church, of Cirencester, 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.

JOHN JOHNSON of Geneva, writes to the *New York Tribune* "that farmers should keep less land under tillage, keep more stock, make more manure, or at no distant day their harvests will fail, even on drained soil. There is no other country where Mother Earth is so poorly fed as in these United States. It never pays to raise a poor grain crop, and, excepting in a bad season, which comes less frequently in this country than in Great Britain, I see nothing to hinder our getting as much per acre as our British brothers. Fifty years ago 20 bushels of wheat per acre was thought a good crop in that country; now, by draining and manuring, their average in a fair season is about 25 bushels per acre. I have often had over 30 bushels average. In 1833 I had an average of a little over 42 bushels."

PREMIUM CROPS.—The following are some of the crops reported for premiums offered by the Bristol county (Mass.) Agricultural Society: Mr. Reed, of Easton, raised 132 bushels corn to the acre, worthy a premium for a Bristol county farm; Mr. Eddy raised 114 bushels of Western corn; Mr. Short renders 103 bushels to the acre, but owing to a misunderstanding, did not make return in season for a premium; Mr. Williams and Mr. Dean over 80 bushels. Mr. Williams also raised 424 bushels of potatoes to the acre, and Mr. Pratt nearly 400 bushels; Mr. Williams also raised 23 tons of cabbage on the acre, taking three premiums; Mr. Easterbrooks raised 42 tons or 1,400 bushels of mangel wurtzel on the acre, the largest crop on record; and Mr. Alger raised 23 tons; Mr. Simmons raised 80 bushels of oats. Mr. Thayer made a crop of hay of over four tons to the acre.

POTATO TUBERS.—The old idea was that a tuber, as a whole, was but one seed, like a kernel of corn. But we now consider a potato tuber like an ear of corn containing many seeds, each of which is capable of producing a plant equal in strength and value to the whole combined. Of course there are hundreds of farmers who will, and do, cling to this old theory despite of all the science and practice to the contrary. We should think, however, that the enormous yield secured from the various new sorts within the past few years and frequently referred to in the agricultural journals, all of which have been produced from cut seed, would begin to awaken the stultifiers for whole seed and set them to making experiments in this direction. No one will suppose for a moment the yields reported in the case of the Bliss prizes for the Early Vermont and Compton Surprise could have been secured by planting whole tubers. Those farmers who believe that whole tubers are best for seed should look at these figures—5113, 607, 437 and 466 pounds, raised by different men in different localities, each having but one pound for seed. We think these facts and figures are worth a dozen theories, and I will worth remembering at planting time.—*Rural New Yorker.*