Best, G. W.

Best Potatoes B

G. W.

ats Book

*Entered for
Reproduction May 11, 1870*

B211
P8 B56

BEST'S POTATO BOOK,
CONTAINING

HENRY WARD BEECHER'S

ESSAY ON

The Potato Mania

WRITTEN EXPRESSLY FOR THIS WORK.

ALSO,

Experiments in Potato Culture,

ENGRAVINGS AND DESCRIPTIONS OF NEW VARIETIES, ETC.

Geo. W. Best

UTICA, N. Y.

GEORGE W. BEST.

1870.

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INTRODUCTION.

IN the fall of 1868, we offered *Five Hundred Dollars*, in four different premiums, to persons who should raise the four largest quantities of "Early Rose" Potatoes from one peck of seed. This amount was divided as follows: For the first or largest yield, \$200; second, \$150; third, \$100; fourth, \$50. This offer was made subject to the following conditions:

1st. The seed to be purchased of us this fall, (1868).

2d. Each account to be well authenticated, and accompanied with a full report as to the character of the soil, manner of cutting the seed and planting, cultivation, the kind of manure used, (if any,) the quantity used, and the manner of applying it.

3d. The crop must be dug at least ten days before weighing, and report sent to us by October 1st, 1869, with a statement of the exact number of bushels raised, (60 lbs. to the bushel.)

4th. Potatoes to be grown in open air, and without artificial heat.

Since the above offer was made, we have received many requests from our customers to publish the reports of competitors for the premiums, and believing that they contained a large amount of information which would be truly valuable to farmers and potato growers, we decided to comply with their requests.

It is well known that during the past two years the most intense excitement has prevailed in regard to the Potato, and fabulous prices have been paid for seed of new varieties, which, it was hoped, would more than take the place of the old kinds, which were rapidly failing, both in point of quality and productiveness. As a natural consequence, the enormous prices at which the "Early Rose" and other new varieties were selling, induced potato growers, in all parts of the country, to put upon the market seedling potatoes, of their own raising, nine-tenths of which were entirely worthless, and were offered for the sole purpose of making money. On the other hand, many new varieties have been introduced, which have proved really valuable acquisitions, and these have found a ready market among the most intelligent and progressive class of our agricultural community. Thousands of experiments have been made in as many different parts of the land, by as many different men, and in as many different ways, in different modes of cutting the seed, planting, cultivating, various kinds of manure used, different methods of applying them, and in many other particulars, too numerous to mention here. In view of these facts, we thought that an interesting article on "The Potato Mania," would be an agreeable addition to our "Potato Book," and accordingly made arrangements with Rev. Henry Ward Beecher, to write the essay on this subject which appears in its pages. In addition to Mr. Beecher's article, and the "Reports of Competitors," we give illustrations and descriptions of the most prominent and worthy new varieties, and a number of choice selections from the *Agricultural Press*, relative to potato culture.

We hope that this unpretending little volume may prove not only interesting, but really instructive, to every farmer into whose hands it may be placed, and that it may accomplish some good, by aiding potato growers, in every section of the land, in bringing the cultivation of this indispensable esculent to a higher state of perfection.

GEO. W. BEST.

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Bresee's Prolific. —An illustration and full description of this valuable variety, and also of the "King of the Earlies," will be found on another page of this book. Four pounds, by mail, \$1.00, -				1.50	4.00	9.00
Bresee's Peerless, or No. 6. —The latest and best of all Mr. Bresee's Seedlings for the main crop. This is also a seedling of the Garnet Chili, and originated from the same seed ball as the Early Rose; skin dull white, occasionally russeted; eyes shallow, oblong; flesh white, mealy; grows to a large size, often weighing from one and a half to two pounds, and enormously productive. At a trial before a committee of the Massachusetts Horticultural Society, in September last, this variety obtained more votes as to quality than any other of Bresee's Seedlings. Per pound, by mail, \$1.00, -				10.00	30.00	75.00

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For the accommodation of those who reside at a distance from railroads and express offices, we will send a package containing four pounds of either of the above under the head of Miscellaneous Varieties, postpaid, upon receipt of one dollar, or six packages for five dollars. No less than one dollar's worth, or more than one kind in a package, will be sent by mail.

N. B.—Orders for Potatoes, received in the Winter, will be forwarded as early in the Spring as the weather will permit, usually about the first of April. They can be forwarded earlier if desired, at the risk of the purchaser.

THE
POTATO MANIA,
BY
HENRY WARD BEECHER.

Written expressly for "Best's Potato Book."

OMETIME during the winter of 1868-69, happening into the seed store of B. K. Bliss & Son, in New York, we fell, as usual, into a talk about Seeds, Flowers, Farming, &c. An amateur farmer is fond of such like topics; real farmers are not averse to them. The potato came in, of course, for its share, and then it was that Mr. Bliss mentioned the "Fifty Dollar Potato," ("Bresee's King of the Earlies," or his "Seedling No. 4.") The "Early Rose" had not yet spent its force; it was sold by the pound, and at what seemed extravagant prices, but the "Early Rose," at its highest price, was cheap compared with Bresee's new "Fifty Dollar Potato." For a single tuber, *Fifty Dollars!* My father had brought up a large family in Old Connecticut, on a salary of *Eight Hundred Dollars a year*. He some times dabbled a little in farming. I recollect once, on his return home from a journey, to have heard him gently chide my mother for not accepting an offer of twenty-five cents a bushel for a large field of potatoes which we had that year cultivated. He thought she had missed a chance that would not come again. There were about two hundred bushels. If any man had then said that within a few years a *single potato* would sell for the price of two

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hundred bushels, he would have been laughed to scorn. Why! sixteen fifty dollar potatoes would have equaled the *whole salary* of the Litchfield pastor! Here would be a task worthy of an economist, to bring up eight or ten children on the value of *sixteen potatoes a year!*

But this was an exceptional case, every one will say. No potato was ever worth fifty dollars, nor ever will be. Why not? If an article is put upon the market quietly, without puffing or misrepresentation, and fifty sober, practical men, who earn their money by the hardest, and part with it only on good reasons, are willing to pay fifty dollars for a single tuber, on what ground is it said to be not worth that sum? Not, certainly, for immediate culinary purposes. A dish of fifty dollar potatoes on the table for vegetables, ought to have "the Duke's Merino Ram" for the meat;—the story running that, having paid *five hundred guineas* for a Merino, he sent it home with word to the steward to prepare dinner for some friends that he purposed bringing. The steward, ignorant of the value of the animal, had him killed and served for dinner. This was the costliest bit of mutton, we suspect, that ever passed a Duke's lips—or a King's either; but Oh! if he had had fifty-dollar-a-piece potatoes at the same time! That Merino Ram was not worth five hundred guineas on the dinner table, but might he not be worth much more than that as the father of a long line of posterity? What a potato is worth in the *dish*, is one thing, and what it is worth in the *field*, is another. A farmer could afford to give a hundred dollars apiece for a few potatoes that were in quality as good as the "Mercer," and twice as productive. A potato like the "Early Rose," admirable in quality, productive, and ten days earlier than former sorts, was worth, to the originator of it, a small fortune, and he ought to have made one, though we doubt if he ever did; for, in this much mismanaged world, inventors seldom make fortunes, and originators of new comestible articles see others making the money, and have themselves to be contented with a mere reputation; an excellent thing in its way,

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but not negotiable for goods and commodities, or discounts. Nature is very shy of trusting men with too much power. If she blesses one with *genius*, she is apt to hold back a little in the matter of *common sense*. If she sets up a man in ideas and inventive qualities, she gives to somebody else the money-making tact; and on the other hand, if she sets up a man with great skill to make and keep money, she does not think it right to give him everything, and so she is apt to keep back a considerable part of the heart, and of that disposition which produces happiness. That is one reason why we find so many men that are rich and wretched. But all this does not alter the fact that an inventor of a good machine, the originator of a new fruit, the patient experimenter who brings out a better vegetable than was in market before, deserves an ample fortune. If Mr. Bresee's diligence in improving the potato has given to millions a better article, to gardeners an earlier and more productive one, he has increased the wealth of the country immensely, and he ought to share in that wealth. But only by a large price for one or two years, can he secure any adequate remuneration for his toil.

We have an illustration on the adverse side of this trade, in the example of that Father of modern potatoes, the Rev. Chauncey E. Goodrich, (of Utica, N. Y.) Although a clergyman, and faithful to his duties as Chaplain of the New York State Lunatic Asylum, he gave to the study of Nature a mind well adapted to close observation, endowed with that patience and culture which science demands. About the year 1843 it was, that the potato disease broke out in such alarming proportions in England, and afterwards in America. It seemed for a while as if potato culture had come to an abrupt termination. All the old and established sorts, of vigorous constitutions and without signs of feebleness, were suddenly a prey to this plague. The loss in Great Britain was estimated in some years as high as *fifty millions of dollars*, (\$50,000,000,) and between five and six millions a year, for some years, in the United States. So great was this pecuniary loss in some countries

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TURAL ENGINEER OF CENTRAL PARK, NEW YORK.

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[Extract from the Author's Preface.]

Those who consult this book must remember that it is not a book of recipes or prescriptions, but for the most part a work of facts and figures—assured analysis and demonstrations, about which there can be no dispute. The design was to produce a work of substantial and enduring value, and of universal application and use. * * * To sum up, then, this book is offered as containing more that has been proven by long use to be of value, more that is most necessary for every farmer and mechanic to know, and more of promising novelty, than any other that has ever been presented to the farmers and mechanics of America. It is complete in every particular in which it is possible for such a book to be complete; and, in addition to this, it is sufficiently suggestive in many other respects to induce its readers to read more, to think more, to experiment more, and to become more intelligent and more successful in the management of their business, as well as really happier and wiser men.

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—Ireland for instance—the potato was so nearly the only staff of life, that the food of the poorer portion of the population was reduced to the famine point. Now the value of the potato crop was so great that men looked on with dread at its prospective annihilation.

We have not at hand the statistics of the United States for the years 1840 and 1850, but in 1860 the census computes the potato crop of the United States at nearly *one hundred and ten millions* of bushels.

