not grow enough for their own use, and buy a supply of potatoes in the fall. On the same farms within two or three years, thousands of excellent potatoes, equal or superior to any grown on sand, have been produced. We no longer hear anything about the superiority of potatoes on sandy soil, and were I buying for my own use, I should prefer those from rather a heavy loam, not wet, but naturally or artificially drained. This change in popular taste is not a mere freak of fashion, but is founded on substantial reason.

It is a curious fact that varieties of potatoes now most largely grown are the best quality and usually the best yield on heavy soil. This is especially true of the Peerless, which on sand is poor and watery, while it reaches its best quality on a moderately rich loam. For Early Rose the soil cannot well be too rich, but it can for Peerless or Late Rose, or Peachblow. If heavily manured, Peachblows are apt to rot, especially if the season be wet. If my observation of the poor quality of Peerless on sandy ground be correct, what is the cause? May it not be the lack of mineral elements, especially of potash, in which sandy soils are apt to be deficient? Much of our sandy soil is considerably "run" by successive potato crops, and this inferior quality of such potatoes may be due to the absence of potash in the soil. I should like a careful chemical analysis of different qualities of potatoes to show what poor "watery" roots are deficient in. I have heard that potato rot has been arrested sometimes by applications of lime of potash or of gypsum, which last is lime in another form.

If these theories as to the possible cause of potato rot be correct, we ought to be able to control it by increasing the proportion of mineral manures and decreasing those from the barn-yard. Fermenting stable manure causes a watery succulent growth, especially in warm and wet seasons, and if there be a deficiency of any mineral element the quality and healthfulness of the crop is affected. Those varieties which have small tops are less liable to injury than those of coarser growth, for I do not suppose that a good Early Rose has any more potash or lime than a good Peachblow or a good Peerless. The difference in quality seems to result quite as much from the soil as from the variety, and different varieties seem to be adapted to different soils. Is this the result of their origin, or has that anything to do with it? Can we adapt varieties to soils by originating them there? These queries suggest some interesting and possibly profitable experiments.—*W. J. F., in N. Y. Times.*

Preparing Seed Potatoes.

Among the multitude of questions that have puzzled the heads of farmers ever since the time when man was commanded to earn his bread by the sweat of his face, it does seem as if there might be a few questions which would some day be settled, so that this endless discussion might cease. "Deep or shallow ploughing," "spreading manure on the surface, or turning it under," "churning milk or cream," "feeding meal raw and cooked, and wet or dry," "cutting hay early or late, and curing it fast or slow," and many others, it would seem, ought to be settled so they would *stay* settled; but there are other questions which are affected so much by the circumstances connected with them that it hardly seems probable that fixed rules can ever be invariably brought to bear upon them. One of these is the question of planting potatoes whole or cut. Our own practice has been to select from the main crop enough seed potatoes for the next year's planting, of the very largest and smoothest that could be found. These are cut into pieces containing one or two eyes and are planted in drills, one piece in a place, some twelve to fifteen inches apart. The only variety we grow is the Early Rose, except a few new kinds every year for trial. We have planted small seed of late varieties, both whole and cut, with good success, but with early kinds we much prefer to have a large piece of potato with one eye, than a small piece with many eyes. The large pieces furnish abundant food for the sprout when it first starts, and it comes up strong and vigorous, while the small seed, whether whole or cut, furnishes so little strength to the sprouts that they get well on towards maturity before they become large enough to feed from the soil and the fertilizers contained in it. If the variety were of late kinds, this circumstance would have less influence on the crop, as the late potatoes grow a long time before they begin to form new potatoes, and the plants have plenty of time to gain strength of vine before the tubers form, while, in the case of the early sorts, it is "now or never."

Mr. D. A. Compton, in his prize essay on the culture of the potato, recommended cutting the seed into pieces of one or two eyes, but in an article lately published in the N. Y. *Tribune*, he says he has been led to modify the views he formerly expressed. With rare varieties, and in moist seasons, he says, "cutting to single eyes is certainly advisable, but in dry springs I am confident we greatly injure the main crop by cutting the seed too small, or by cutting it at all. In the spring of '74, after the seed had been taken to the field, I cut enough to plant two rows through the centre of the lot; being pressed for time, the rest were planted whole, one medium sized tuber in each hill. Soon after planting, the ground became very dry, and continued so a long time. The cut seed suffered greatly, growing very slowly, while the uncut seed made commendable progress. At the final cultivation there was ten inches difference in the vines in favor of uncut seed, and a great difference remained throughout the season; so much in fact that no one would have supposed both were of one variety. Digging showed a still greater difference in favor of the uncut seed, the tubers of which were at least twice as numerous and of better size. The difference in yield compensated many times over the difference in cost of seed. Had the season been moist, the result would doubtless have been otherwise. But as drought has become the rule, rather than the exception, our only hope, where we cannot irrigate, is to cultivate very deeply, fertilize thoroughly, and plant as if drought were inevitable. Within the last two years more than one cultivator has been forced to the conclusion that one acre which can be easily irrigated is worth several that cannot be."