Two years later, the Department of Agriculture put it at *one hundred and fourteen million* bushels; but calling it one hundred and twelve millions, at twenty-five cents a bushel, it would reach a value of *twenty-eight* millions of dollars. This is an enormous sum to be wiped out of the agricultural exchequer in a single year, and every year.

Moved by considerations of patriotism, Mr. Goodrich turned to account his habit of observation and experiment in the vegetable kingdom. Instead of seeking for the convalescence of old varieties, he believed that the true road out of the danger lay in the direction of *a renewal of the stock from original sources*, and to this, being now relieved from a pastoral charge, he devoted himself with singular intelligence and industry. The potato is indigenous to the tropical mountain regions of South America. It flourishes best on the table-lands of the Andes. There is no winter of cold there, and yet the elevation makes the ground cool and moist. Mr. Goodrich, in 1843, at an expense of two hundred dollars, procured some potatoes from Chili. From 1843, until the time of his death in 1863, he raised not less than *sixteen thousand seedlings*. There are few instances on record, of zeal so disinterested, chiefly in two respects. First, in that he would not permit himself to be imposed upon in the judgment which he placed upon the merits of his seedlings — remorselessly sacrificing almost the whole of them, sifting and reducing the number to some *seventy*, and ultimately to some eight or ten, which, by a wide and generous distribution, he had caused to be tested over the breadth of the

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whole North, from Canada to Virginia; and secondly, in that he worked out his benevolent labors to the end of his life, without turning his industry to his own profit. He was so busy with his experiments that he had no time to make money. After his death, his books, which were closely kept, showed that what with premiums and honorary gratuities, together with sales, he had a balance to his credit of *fifty dollars*, for twenty years of unremitting industry. Surely the name of GOODRICH should be enrolled among the saints of agriculture!

Goodrich was the pioneer and patriarch of the New Kingdom of Potatoes; but his scholars have carried forward his work to a point of financial success that he himself never attained, and have reaped a rich remuneration. One can but wish that fortune had thrown part of its mercies upon the devoted clergyman, the last year of whose life would have suffered from pinching poverty but for a timely donation (by a few friends of Agriculture, who chanced to learn of his narrow circumstances) of some seven hundred dollars. We have no such instance of disinterested devotion to science, and to practical economy in the annals of American husbandry. The two essays which Mr. Goodrich has left are masterly, and ought to become a part of the Classics of Husbandry. Besides these, his writings on this specialty, Mr. Goodrich contributed over one hundred and thirty articles to various agricultural journals. It may be said that the potato has now a literature.

Many, before his day, had written upon this humble vegetable, but Goodrich first instituted elaborate and long continued trials, upon a scale that had never before been attempted, and his writings are a scientific discussion of the results of his own experiments. His name may be fitly associated with that of Van Mons, of Belgium, who gave the great impulse to pear culture; with that of Knight, the President of the London Horticultural Society, whose philosophic experiments gave a new rank to Horticulture, and raised it from an empirical art to the dignity of an experimental

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science. *The potato has now a literature!* And why should men smile at the idea of a literature of the potato? It is one of the four great supporters of the human race. First is wheat; next, probably, rice; then maize, and then the potato. It may be doubted whether the potato does not supply food to more millions than does the maize. If it does, then it must occupy the third place in this honorable quaternity. The potato, as food, approaches nearer to the standard of bread than any other production of our zone. It is an admirable ingredient with flour, for bread-making. It is farinaceous, nutritious, and of an agreeable flavor. It is far easier of cultivation than Indian corn, and returns a greater amount of food to the acre. Long after the point is reached when corn will not flourish, the potato holds on, and even improves in quality. It is raised in Iceland at its northern bounds, and in America it flourishes along the shores of Lake Superior, and to the Red River, and on the Columbia.

In our own land it finds itself at home in some part of every State in the Union. It reaches as far south as do the Indian corn and the vine, provided the mountain table-lands be selected for it; and at the north it feels itself at home and vigorously happy, long after the maize has refused to grow and ripen. The crop of the single State of New York, for 1868, says a writer in the "New York Observer," was twenty-five million bushels. At fifty cents a bushel, this is more than *twelve million dollars*. This is the way to dig gold. Prospecters, with pick and pan, may do very well in the Rocky Mountains, but the true way to dig gold in New York State, is to let your potatoes do it for you. Our soil is auriferous, if one knows how to deal with it. As there were one hundred and fifty million bushels of potatoes raised in the United States in 1860, it is a safe calculation to say that in 1869 there were, at least, *two hundred and twenty-five million bushels*. Making the price as low as thirty cents a bushel, we should have more than *sixty-seven million dollars* dug from potato hills in one year!

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Rev. Henry Ward Beecher

in this direction of popular Christian feeling is too well known to need more than mention here; suffice it to say, he is constantly represented from week to week in its Editorial and other columns, and on the first of January next he will become its

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If one would form a sound judgment upon the matter of new potatoes, he must consider what the money value to this nation is, year by year, of this Poor Man's Crop. What a terrible misfortune, falling chiefly upon the hard working poor, would be its destruction or its material diminution. It is certain that at the time that Mr. Goodrich began his experiments, and inaugurated the race of new potatoes, there was a prevalent fear that all the old sorts must be given up. Men were looking about for some other esculent to take the place of the potato: To obtain new sorts, of robust constitution, as good as the Mercer or the Peachblow, which would withstand the inroads of the mysterious disease that had so almost universally followed these old sorts, was a matter of National concern.

There is not a farmer in the United States who is not richer to-day for the "Potato Mania," as it is called. The enterprise and skill of the school of Goodrich, is not to be regarded as speculative. That high prices have been paid for new kinds of potatoes, that there has been a slight speculative fever, may be admitted. But this is a mere wrinkle on the face of a great movement for the regeneration of the fourth (perhaps the third) important article of National food. We ought not to be misled by a mere incidental feature. The real facts are, that a great crop was perishing from our hands, and that Providence raised up men whose patience and sagacity has met the evil, and warded it off. If Mr. Goodrich, instead of dying poor, had made a *million dollars*, he would not have been overpaid.

But, we think that there is a very great misapprehension in respect to the profits made by any of the gentlemen whose names have figured in connection with new potatoes. Men hear that fifty dollars have been paid for single potatoes; that eighty dollars and more a bushel have been paid for other sorts; that they are selling at a dollar a pound, &c. Compared with the old fashion price per bushel, these sums seem utterly extravagant. The transactions seem like gambling. It recalls the speculations in *Morus Multicaulis*; the

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Dutch speculation in Tulips in Holland; articles on the Exchange, as Erie stock is to-day, badgered and bated by "Bulls and Bears." But, tulips never were more than fancy articles. The extraordinary price which some of them reached during the prevalence in the Netherlands, of what has been fitly called "*Tulipomania*," bore no proportions whatever to any real or prospective value; it was an artificial inflation. During the three years following 1634, a single bulb of the "Viceroy" brought 2,500 florins. The "Deutzer Augustus" was often sold for 2,000 florins, and in one case, 4,600 florins, together with a new carriage and a pair of horses with harness, were promised for a single root; and in another instance a single bulb brought *twelve acres of land*. It needs no exposition to show that this was a crazyness; that there was no sound basis in intrinsic value.

But a new potato, as good as the Mercer, and not subject to disease, in a few years would add to the wealth and comfort of millions of men. A potato that should be as good as the Peach-blow, and so productive as to yield three to four hundred bushels to the acre, would be a direct and appreciable addition to the National wealth. Again, a potato that comes in as early as the Dykeman, and is more productive, and of a larger size, is literally worth, to market gardeners, *millions of dollars*. "Goodrich's Early," and that admirable successor, the "Early Rose," were not speculative novelties. They were long strides in good husbandry, and were positive additions to the wealth of the community.

If, now, Mr. Bresee, or any other gentleman, has advanced a step beyond the "Early Rose," and produced a potato large in size, fine in quality, productive in the hill, and some days earlier than any put upon the market before, he deserves a premium far larger than he will really get by the sale of a few tubers, for a single year, at great prices. People do not reflect upon the labor required to raise a new fruit, or a new vegetable. Mr. Goodrich raised more than *sixteen thousand* seedlings. Perhaps *ten* of these are permanent acquisitions, and deserved large prices; but where

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are the *fifteen thousand nine hundred and ninety* kinds that, after much care, proved valueless, and were thrown away? The cultivator must make up on the one lucky hit all the expenses of hundreds, and it may be of thousands, of failures. It is very seldom that raisers of new fruits or vegetables earn even their expenses. It is a costly process, requiring time, patience, skill, and not a little outlay. When success crowns the sagacious industry, his task is just begun. His article must be put upon the market, must be extensively advertised, must get a reputation, and create for itself a demand. But by this time, scores of men have, by hook or by crook, got hold of it, worked up a stock, forced the market, swept off the profits, and left the originator to study a full page on the debtor side of his book, with but a few starveling lines on the credit page.

The "New Rochelle" Blackberry brought to its originator next to nothing in money. He was permitted to stand by and see an enterprising nurseryman stick his own name upon it, and blot out from the originator even the poor reward of naming his own fruit. We should like to see Mr. Williams' books, of Mont Clair, New Jersey, who brought the "Early Wilson" Blackberry into the market. After all his labor and care, the public are enjoying an excellent thing, while we suspect that he could carry all his profits in one hand, and then have room to hold his cane. Money is often made on new Flowers, but we suspect that the cases are rare in which new fruits or vegetables have brought to their producers enough to make up for actual outlay. We wish the rewards of enterprise were surer, and that they might tempt more men to experiment for the amelioration and improvements of the great staple articles of husbandry. Our virgin soil will soon be grown old; diseases and insect enemies multiply from year to year. We must fight a sharp battle for our harvest, and we can not afford to diminish a single motive which may inspire men to study and labor for improvements in that great productive Art of Husbandry, which underlies all other arts, and which is the nurse of them all.

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Compared with the gigantic speculations which are going on every moment, in stocks of roads, mines, and manufacturing companies, the petty flurry in the potato market is like the dip of a swallow's wing upon the ocean compared with the outburst of a tornado. And yet the transactions are quite remarkable in their own small way. It should be remembered that Mr. Bresee, who raised the "Early Rose" from seeds of the "Garnet Chili," did not himself fix a price upon the "King of the Earlies." Fifty dollars for a single potato was pressed upon him at a time when he did not care to sell, but when once it was known, there were many who were eager to obtain this new kind at the same price. Whether they have individually made money on it, we do not know. It is certain that such enterprise was never before shown, in suddenly increasing the product of a single tuber. By employing a propagating house, cutting the shoots from a single potato, taking off cuttings as soon as the plants were six inches high, which were potted and plunged in a border with bottom heat, and in turn yielded other cuttings, increasing in a geometric ratio, there have been secured, in a single season, many thousands of plants from a single potato.

Compared with the "King of the Earlies," the sales of the "Early Rose" now seem quite moderate in price, and yet our fathers would have been astounded had one told them that more than a hundred dollars a bushel would ever be given for seed potatoes. But, in the fall of 1867, D. S. Heffron, of Utica, N. Y., sold to the Messrs. Conover, of New Jersey, one hundred and twenty-five (125) bushels of "Early Rose," for ten dollars per bushel. In the spring of 1868, the same gentleman sold to the same firm one hundred and fifty-three and eleven-thirteenths ($153\frac{11}{13}$) bushels, for *sixty-five* dollars per bushel, amounting to *ten thousand dollars*, (\$10,000).

On the same day of this latter transaction, the Messrs. Conover sold to Geo. W. Best, of Utica, one hundred and twenty-five bushels, at *eighty dollars* per bushel, or *two hundred and twenty*

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AND SCHOOL VISITOR.

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WHY GIVE \$2.50 OR \$3, FOR WHAT YOU CAN GET FOR \$1?

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ADDRESS,

JOHN R. GARRETSEE,

ROCHESTER, N. Y.

dollars per barrel, ($2\frac{3}{4}$ bushels). In small quantities the "Early Rose" was sold at prices yet higher than these. Without expressing an opinion as to the probable profits of these transactions to the persons employed, we do not doubt that the stimulation of such prices will stir up multitudes of men to originate new varieties of potatoes. There will be, doubtless, much carelessness and some imposition; but it cannot be but that the country at large will be an immense gainer by all this excitement. Individuals may suffer some losses, but the community will be greatly enriched.

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THE EARLY ROSE.

ALTHOUGH this valuable variety has been but two years before the public, it is already as well known as any variety now under cultivation in the United States, and it has been the subject of more unanimous and universal praise than any other potato ever offered to growers. It was raised from the seed of the well known "Garnet Chili," by Albert Bresee, an intelligent farmer of Hortonville, Vt., and whose name is familiar to potato raisers in all parts of the country. When first offered for sale, it was at enormous prices, but the supply is now so abundant as to bring it within the reach of every farmer in the land, and if they profit by the experience of the thousands who have tested it, not one of them will fail to give it a trial the coming season. The tuber is of large size, eyes shallow, skin thin and tough, flesh white, solid and brittle; boils through quickly, is very mealy, and has a delicious flavor.

THE OHIO FARMER--VOLUME XIX--1870.

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BRESEE'S "KING OF THE EARLIES,"
OR SEEDLING NO. 4.

THIS is the variety spoken of by Henry Ward Beecher, in his essay on "The Potato Mania," which he calls "The Fifty Dollar Potato." The following description is taken from the potato circular of B. K. Bliss & Son, the well known seedsmen of New York:

"Raised in 1862, by Albert Bresee, of Hubbardton, Vt., from a seed ball of the Garnet Chili; vines quite dwarf, averaging from ten to twelve inches; bears no seed balls; leaves large; tubers large and handsome, roundish and slightly flattened; eyes small and somewhat pinkish; skin flesh color, or dull pinkish white; flesh white, floury; cooks well, and is of the best quality for the table. Has thus far proved very hardy and the earliest in cultivation.

"The above description was given by Mr. Bresee when this variety was first exhibited in the fall of 1868, and we are happy to state to all interested in the culture of the Potato, that the experience of another season fully confirms all that was then claimed for

Continued on Page 29.

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Our Seeds are now favorably known in every State and Territory in the Union, and the many flattering testimonials we have received from our old customers stimulate us to increased efforts to maintain their purity and reputation. Our new crop is remarkably fine, and we are even better prepared than heretofore to give entire satisfaction to all who may favor us with orders.

Our ILLUSTRATED DESCRIPTIVE PRICED CATALOGUE, for 1869, will be furnished to parties desiring, until the issue of our NEW AND ENLARGED CATALOGUE FOR 1870, which we will mail to any address on receipt of ten cents. To our old customers, or parties intending to order, it will be sent FREE.

Address

EDWARD J. EVANS & CO.,

Nurserymen and Seedsmen,

YORK, PA.

Continued from Page 27.

it by the raiser. It has been fairly tested in various parts of the country, by some of the most experienced potato growers, and pronounced by them as being from five to ten days earlier than the Early Rose, and fully equal to it in quality and productiveness and general appearance. It possesses one great advantage over all other varieties, on account of the dwarf habit of the vines, in consequence of which they can be planted much closer, both in hills and drills, than other varieties, thereby giving a much greater yield per acre. So great was the anxiety among potato growers to procure this variety, last spring, that quite a number were sold at \$50 each. As far as we have heard, all who purchased even at this high price are fully satisfied of its superiority. A silver medal was awarded to Mr. Bresee for his seedlings, by the Massachusetts Horticultural Society, in the fall of 1868."

The following is from Mr. Burr, author of "The Field and Garden Vegetables of America:"

HINGHAM CENTRE, Mass., Aug. 28, 1869.

MR. A. BRESEE—*Dear Sir:* I am happy in communicating the result of a trial of the "King of the Earlies." The tuber employed for seed was cut to single eyes, and these were planted eighteen inches apart, in drills. No means for sprouting or forcing were adopted, and the experiment throughout was strictly one of open culture. The plants were small, and far from promising; but the yield was remarkable, amounting, as it did, to one hundred and twelve fold. So numerous and uniformly large and fine were the tubers, that, in view of the slender, dwarfish character of the vine, the crop seemed almost a marvel. The variety ripens some days in advance of the "Early Rose," is nearly or quite as productive, and must prove an acquisition.

These newly-introduced early descriptions of potatoes are earnestly commended to cultivators, as well for the field as for the garden. Besides being quite as productive and of as good quality as those later in maturing, they are easily grown beyond liability to disease by making the planting as early in spring as the weather will admit. Thus managed, the crop will be well ripened by the beginning of August, before which time the potato malady seldom, if ever, makes its appearance.

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BRESEE'S PROLIFIC, OR No. 2.

[From B. K. Bliss & Son's Potato Circular.]

"This variety originated with Mr. Bresee in 1861, and is from the same seed ball with the Early Rose — both seedlings of the Garnet Chili.

"The vines of Bresee's Prolific are of medium height, quite bushy, somewhat spreading, large leaves, have produced no seed balls. Tubers large, regular in shape, and very smooth, slightly oblong, somewhat flattened. Skin dull white, inclined to be russeted, eyes but little depressed and slightly pinkish, flesh white, cooks quickly, is very mealy, and of excellent quality, yield very large, often exceeding *one hundred fold*, matures about three weeks later than the Early Rose, and will prove a most valuable variety for field culture.

"This variety has been thoroughly disseminated throughout the country the past season, and we are continually receiving the most flattering reports of its extraordinary productiveness and quality."

CLUB RATES FOR Tilton's Journal of Horticulture, 1870.

SUBSCRIPTION PRICE, \$3.00 PER ANNUM.

Two Wilder Strawberry Plants given each subscriber, and the balance of this year (1869) given each new subscriber, from the time their subscription is received at our office.

—o—

FOR TWO SUBSCRIBERS.

Any one sending us the names of two subscribers, one of which must be new, and \$6.00, we will give either one of the following articles:

The American Agriculturist for 1870; The Parlor Gardener; a box of Tilton's Initial Note Paper; a Silver Napkin Ring; a Photograph Album holding fifty pictures; a Gold Tooth Pick; a Silver Pocket Fruit Knife; "Gardening for Profit;" "Practical Floriculture;" "Small Fruit Culturist;" a Silver-plated Butter Knife; Pickle Fork; Sugar or Jelly Shell; Cream or Gravy Ladle.

One may make up a large club and take their premiums from this list, viz. : for each two subscribers they can select one of the articles.

FOR THREE SUBSCRIBERS.

Any one sending us the names of THREE subscribers, two of which must be new, and \$9.00, we will give either of the following articles:

Grape Culture, by W. C. Strong; "Garden Vegetables;" Parkman's Book of Roses; Tennyson's Poems, complete; a Silver-plated Flower Vase; Table Bell; Set of Tea Spoons; Pie, Fish, or Ice-Cream Knife; Four Table Spoons, or a Half Dozen Nut Picks; a Gold Locket; a Pair of Gold-plated Sleeve Buttons.

One may make up a large club and select their premiums from this list, viz. : for each three subscribers one of the above articles may be taken.

FOR FIVE SUBSCRIBERS.

To any one sending us a club of FIVE new subscribers and \$15.00, we will give:

A copy of *The Journal* for 1870, and One Dozen Plants of the *Wilder Strawberry*; a Silver-plated Spoon Holder; a Pair of Salt Cellars; Set of Table Forks; Soup Ladle; Card Receiver, or a Set of Dessert or Table Knives; Set of Croquet.

Or for a club of FIVE, one may select one article from each of the premiums offered for clubs of two and three subscribers.

FOR TEN SUBSCRIBERS.

To any one who will send us a club of TEN new subscribers and \$30.00, we will give either of the following articles:

A Silver-plated Sardine Box; Breakfast Table Caster; a Porcelain-lined Baking Dish; Cake Basket; Fruit Stand, or One Dozen Dessert Spoons; a Solid Silver Jelly Spoon; a Silver Set—Knife, Fork and Spoon; Silver Pie or Cake Knife; a Pair of Silver Butter Knives.

J. E. TILTON & CO.,

201 Fulton St., NEW YORK.

161 Washington St., BOSTON.

THE EARLY MOHAWK.