In the same paper, Dr. Hexamer gives a carefully prepared table, showing the results of several experiments with potatoes, cut and uncut, as follows:

Mode of preparing Seed for experiments—1867.	*Total per acre — bushels*	*Bushels large potatoes, per acre.*	*Bushels small potatoes per acre.*	*Per cent. of large potatoes*	*Per cent. of small potatoes*
One large whole potato	114	87	27	76½	23½
Two large half potatoes, cut lengthwise	106	79	27	74½	25½
One seed-end of large potato	106	73	33	69	31
One large half potato, cut lengthwise	101	75	26	74	26
One large potato, seed-end cut off	100	67	33	67	33
One stem-end of large potato	99	67	32	67⅔	32⅓
Two small whole potatoes	87	60	27	60	31
Two pieces with one eye each	71	47	24	66	34
One piece with four eyes	70	50	20	71½	28½
One piece with three eyes	70	50	20	71½	28½
One whole medium-sized potato	67	47	20	70	30
One piece with two eyes	61	47	17	73	27
One-half medium-sized potato	60	43	17	71⅔	28⅓
One whole small potato	53	33	20	62	38
One piece with one eye	45	33	12	73	27
One-half small potato	33	19	14	58	42
Field crop	95	64	31	67½	32½

It appears that large whole potatoes gave the greatest yield, and very small ones and single eyes the least. It does not follow from this, however, that the planting of large, whole tubers is the most profitable practice. The yield given in the table as "field crop" is from a mixture of whole small potatoes, about the size of a walnut, with medium-sized tubers cut lengthwise, and large ones cut in four pieces, one piece to a hill. The planting of one acre with such sets requires about four barrels of marketable potatoes, while of tubers, such as were used in the first experiment, twenty barrels of the very choicest potatoes, worth nearly double the price of those planted for field crop, are needed. Now, if we deduct the number of barrels and value of seed used in both cases, we find that the balance is in favor of the "field crop." It is the mode of planting in common use by farmers, and proves the correctness of a practice sanctioned by long experience.

Our own experiments confirm the conclusion arrived at by Dr. Hexamer, which is, cut potatoes require better care while planting than whole seed; that, under every favorable circumstance, a much greater increase can be expected from seed cut very fine, but that such fine pieces must be protected from drying and rotting, or the result will be very unsatisfactory.—*N. E. Farmer.*

The Lillooet correspondent of the *Mainland Guardian* writes:—British Columbia's capabilities as an agricultural country would surprise most men in the Eastern Provinces if they could but see the immense crops of fruit, roots and cereals raised here, on land cropped for a number of years without manure, and worked in the roughest manner. Comparatively speaking, one acre of agricultural land here will produce as much as two acres in Prince Edward Island or Nova Scotia. I have seen 1½ tons of wheat on an average to the acre, over 10½ tons of potatoes to the acre, and onions such as I never saw raised anywhere else. I have seen large onions raised in New Zealand, but they could not compare with these raised by Lorenzo of the Fountain Farm. He has raised onions weighing 2 lbs., he can select a ton averaging 1 lb. each; from a 2 oz. potato, Early Rose kind, he cut 12 eyes and planted them, and from those 2 ozs. he took 121 lbs., some weighing 3 lbs., and a number 2½ lbs. R. Hoey raised 140 tons of potatoes; James Dickey 150 tons. This portion of the Lillooet district is blessed with plenty and to spare; but no market. If the Barrard Inlet trail had been finished in the time it should have been, our farmers would have been packing produce to the coast, and without doubt found a remunerative market, and returned with winter supplies purchased at a much less cost than they can get them at Lillooet.

Cultivation of a Farm of Poor Sandy Soil.

An extract form the *London Agricultural Gazette* of the Report of Royal Agricultural Society, of the Maulden farm—487 acres of light sandy soil.

"On the successful cultivation of the green crop the status of the farm depends even more than on that of its wheat or barley, whether the interest of the landlord, of the tenant or the laborer be considered. The permanent fertility of the land, the profit of the field, and the labor in which, according to the wise man, so much profit lies, all hinge more on the extent and excellence of the green crop than on any other single feature of the farm." On the Maulden farm were 70 or 80 acre of kohl rabi, a clean and even crop of some twenty imperial tons to the acre:—

The great average crops must be put down to good management in the case of Maulden, and not to the original fertility of the soil, which is naturally a poor sand and hot gravel. No doubt the question of agricultural merit is difficult to solve when it lies between the skill which by labor and good management make a difficult but naturally well stored soil produces its utmost, and the enterprise and confidence which makes a poor but easy soil produce far beyond its utmost; and those who undertake the office of judge ought to have every opportunity that can be given them of guiding their decision. Here it is not by artificial manuring so much as by large consumption of purchased food that artificial fertility is the best conferred. No artificial manure is so complete as that which is produced by the consumption of farm produce. It is when the storehouse of the soil is already pretty full that a phosphate or a nitrate will make the best return—the added ingredient then bringing into active use fertilizing matter, which, without it, would have remained effete and useless. When the other ingredients of the complete plant food are not naturally present, the artificial addition of one or two is insufficent, and remains without result. In the case of a poor sandy soil like that of Maulden Farm, it is therefore better policy to enrich the home made dung by added cattle food than by a heavy bill for superphosphates or ammonia salts or nitrates. Mr. Street has found this out, and while his annual manure bill does not exceed £50, paid for superphosphates for his green crops, the 'artificial' food which he consumes, his cake bill, and the beans and peas of his own growth which he consumes, amount to at least £100 per annum. The 2,000 loads of farm manure and earth which he annually applies are thus highly enriched, and applied almost wholly to the green crop quarter. They go to maintain the production of that cattle food, on the after use of which the fertility of the farm is thus made almost wholly to depend. "Of the green crop quarter, after wheat there are a few acres in rye and tares to be plowed up in May and June for transplanted kohl rabi; and there are a few acres in mangel wurzel every year for the latest spring keep before the rye and tares are ready. The kohl rabi, which is the main and almost only green crop, is, however, generally sown, pretty much as an early Swede crop would be sown, at intervals all through the month of May, two or three pounds of seed per acre being drilled in rows 22 inches apart, on land which has received a heavy dressing of well-made manure. The rye and tares, white clover, and pasture fields, with a certain extent of cabbages to eke them out in drought, the clover stubble, a few early turnips, the kohl rabi and the mangel wurzel, are the suc-