American Institute (N. Y.) Farmers' Club, October, 1869.

S. B. CONOVER, of Washington Market.—This potato originated in Michigan, in 1864, by Lewis H. Brown, from a ball of the Peachblow, the bloom of which had been impregnated with the pollen of the Buckeye, from whom I obtained the seed three years ago, and gave them a thorough trial for two years previous to the spring of 1869, when, being well satisfied of its earliness, strength of growth, and superior quality, I concluded to have them most thoroughly tested

Continued on Page 35

JUST PUBLISHED.

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Mazurka di Bravura

FOR THE

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SOLO, 60 Cts. DUO, 75 Cts.

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The Duo is arranged *en concertante*. The Secondo having a beautiful solo and a good share of the subject throughout the piece.

Copies pre-paid and mailed. Address

JAMES BEST,

UTICA, N. Y.

Continued from Page 33.

by the public throughout all sections of the country, and if they still maintained their character, to offer them to the public for sale this Fall. In order to have them thoroughly tested in all sections of the country, by disinterested and trustworthy persons, I refused to sell any of them at any price, but sent them out in packages of five and six potatoes by mail, post-paid, to the Presidents of all the county and town Agricultural Societies that were reported in the last edition of the Agricultural Report of the Patent Office, with circular accompanying each package, requesting that they try them against all the other varieties of potatoes, in regard to earliness, strength of growth, yield and quality, and report to me this fall. From the large number of letters received up to this time, I feel no hesitation in offering the Early Mohawk potato to the public as the very best, without exception, of the new varieties offered, and one which will not only answer as an early variety, but one which, from its large yield, will take the place, for a winter and spring potato, of the long and well known white and red Peachblows, which are fast becoming an uncertain crop. This potato sends up a stout, vigorous stalk, branching out above ground, taking the form of a bush, growing about one and a-half to two feet high, of a very dark green foliage, rather inclining to make top before the potatoes set, but after setting they increase in size very rapidly; the tubers grow away from the stem from three to six inches each way, setting from eight to ten potatoes, which grow uniformly of large, even size, and good shape: the vines mature and die evenly, and at the same time the tubers are of oblong, roundish shape, with rather square or flattened ends. The flesh is white, the skin of a very light pink or russety white, with prominent pink eyes, but little sunken, the potato being very heavy and solid, and never hollow inside. All parties who have tested this potato by cooking, say that it cooks white, dry, and mealy, and the flavor superior to any that they ever have eaten.

THE EARLY PRINCE.

If we were personally interested in the sale of this potato, we should very much dislike to have the public form an opinion of it, based upon the merits of the above engraving, for no one would suspect that it was ever intended to represent a potato, unless they were so informed.

This variety was originated by a practical nurseryman of Geneva, (whose name, we think, is Robert Simpson,) and first offered for sale by E. W. Harrington & Co., of the same place. Like all of the new seedlings recently introduced, it is claimed to be "*earlier and better than the 'Early Rose,'*" but the public must take these opinions for what they are worth, and prove by *actual experiment*, which is really the most worthy. The "Early Prince" has not yet been sufficiently tested, to enable one to form an opinion as to its value for general cultivation, and we would advise our readers to give it a fair trial.

THE EARLY GOODRICH.

See Description, Page 33.

THE EARLY GOODRICH.

See Engraving, Page 37.

A SEEDLING of the Cusco of 1860. In 1862, Mr. Goodrich described it: "Round to longish; sometimes a crease at the insertion of the root; white; flowers, bright lilac; (produces) many balls; yield large. This sort is No. 1 in every way." In the spring of 1864, Mr. G. said of it: "This early sort gives me more satisfaction than any other I have ever grown." "This variety ripens as early as the Ashleaf Kidney; on rich soil yields from two hundred and fifty to three hundred and fifty bushels per acre; has never shown any disease; is white fleshed, and of superior quality."

In the year 1868, the season being a very severe one for the potato crop, although the yield of the "Early Goodrich" was abundant, the quality was very poor, and in many instances they were decidedly unfit for table use; but as it had done so splendidly previous to that year, potato growers were not willing to discard it entirely, and nearly all of them gave it another trial the present year. The result is (as far as we can learn,) that it has fully sustained its good reputation, and has yielded abundant crops, of first-rate table quality. We are happy to be able to note this fact, as it tends to perpetuate the memory of the lamented Mr. Goodrich, and preserves for the farmers a variety they could ill afford to lose.

THE HARISON.

THIS is also a seedling of the Cusco, and a brother of the "Early Goodrich." "It has a smooth white skin, white flesh, and is the most solid of large potatoes, having no hollow at the centre. It is enormously productive, yielding as well as the parent Cusco, and exceeds all others; its form is good, table quality excellent; keeps well; ripens ten days earlier than the Garnet Chili, and thus far is as hardy as the Garnet Chili."

In regard to the crop of Harison, of 1868, the same might be said as of the "Early Goodrich." Although we have raised none ourselves the present

year, we understand from several growers that the quality is greatly improved, and that it is really a good potato for family use.

In view of its large size and enormous productiveness, we would strongly recommend it to those who raise potatoes for feeding stock, as for this purpose we think it has no equal.

THE WORCESTER. or REILY.

This potato first came to our notice through Messrs. Washburn & Co., Seedsmen, of Boston, by whom it was advertised for sale in the spring of the present year. It is well known in the vicinity of Boston, and is said to be highly prized by those who have given it thorough trial. We quote the following description:

“An old variety, but not generally known. The vines are erect, slightly spreading; leaves large, of a glossy green color; tubers roundish in form, slightly swelled at the centre, and terminating abruptly; eyes much depressed and numerous; skin smooth, thin, of a light pink color; flesh very solid, never hollow, and perfectly free from disease. Its cooking qualities are excellent, being very dry and mealy, free from any earthy taste, and of a snow-white color. They mature in ninety days from planting, but are not over productive. A valuable variety for family use. One great advantage is, that the tubers are fit for use when only two-thirds grown.”

EXPERIMENTS
IN
POTATO GROWING
BY
COMPETITORS FOR THE PREMIUMS.

(SEE INTRODUCTION.)

N. L. HALL, *Harrisville, Ohio:*

Agreeable to conditions, I will give a brief statement of the crop of "Early Rose" potatoes raised from the peck received from you last fall, (1868). I planted them April 10th. The soil, I suppose, might be called a clay loam, with considerable gravel mixed with it. It was a stiff sod, plowed the spring previous, and planted with sweet potatoes. I plowed the ground twice, and put it in good condition. The plat being too small, I had to crowd them more than was best, the rows being about $2\frac{1}{2}$ feet apart, and the pieces about a foot apart in the row. The potatoes were cut to single eyes, and as I always prefer it, were cut a few days before planting. A small shovelful of manure was thrown into each hill, the manure used being the remains of an old hot-bed which had been forked over several-times to make it fine. I covered them with about four inches of soil, and when they began to come up, went through them with the single shovel plow to cover up the weeds. When they were all up they were plowed with a double shovel plow and hoed. After this I went through them with the cultivator, and then hilled them up a little. This was all the working they got. Crop was dug July 13th, and after drying twelve days, found I had 770 pounds, or 12 bushels and 50 pounds of very nice potatoes.

CHRISTOPHER SHEARER, *Tuckerton, Pa.:*

The piece of land selected for the purpose of competing for one of your premiums was part of a large field of limestone land, which had been in clover and timothy for two years previous. In September, 1868, I hauled well rotted barn-yard manure (derived principally from litter of cows and horses) on the patch, at the rate of forty-eight tons to the acre. In the third week of the same month the sod was turned down to the depth of twelve inches. Manure of the same kind, and at the same rate, was then again applied to the soil, which was cross-plowed late in autumn to a depth of twelve inches. After the second plowing, a third dressing of manure, similar in quality and quantity, was spread on the top, where it remained during the winter. In the last week of March the land was again plowed twelve inches deep and harrowed. Of the sixty pounds of "Early Rose" potatoes which I had obtained from you, fifteen pounds were accurately weighed apart, cut into single eyes, and planted the day following, in rows three feet apart, one eye to the hill, the hills being eighteen inches apart in the row. The work afterwards done to the crop was performed exclusively by hand with the hoe. As soon as the potatoes had come up the ground was hoed, and a week thereafter this operation was repeated. When the stalks were about six inches high, they were hilled up and then mulched with a compost of spent tan and stable manure, mixed in the proportion of three parts of tan to one of manure. This mixture was prepared last fall (1868), and lay exposed to the weather over winter. It was laid in the hills so as to fairly cover the ground, none having been placed between the hills or rows. The crop required no farther attention before maturing. The potatoes were dug on the 10th of August, and weighed on the 21st of the same month. The weight was three thousand six hundred and forty-three and a quarter pounds, or sixty bushels and forty-three and a quarter pounds. The potatoes were of large size, many of them weighing from one pound to one and a half pounds each.

H. C. FISHER, *Odell, Ill.*:

I planted my peck of "Early Rose" on the 9th day of April, on timothy sod, second breaking, without manure of any kind. Soil black, with yellow clay sub-soil. Hoed them twice, which was all the tending they had. I planted $3\frac{1}{2}$ by 3 feet, and put one and two eyes in a hill. Could not see any difference in the yield between the hills with one, or the ones with two eyes. But I fear that it is useless for me to apply for one of the premiums, yet I gladly give you this statement of facts, as I know by my own experience that your "Early Rose" is capable of returning a much larger profit to the farmer than any other sort known to me. I dug my crop on August 13th, and had 1,027 pounds, or 17 bushels and 7 pounds. Sixty-eight and almost a half from one, makes the farmers stare some.

L. A. WILLIAMS, *Glenwood, Iowa*:

On the 8th day of April, 1869, I planted one peck of "Early Rose" potatoes with a view of competing for premiums offered. The soil was a sandy loam, subdued from hazel growth in the spring of 1868. I cut the seed to one eye for each piece, and planted in drills or rows, one piece in a hill, about ten inches apart, the rows about three and one-half feet apart. The ground was broken about six inches deep, harrowed, and furrowed off in rows with a shovel plow, the seed covered with the same, and then harrowed immediately after planting. As soon as the potatoes were large enough to plow, I plowed them with a shovel plow, and a week later I hoed them. After another week I plowed and hoed again. I used no manure. The land was upland. On the 17th day of August, I dug the product of the peck of seed, and stored them in my barn. On this day, (September 4th,) I weighed accurately said product, and found it to be 1,866 $\frac{1}{2}$ pounds, or 31 bushels and 6 $\frac{1}{2}$ pounds.

HENRY B. LUCAS, *Groves, Indiana:*

I planted my peck of "Early Rose" on black soil with an underground drain. Used stable manure; applied in the fall of 1868 two wagon loads on the patch. Plowed my land very deep in November, and again April 21st. What I call deep is about eight inches, that being as deep as you can go without subsoiling. Planted my potatoes April 28th, in hills about two feet apart each way. Cut my seed so as to make from one to two eyes to a piece, and put two pieces in each hill; had 488 hills. Plowed first with a small shovel plow just as they were coming up; plowed very close to them so as to loosen the ground thoroughly, and when they were four inches high, gave them a good hoeing. Just before the tops fell down I hoed them again, making a small hill. This is all the cultivation they received, and after weighing my crop I find I have 3,090 pounds, or 51 bushels and 30 pounds. A pretty large yield, and in size and quality they can't be beaten.

OSCAR W. MAPES, *Howells, N. Y.:*

The ground on which I planted the peck of "Early Rose" was a sandy loam. I cut my seed into single eyes, and planted in drills three feet apart, and pieces two feet apart in the row. Plowed the ground April 12th, and cross-plowed at the time of planting, April 28th. Plowed out twice, and kept the weeds hoed out. I used fifteen cords of coarse horse manure to the acre, plowed under at first plowing, and fifty bushels of slacked lime at the second plowing; also a small dressing of ashes and plaster at the first hoeing. The yield is 36 bushels and 5 pounds.

SETH S. BARNES, *Olena, Ill.:*

I have just dug and weighed the product of my peck of "Early Rose" potatoes, obtained of you last fall, and here is the way I

got my great yield: I took fifteen pounds of seed, cut them to single eyes, and planted them the middle of April. Half of the seed was planted in my garden, a part of which was a hog pen for several years, and the rest had rotten stable manure scattered over thickly at the rate of fifty two-horse loads to the acre. The ground was plowed deep in the fall and again in the spring. The seed I planted in rows about three feet apart, and ten inches apart in the row. When the potatoes were up I gave them a harrowing, a few days afterwards plowed with a two-horse cultivator, and shortly afterwards plowed them again. Dug them the last of August, and had 2,112 pounds, or 35 bushels and 12 pounds. The other half acre was planted on a new piece of land which had the prairie sod turned over two years before. I broke the land in the spring, planted the same as the other, and cultivated the same. They were dug early in September, but as the ground was exceedingly wet, and had been all the season, I was obliged to throw away about one-third of them on account of the rot, but I saved of sound potatoes 948 pounds, or 15 bushels and 48 pounds, making in all 3,060 pounds, or 51 bushels from one peck of seed.

DANIEL D. BECKWITH, *New London, Conn.*:

AS I am a competitor for one of your premiums for the largest yield of "Early Rose" from one peck of seed, I inclose report of my experiment. The ground selected was an old strawberry patch, rather wet, stiff soil, which was very unfavorable, as the season has been very wet with us. I spread barn-yard manure at the rate of eight cords to the acre, turned it under, harrowed it with tooth and bush harrow, and furrowed it about three feet apart; scattered coarse barn-yard manure in the furrow at the rate of three cords to the acre. I cut the potatoes to single eyes as near as possible, put the sets one foot apart in the furrow, and applied a small handful of "double refined pondrette"

to each set, and covered them from three to four inches deep. Cultivated and hoed them but twice, and dug them on the 18th of August. The weight was just 2,221 pounds, or 37 bushels and 1 pound.

JOHN C. CLEMENT, *Kenduskeag, N. Y.*

As soon as the planting season had arrived last spring, I told my boys to prepare and plant the peck of "Early Rose" I had purchased of you, with a view to competing for one of your premiums. The ground selected was planted with potatoes last year, (1868,) but with very little dressing, as we dare not manure very highly for fear of the rot. We used but very little manure in this trial, not over one pint to the hill. They were planted the first of June, with the manure *under* the seed, and a little plaster thrown on the top. The rows were two feet eight inches apart, and eighteen inches apart in the row; seed cut to single eyes, and one eye to each hill. They were planted with the "J. C. Clement Horse Hoe," and hoed with the same only once, when six inches high. This was all the attention they received until the day they were dug, September 1st, and I assure you I was greatly astonished at the great yield. They were as large as a small man's foot, and as smooth as a lady's face, not a prong or a rotten one in the lot. The product was 35 bushels and 20 pounds. I think I could have raised one-third more, had I known as I do now, that the "Early Rose" will bear high cultivation.

H. C. HASKELL, *Deerfield, Mass.*

I drop you a line to inform you as to the result of planting one peck of "Early Rose" bought of you last fall. The fifteen pounds were cut into single eye pieces, and planted in hills about three feet by eighteen inches apart, and fifteen pounds of phosphate in the hills; no other manure. Soil, sandy loam;

came up finely; hoed four times. At the last hoeing there were 250 pounds of phosphate (Glasco Co., New York,) sowed between the rows and hoed up in the hills. The tops covered the ground with a complete mat. They were dug the 9th of September, and weighed 2,132 pounds, or 35 bushels and 32 pounds. They are the best potatoes ever raised for eating, without a single exception.

EDMUND B. OTIS, *Dover, Mass.:*

From shrinkage, or from some being stolen, the fifteen pounds of "Early Rose" were reduced on the first of May to twelve and a half pounds. The piece of land on which I planted them was made up of a deep loamy soil, though in poor condition, it not having been cultivated for several years past, and was at the time of plowing thickly matted with "witch grass." I subsoiled it last Autumn twelve inches deep with a "Michigan Plow," and in the Spring I cross-plowed it again, making a furrow eight inches deep. I then spread horse manure upon it at the rate of about five cords to the acre, cultivated it in thoroughly, and furrowed it both ways three feet apart. I had cut out each eye of the seed potatoes into separate pieces, and in planting them I tried, as far as possible, to put but two pieces each with a single eye into each hill, and added a handful of "Fale's phosphate" to each. They were planted the first of May, and hoed several times to keep down the "witch grass." The crop was ready for market July 15th, although I did not harvest them till August 16th. Amount of crop was 810 $\frac{1}{4}$ pounds, or 13 bushels and 30 $\frac{1}{4}$ pounds.

II. GUNTERMAN, *Georgetown, Mo.:*

I commenced in April to prepare my ground for the "Early Rose" by giving it one good plowing, harrowed it twice, laid off the rows with two-horse twelve-inch plow, making the furrows

about six inches deep and three and a half feet apart. On the 26th of April I cut the potatoes to single eyes, planted one eye in a place, about fifteen inches apart in the row. I placed them with the eye uppermost and covered them with the hoe. When they came up they were hoed once, and plowed once, which is all the cultivation they received. The soil is what we call a "mulatto" or red soil, and is underlaid with a flint gravel. Its chemical properties I am not posted in. No manure has been applied to the ground for the last two years. The crop was dug September 1st, weighed on the 11th. The crop is 37 bushels and 20 pounds.

WM. B. GALWAY, *Indianola, Ill.*:

I planted my "Early Rose" on prairie soil, in three different pieces of ground, the soil of each differing somewhat from the others. I will describe them as Nos. 1, 2, and 3. No. 1 is of a clayish nature, (yellow clay sub-soil, well surface-drained,) has been cultivated in garden for two years. Was manured this year with well rotted stable manure, spread on the surface about two inches deep, plowed under early in the spring, and plowed again just before planting. Planted two and a half pounds on this piece May 5th. The potatoes were cut one eye in a piece, and one piece put in each hill; rows three feet apart and hills two feet; plowed once with double shovel plow and hoed three times; dug August 28th, and dried ten days before weighing. Product 617 pounds, or 10 bushels and 17 pounds.

No. 2 was a timothy sod, soil clay loam, yellow clay sub-soil, both surface and underdrained; hogs fed on it all last summer; trench plowed this spring; four and one-half pounds of seed, cut (May 5) same as in No. 1, one piece in a hill; hills three and a half feet each way; plowed three times and hoed twice; dug August 30th, and dried same as No. 1. Product 1,388 pounds, or 23 bushels and 8 pounds.

No. 3 is a rich sandy loam, yellow clay sub-soil, both surface and underdrained; was a blue grass sod, trench plowed last year and in potatoes; plowed deep this spring; planted eight pounds May 6th. This lot was cut, planted and cultivated in the same manner as No. 2, and yielded 1,989 pounds, or 33 bushels and 9 pounds. Total yield from the fifteen pounds, 3,994 pounds, or 66 bushels and 34 pounds.

Lot No. 1 yielded 246.8 for each pound of seed planted.

"	2	"	308.4	"	"	"	"
"	3	"	248.6	"	"	"	"

The average yield from the 15 pounds was 266.2 pounds.

NOTE.—The above competitor, Mr. Wm. B. Galway, was awarded the *fourth premium of fifty dollars* for the *fourth largest yield* of "Early Rose" potatoes from one peck of seed, he having complied with all the conditions.

SAMPSON GRAY, *Norwalk, Ohio:*

My soil was a sandy loam, manured last fall at the rate of thirty loads per acre, and plowed it under just before it froze up. This Spring I dragged it well without plowing. On the 22d of April we planted the potatoes, putting the rows three feet apart each way. We cut the fifteen pounds into one thousand and ten pieces, some of the eyes being divided into four parts, planted them with the hoe, put half a shovel full of well rotted manure in each hill, and covered them well. They were up on the 10th of May. On the 26th of May we had a severe hail storm, which cut off and destroyed one hundred and fifty hills. The seed rotted in the hills and did not come up a second time. This left me 860 hills which grew. We kept them clean, and hilled them up twice. They were dug September 4th, and weighed on the 17th of the same month. Product was 3,941 pounds, or 65 bushels and 41 pounds. The average number of hills planted with each pound of seed was sixty-seven and one-third. The one hundred and fifty hills de-

stroyed took two and a quarter pounds of my seed, leaving twelve and three-quarter pounds which grew. My yield was 309 pounds of potatoes from each pound of seed, and if the whole peck had grown the yield would have been 76 bushels and 58 pounds. My largest potato weighed 2 pounds and $10\frac{1}{2}$ ounces.

E. W. YOUNG, *Sweden, N. Y.*:

On April 24th I weighed and cut fifteen pounds of "Early Rose," and on the 29th of the same month planted them. At the time of planting they weighed eleven pounds, having been exposed to the sun for two days after being cut. Planted them on sandy loam, in a high state of cultivation. The previous year the ground was planted to corn. I opened holes three feet apart one way and two the other; put into the bottom of each hole a small garden trowel full of hen manure, and covered it with about half an inch of soil before dropping the potatoes; put two pieces in each hill, most pieces containing only one eye; hoed three times and watered once with liquid hen manure; dug them August 30th, and weighed them September 10th. Yield was 2,335 pounds, or 38 bushels and 55 pounds.

ELI WICKERSHAW, *East Rochester, Ohio*:

The character of my ground was a sandy loam. The seed was mostly cut to single eyes, but occasionally two eyes in a piece; were planted in rows three and a half feet apart, one foot apart in the row, and one piece in a place; planted April 26th, 1869; hoed June 1st; passed cultivator between the rows on June 2d, and top-dressed the rows with wood ashes, about one barrel to the patch; hoed June 14th; hoed and hilled July 5th. I applied four two-horse wagon loads of manure from sheep sheds, and sowed about thirty pounds of plaster thereon before the ground was plowed in the spring. My crop amounts to 2,510 pounds, or 41 bushels and 50 pounds.

J. C. DAVIS, *New Providence, Iowa:*

I cut my peck of "Early Rose" into single eyes, except where the eyes were of unusual size, when I cut each one into two or three pieces. They were planted in rows four feet apart, and one eye or piece put in a place, with the eye up, eighteen inches apart, and covered with about three inches of good loose soil. It was new ground, and was used for a cow lot for four or five years. In the Spring of 1867 it was plowed and planted with rhubarb roots, which were dug up and ground plowed a week before the potatoes were planted. On the 27th of May the potatoes were plowed with a small double shovel plow, two furrows in a row. Plowed in same manner on June 10th and July 3d, and after each plowing the patch was gone over with the hoe, in order to cut out all weeds which were not covered with the plow. The potatoes were only hilled up with the plow. The yield of the peck was 87 bushels and 44 $\frac{3}{4}$ pounds, generally good, large sized potatoes.

NOTE.—The above competitor, Mr. J. C. DAVIS, was awarded the *Second Premium*, of *One Hundred and Fifty Dollars*, for the *Second largest yield* of "Early Rose" Potatoes from one peck of seed, he having complied with all the conditions.

JOHN M. HARRINGTON, *Framingham, Mass.:*

My soil was a moist sandy loam, that had been mowed for the last ten years previous to plowing last fall. In March I sowed on two bushels of dry wood ashes, and in April a cart load, containing thirty bushels, horse manure, and cultivated it in. I let it remain in this condition until the 10th of May, then struck it out three and a half feet between the rows. Cut the potatoes into pieces of one and two eyes, and planted them about ten inches apart in the row. After they came up I plastered them. They grew splendidly, covering the ground with vines, and were dead ripe by the middle of August. Result, 1,662 pounds, or 27 bushels and 42 pounds.

E. VON OWEN, *Napierville, Ill.* :

The ground which I selected is what is commonly called "black prairie soil," the black soil being about fifteen inches deep, the sub-soil being yellow loam, through which the water does not pass very freely. This land, on which a young orchard is growing, had been planted to strawberries for three years, they being the first crop ever raised upon it. About July 15th, 1868, after the strawberries had been harvested, the vines were plowed under and the patch sown to turnips, which, however, failed to come up on account of the hot and dry weather. Thus the land lay fallow till some time in October. I hauled on well rotted horse manure at the rate of fifteen loads per acre, as near as I could judge. This was spread out broadcast and plowed under, running the plow about eight inches deep. In this condition the land lay over winter. Last Spring, as soon as the land was dry enough to work well, which was about the middle of April, I had the land loosened up with a two-horse cultivator, going over it twice the same way. Cross-plowing could not be done on account of currant bushes planted between the apple trees one way. Rainy weather here interfered till some days later, when the horse and cultivator were again put to work, working the ground as deep as could be done with that implement. As the ground was yet rather wet to plant, I let it lay a few days longer, when the cultivator was run over once more and then harrowed once, leaving the land in good condition to plant. I marked it out at once, with a common corn marker, about two inches deep, and rows two feet eight inches apart. The potatoes were cut into pieces containing one and two eyes, and planted eighteen inches apart in the row. Before planting, I had a boy drop a good handful of unleached ashes right along in the row eighteen inches apart, and on this I planted one cut of the "Early Rose." Thus I planted five rows, when the ashes gave out, and the balance, three rows more, was planted right on the ground. Every hill was covered with dirt two inches deep. It was not many days before the young sprouts began to

push out vigorously, except on the two first rows planted. Of these two rows, from the centre to one end, only here and there a young plant was to be seen, the other half coming up entirely. On examination I found the seed still there, with the eye looking sound and alive, but it seemed to me that the ashes had been too strong for such a small piece, and in too close contact, eating the life out of it. I find no other reason for it, yet, why did not the ashes spoil the other part planted just the same way? When the young vines were about six inches high, I commenced stirring the ground between the rows with a one-horse cultivator, going through once a week for two weeks. The work was finished by running the horse hoe once through each row, hilling them up nicely. The potatoes were dug September 6th, and after drying ten days, according to conditions, I found the weight to be 1,801 pounds, or 30 bushels and 1 pound.

MICHAEL JACOBY, *Marion, Ohio:*

I planted my "Early Rose" about the middle of May. The ground was manured in the Fall with barn-yard manure, and plowed one foot deep. In the Spring I hauled ashes on at the rate of about eight good two-horse loads to the acre, and plowed deep again; made fine by harrowing and rolling; then furrowed out about three feet apart one way; cut the potatoes to single eyes, rolled in air-slacked lime, then put into the furrows by hand about one foot apart; covered with the hoe about three inches deep. When they were just coming out of the ground so the tops could be seen, I covered them with straw some eight or ten inches deep, then let them alone till time to dig. They were dug on the 5th of September, and the yield from one peck, or fifteen pounds of seed, was 2,724 pounds, or 45 bushels and 24 pounds. I neglected to say that my ground is a good limestone gravel, what we call here second bottom.

H. H. BARNES, *Albion, Mich.*:

Of the barrel of "Early Rose" potatoes I purchased of you last Fall, I planted one peck by itself, upon clover and timothy sod turned over and top dressed with a thin coat of fine manure and harrowed in. I then marked the ground both ways in rows three feet apart each way, and planted one eye in a hill on the 30th day of April last. As soon as they were up sufficiently I harrowed them both ways with a small harrow, once in a row. In due time I cultivated them with a corn digger once in a row each way, and had them hoed and hilled, and subsequently I passed through them with a shovel plow, which is all the cultivation they received. I have 1,804 pounds, or 30 bushels and 4 pounds.

JOHN BIRD, *Warren, Ill.*:

The ground selected for planting my "Early Rose" potatoes was a clay loam, with red clay sub-soil; cultivated to potatoes last year, and fall-plowed good and deep, rich enough for ordinary crop. It was thoroughly stirred with a walking sulky in the Spring before planting, and laid off in drills thirty inches apart. Spread cow manure (well decomposed) in drills at the rate of forty loads to the acre, and covered it slightly with soil; cut the seed down to strictly one eye in a piece, planted the sets in drills from twelve to fifteen inches apart, one in a place, and covered with leaf mould drawn from grove, about two inches deep, then covered the whole with about one inch of soil; hand-hoed twice, and cultivated several times with horse and double shovel plow, being careful not to throw the dirt up to the potatoes, as I never hill up early potatoes. In short, the ground was kept in thorough condition the entire season. The potatoes were dug September 15th, and weighed on the 25th of the same month, and I had 2,507 pounds, or 41 bushels and 47 pounds. The "Early Rose," in quality and productiveness, reaches far beyond my most sanguine expectations.

A. RINKER, JR., *Wyoming, Pa.*:

I planted my "Early Rose" on wheat stubble, clay soil. Three loads of stable manure were put on the ground before plowing and three loads after, and a small handful of Peruvian guano was put in each hill before the seed was put in. The potatoes were cut to single eyes, and one eye put in a hill. The hills were three feet apart each way. They were cultivated twice, hoed twice, and I went through the patch once with a hiller. They were dug August 30th. The tubers are large, smooth and handsome, and weigh 1,720 pounds, or 28 bushels and 40 pounds.

OSCAR BURRAS, *Fairfield, Ohio*:

The peck of "Early Rose" potatoes which I purchased of you were received October 29th, 1868, and were placed unopened in the cellar, where they remained until April 26th, 1869. On opening and weighing I found there was but fourteen pounds, they having shrunk in weight during the winter. The potatoes were cut into single eyes, and some of the eyes were split in two. I had 1,223 pieces. Made a bed in the following manner: For bottom, cobble stones and pieces of brick six inches deep; on this a layer of rich dirt four inches deep; then the eyes cut side down, (got 800 in the box, which was $2\frac{1}{2}$ by 3 feet,) covered with four inches more dirt. The balance of the eyes (423) were placed in the garden a foot apart one way by four inches the other. When there was no rain during the day they were watered with manure water at evening. As soon as the sprouts appeared, they were carefully pulled and transplanted. As soon as they were pulled, they were placed in a pan partly filled with muddy water, a hole made with the dibble, and immediately set out; generally set out just at night, or immediately after a shower. Soil a sandy loam, manured at the rate of eighty wagon loads per acre, which was spread the previous fall (1868). The sprouts were also manured with plaster and ashes, in the following

proportions: three bushels of ashes and one bushel of plaster, thoroughly mixed and applied at the rate of a tablespoonful to each sprout; sprouts set out one and a half feet by three, plowed out twice and well hoed. A small portion were mulched with straw, but I could see no benefit therefrom, as the season was sufficiently moist. First sprouts were pulled from box May 8th, from bed May 12th. June 26th, the pieces in the bed were taken up and planted out. Last sprouts pulled from box July 20th. None were dug till the vines were dead. I finished digging September 16th. Amount raised on the above piece of ground was 5,656 pounds, or 94 bushels and 16 pounds.

The above competitor, OSCAR BURRAS, was awarded the *First Premium* for the *largest yield* of "Early Rose" potatoes from one peck of seed, he having complied with all the conditions. This premium is \$200.

W. A. HANES and JOHN E. GROOM, *Prairie City, Iowa*:

In the Fall of 1868, we purchased of you one-half bushel of "Early Rose" potatoes for the purpose of competing for one or more of your premiums. The first peck was planted on ground which had been eight years under cultivation, rich, black prairie soil, with very little sand, and from two to three feet deep. We used 150 pounds of barn-yard manure to the square rod, evenly spread over the ground, and plowed in ten inches deep. Planted single eyes in the hill, in rows two feet apart one way, and three feet the other. Marked out deep with single shovel plow, and covered one and a half inches with hoe. The first cultivating they received was a hoeing, then plowed with double shovel plow at two different times, and lastly, hoed and slightly hilled up. This peck yielded us 78 bushels and 22½ pounds. This is a far greater yield than we anticipated, and we have no hesitation in saying of the crop, that they are the largest, finest, earliest, best table quality, and most hardy and productive of any we have ever seen.

Many of them weigh two pounds each. We are perfectly satisfied with our investment in the "Early Rose." The second peck was planted on rolling prairie ground, and was the first crop. No manure was used in this case, and with this exception they were treated in nearly the same manner as the first peck. We realized from this peck 57 bushels and 30 pounds.

These competitors, having complied with all the conditions, were awarded the *Third Premium* for the third largest quantity of "Early Rose" potatoes from one peck of seed, (78 bushels and 22½ pounds.) This premium is \$100.

LEWIS BEAL, *North Fairfield, Maine:*

My "Early Rose" were planted on a gravelly soil, broken up and planted to potatoes in 1867. Without dressing other than one spoonful of plaster and ashes to the hill, the yield was about 100 bushels per acre. It was planted to corn in 1868, with one shovelful of barn-yard manure to the hill, and a tablespoonful of "Bradley's Super Phosphate;" it yielded about forty bushels of shelled corn to the acre. I cross-plowed it in the Fall, and hauled on old barn-yard manure at the rate of twenty loads per acre, (each load containing about thirty-five bushels,) with the intention of sowing to wheat in the Spring, but afterwards concluded to plant a part of it with "Early Rose" potatoes. When Spring came I put on just about as much more green horse manure, and cultivated it in with an ox cultivator. I cut my potatoes into single eyes first, then all the large ones I divided, some into two pieces and some into more. Marked the ground off in rows three feet apart, and placed the seed about two feet apart. I then put one spoonful of "Bradley's Phosphate of Lime" and plaster to each hill. They were hoed once and weeded once, and my crop was 2,284½ pounds, or 38 bushels and 4½ pounds, an average of about 152 pounds from each pound of seed.

HENRY S. BLOOM, *Manteno, Ill.*:

Planted my potatoes May 3d, on ordinary prairie soil, in a lot of four acres, which had been used for three years previous as a hog pasture, and the last season I fattened some forty head in the lot, fed with corn cut up by the root. That is all the manure the land ever had. It was first broken up in 1845, and constantly cropped until four years ago, when it was seeded to red clover, and used as above stated since till last Spring, when it was broken up about eight inches deep, thoroughly harrowed and furrowed out with a shovel plow about four feet each way. Potatoes cut to single eyes, one piece to a hill, and covered about two inches deep. They were plowed once each way and hoed once, and that was all the cultivation they ever had. I raised 1,583 pounds, or 26 bushels and 23 pounds. Some of the single tubers weighed two pounds, and quite a number rotted in the ground before they were dug, owing to the extremely wet weather.

J. H. & W. PECK, *Albany, Ontario*:

We selected a piece of clay loam soil, which had been used for yarding our cows at night for the past season. The ground was plowed last Fall, again plowed on the first of May, and again on the last of May, and planted June 1st. Cut potatoes to one and two eyes, and rolled the cuts in common plaster before planting. Put two pieces in a hill, and hills three feet apart each way. We hauled three cart loads of hog manure, and spread it broadcast on the piece of ground, (400 square yards,) and it was plowed under at the last plowing. They were cultivated both ways, and hoed on the first day of July. Cultivated and hoed again July 21st. We dug them September 14th and 15th, and weighed on the 25th of the same month. The product of the peck was 2,645 pounds, or 44 bushels and 5 pounds. This is an average of $176\frac{1}{3}$ pounds from each pound of seed, and at the rate of 508 bushels per acre

F. C. MEAD, *Litchfield, Mich.* :

I cut my potatoes to single eyes, sprinkled plaster on them when cut, planted on May 5th, on sandy ground, (timothy sod,) using no manure. The ground had been in grass but one year after wheat. Soon after they were up I top-dressed with plaster and ashes (leached) half and half, and cultivated them twice with five-tooth cultivator, leaving the ground perfectly flat. They received no further attention. One side of the patch was a little the lowest, and the water settled on that side and drowned them out. I got three-fourths of my crop from half the seed and half the ground. I planted them two eyes in a hill, three feet apart each way. They weighed 18 bushels and $58\frac{3}{4}$ pounds.

J. E. EATON, *Bloomington, Mich.* :

I think my "Early Rose" have done well, considering the chance they have had, as I raised sixty bushel by measure from my peck of seed, and I think there would be more than that by weight, as my basket held rather more than a bushel. I planted them on good land, though part of it was rather heavy soil for this season. On the sandy land the potatoes were the largest. Put one eye in a hill; hills from eighteen to twenty inches apart one way and about three feet the other. I got eight pounds from many of the hills, and some as high as eleven. Many of the tubers weighed one and a half pounds, and some nearly two pounds. I put plaster in the hills when they were planted, and plastered them again after the first hoeing. Hoed them twice and cultivated several times.

NOTE.—These reports represent but a small portion of the competitors, but we have not space to publish any more. We would here remark that most of these reports are well authenticated, and the four to whom the premiums are awarded are certified to under oath.

EXTRACTS.

In the Spring of 1868, Rev. W. T. WYLIE, of Newcastle, Pa., issued a small pamphlet devoted to the potato, its culture, diseases, &c. Mr. W. is an accomplished amateur cultivator, and the little book referred to contained many valuable hints and suggestions which are worthy of a more extensive circulation among those interested. We are kindly permitted to give the following extracts from its pages:

DISEASES.

The potato, which was originally an insignificant tuber, has, by high cultivation for many years, been brought to great perfection. The attempt to force it, by rich manures, beyond its capacity, has led to disease and degeneration.

The diseases to which it has been liable for some years past seriously affect its value as a crop. In the year 1844, the potato crop suffered most disastrously in the United States, while it appeared in a serious form in Ireland and many parts of Europe.

This disease, under the various names of mildew, murrain, rot, and pestilence, has been carefully studied by scientific men and practical agriculturists, and as yet no perfectly satisfactory explanation of it can be given. Certain conditions of *seed, soil, manure* and *culture*, have been found to contribute to the health of the crop, and these should be carefully studied by those who plant.

Another disease, known as Dry Rot, has in some places greatly damaged the potato crop.

An injury to the leaves, which is called the "Curl," is supposed to be entirely prevented by separating the sprouts from the tuber before planting them.

Protz, of Germany, says that the potato plant is intended by nature not only to *produce tubers*, for the supply of an abundance of healthful food for man and beast, but also to *produce seeds* for the purpose of multiplying varieties.

By pursuing a method of cultivation which may stimulate the growth of the tops, the cells of the stalks contain too much water, and cannot sufficiently harden into wood, and therefore the flowers fall without forming capsules, and the development of the plant is checked just before the seeds begin to be formed.

As soon as the stalks are thus checked, a fungal growth attacks them. The tubers are at first deprived of the aid of healthy stalks, which they require in order to reach their maturity, and thus their regular growth is checked. Then the fungi spread from the stalks to the tubers, affecting those nearest the surface first.

The effects of this disease are greatly dependent on the weather. Wet seasons so favor the spreading of the fungi, that they soon destroy the crop. In order to escape this disease, the following points are considered important:

1. SEED.—Select *well matured, sound seed*, of the *most healthy* varieties.

2. SOIL.—Plant, as far as possible, on new soil, or on ground which has not had an application of rich manure for several years.

3. MANURES.—Avoid all strong, partially decomposed manures. Use vegetable substances as far as practicable for manuring. Turn under old meadows, or a clover sod.

4. CULTURE.—Plow deep, and thoroughly pulverize the soil; and encourage the growth of the tuber rather than the stalk.

NOTE.—Land recently enriched with manure from the barn is peculiarly liable to induce or aggravate the disease.

There are several insects which, in some sections, have proved serious enemies to the potato crop. The circumstances of each

case will suggest the best remedies at hand for such attacks. I found the free use of slacked lime, dusted over and among the tops, an effectual check to the potato bug this season. When a rain would wash it off, I repeated the dusting. From five pounds of Early Rose treated in this way twice when the bug attacked them, I dug two hundred and forty-eight pounds. Each intelligent cultivator should study the *nature* of the potato, the natural conditions essential to health, and from these he will readily get hints as to the best method to remedy disease.

METHODS OF CULTIVATION.

1. TIME TO PLANT.—In our Northern and Eastern States, the season extends from the first of May to the last of June; but the opinion of every cultivator with whom I have talked is, that *early* planting, as a rule, is by far the best. The earlier in the season the potato gets a start, the more likely it is to escape Summer droughts, the attacks of the potato bug, and any influence unfavorable to its growth and maturity.

2. SOIL.—Two things here require attention, the selection of soil and its preparation.

As to the first point, for planting take *new* ground, if you can get it. A hazel thicket in the West will furnish potatoes which cannot be excelled in quantity or quality. Next to new ground comes soil rich in vegetable substances, as *old meadows*, or *fence rows* which have been uncultivated for years, also *old clover sod*. As to the second point, preparation of soil, I do not suppose that one cultivator in one hundred will give it the time, thought and care it deserves.

Plow in the *Fall* as deeply as possible. Leave your ground in ridges, so that the frost can thoroughly pulverize it. Take the first of Spring to work your lot over *thoroughly*, and, if possible, *sub-soil*. Never think of working less than 20 or 24 inches deep; then neither rains nor drought will seriously affect your crop.

3. MANURE.—Avoid all strong, undecomposed stable manures; better not manure at all than use such. Use vegetable manures, bones, with lime, plaster and ashes.

4. SETS.—You may plant whole potatoes, or single eyes, or pieces with several eyes, as your experience, or that of others whom you can trust, suggests. Some say plant only the largest; others say the smallest are better. Unless your small potatoes are *well matured*, the large are undoubtedly better.

If you cut up potatoes and plant *early*, let them *lie several days* spread out, until the cut surface dries. The seed will be more certain to grow.

5. MODE OF PLANTING.—May be in drills, *or in the hill*. *Early* planting should be so deep that, if the frost kills the tops, the dormant eyes will make a second start.

Avoid getting the sets too close, especially if you plant in drills. For thorough horse cultivation, the rows should be three feet apart, and the sets twelve or fifteen inches apart in the rows, especially for strong growing kinds like the Harison.

As to the comparative advantages of the *hill* or *drill method*, opinions are so various and conflicting that you would do well to experiment for yourself. I once advocated the *hill*, but I am now convinced that I can secure a larger return by planting in *drills*. Shall we keep the surface *flat* or throw it into *ridges*?

Very few have tried the flat surface plan, I suppose; but a careful perusal of Mr. Harison's method, and a practical test, will no doubt repay men who make it. I append Mr. Harison's rules in full to this article.

Spreading the potatoes on the sod and covering to a depth of one foot with straw, has given such satisfaction to some farmers that they continue it from year to year, using all their spare straw in this way. *

6. DIGGING.—Wait until the tops are dead, and *do not* wait too long after that. Dig in *dry* weather. Let them be thoroughly dry when you store in a *cool*, dry cellar. Be careful not

to put them away in close barrels, for fear of sweating. Some highly recommend the use of freshly slacked lime, in the proportion of one pint to a barrel of potatoes, spread over them as they are stored in the cellar or pit. If you pit your crop, select high, dry ground; cover with five or six inches of straw, then six inches of soil, then three or four of straw, and another covering of earth; as the weather becomes severe, add a load or two of stable manure. A sheaf of straw set on the top of the pit will furnish ventilation and keep out the frost.

I last Fall put forty-eight bushels of Early Goodrich into such a pit, and in the Spring took out forty-eight bushels. By all means secure *drainage and ventilation*, with perfect exclusion from the air and light.

I will close this article by giving A. W. Harison's method.

HOW TO RAISE LARGE CROPS OF POTATOES.

It is desirable not only to get the best varieties for seed, but to know how to plant them, and to raise the largest and best crop. The method I pursue, and which pays better, *far better* than any of the old systems generally practiced, is as follows:

1. In the Fall plow *deeply*, and sub-soil plow, in all eighteen to twenty inches deep.
2. In early Spring, plow and sub-soil across the winter furrows, harrow, and roll.
3. Mark out, as for corn, three feet apart each way, opening the furrows eight inches deep.
4. At the intersection drop a **whole* potato, the largest you have, and spread upon it a handful (about forty bushels per acre) of a compost made of eight parts of wood ashes, four of bone phosphate of lime, four of fine ground plaster, two of finely slacked lime, and one of salt; or, if preferred, three ounces of artificial fertilizer per hill. Then cover, roll, and spread one thousand pounds per acre of good artificial fertilizer.

* See NOTE page 66.

5. As soon as the young plants appear, run the cultivator close to and between, but *not over* them, in each direction. Afterward, and *before* the weeds come up, cultivate, both ways, with Knox's horse-hoe—so arranged as to cut as shallow as possible, and keep the surface *entirely flat*. Repeat this, at short intervals, three times. Then hand-hoe three times, still keeping a flat surface. Allow no hilling at any time, nor any weeds to grow.

6. As soon as the tops are dead, dig in clear dry weather, with heavy five-tined digging-forks; spread, under cover, to dry, and store in a cool, dark, dry, airy cellar, spreading half a pint of freshly slacked lime, in powder, on each bushel of potatoes.

7. Gather and compost the dry tops for application next Autumn; then plow and sub-soil as before for next year's crop.

The advantages of this system of cultivation are:

1. No possible entire failure of the crop.
2. No rot in healthy varieties.
3. The largest yield the soil and variety are capable of.
4. The largest proportion of large potatoes.
5. No degeneracy of varieties, but continued improvement.
6. No necessity for rotation of crops. The potato can thus be grown almost indefinitely on the same land, with, perhaps, at long intervals, a seeding to clover, to maintain the supply of vegetable fibre in the soil.
7. No loss by late Spring frosts. If the early growth is cut off, the dormant eyes will grow and the crop be saved.
8. The greatest economy of culture and harvesting.
9. The highest table quality of potato.

If the materials for the compost can not be obtained, top-dress heavily in the Fall, after plowing, with barn manure, but never use it in the season of planting. It may increase the crop, but tends to engender disease, especially in wet seasons.

If you want liberal crops, you must give liberal culture.

NOTE.—With all due respect to Mr. Harison, and his opinion, as an older and more experienced potato grower, we do not believe he is right in advocating the planting of so many eyes in a hill. During the prevalence of the “potato mania,” and the high prices placed upon new varieties, every cultivator has made it his aim to raise as large a quantity of potatoes from the seed planted as possible. In most cases the seed has been cut into single eyes, and the reports of hundreds, yes, thousands, of experimenters give evidence that with strong, healthy and vigorous varieties, more than *one eye* in a hill is a loss rather than a gain. No one will doubt that by planting whole tubers, *a greater number of potatoes* will be produced, but careful experiments, and the experience of others, convince us that where smaller quantities of seed are planted, the potatoes attain a much larger growth, produce more marketable tubers, and a larger yield to the acre.

—[BEST.

EXTRACTS
FROM THE
AGRICULTURAL PRESS.

The following items relative to the culture of the potato, are selected from the very best of our agricultural papers, and consist of editorials, and correspondence from practical men in various sections of the country. We receive regularly from fifteen to twenty different agricultural papers, and for nearly two years past have made it a practice to cut out and preserve all items on the potato and its culture. In selecting the following items, we have read carefully over *five hundred* articles on similar subjects, and have chosen these, believing that they contain more valuable instruction than all of the rest. In each case credit is given to the paper from which the item is taken, and we would here remark that no paper is represented here which is not worthy of the hearty support of every one who is interested in agricultural literature.

Potato Culture—How the Crop is Grown by Reisig & Hexamer.

Weekly Sun, February 3d, 1869.

One of our most enterprising farmers and fruit growers is Dr. F. M. Hexamer, whose place is two or three miles north of the Hon. Horace Greeley's at Chappaqua, Westchester county. The doctor is an educated German physician, in the prime of life, and enthusiastic in his present calling. He brings science to bear on his agricultural operations; but he is also well conversant with the practical details, especially for a young farmer of only six years' experience. Associated with him is his father-in-law, Dr.

Reisig, a highly respectable practising physician of this city. To those who know Dr. Hexamer it will not seem anything like puffery when we say it is to be regretted there is not such a man in every town, and even school district, the country over, since the example of such cultivators among the surrounding farmers would do as much good as all the agricultural newspapers and books published. For the great mass of our tillers of the soil are notably shy of printed farming, and are only convinced, and sometimes hardly then, by tangible proof. The subject of our remarks has shed light enough about him to make the fortunes of the farmers in his neighborhood, if they will only avail themselves of his practical teachings. First, he has erected a large and admirably planned barn, too expensive, it is true, for any but the rich to copy in full, but replete with valuable hints to those building on a moderate scale; or some of its features could be readily added to most existing structures at small expense. His mode of producing large quantities of manure from limited means is especially worthy the attention of those who make less than a quarter as much from equal facilities. He obtains about two thousand good loads (one thousand cords) of prime compost from the liquid and solid droppings of fifteen head of stock, with a little addition from an adjoining slaughter-house. How many of our farmers conceive it possible to effect such a result, and what is worse, refuse to have anything to do with muck, sods, and leaves, which are the principal agents in the multiplication. Space does not admit at present to speak of this most convenient barn in detail, though an interesting chapter might be written on several of its features, such as the manure pits attached to its stables, the process of gathering and storing leaves for bedding, the ice-house, mode of handling the ground and cut feed, vinegar and potato cellar, &c., &c.

We advise every farmer in Westchester county to call and see the doctor, who will take pleasure in explaining to those really interested, not only the mysteries of his great barn, but also

give some clue to other facts which underlie the success he has thus far achieved in tilling the soil.

Perhaps Dr. Hexamer is best known as an expert in potato culture; and it is rather as a preface to this topic that we have written what the reader has now perused. This favorite esculent, so universally eaten throughout the United States, probably amounts to a much larger crop than many suppose. The yield of the whole country has been estimated to reach in favorable seasons 150,000,000 bushels. All know that a malignant disease has seriously diminished its aggregate production for several years past, and baffled all efforts to arrest it. During the last two seasons the annual loss to growers from this source is supposed to have been 30 per cent., or 45,000,000 bushels, worth at least \$35,000,000. This wide-spread evil has created much uneasiness, not only among producers, but also with consumers, lest so healthful and convenient a vegetable should become scarce, and consequently high priced. As no one has yet found a specific remedy for the potato rot, a partial preventive has been put in practice, and is likely to prove something more than "the next best thing;" it is the substitution of new and supposed hardy varieties for the favorite but deteriorated old ones. Thus the now celebrated Early Rose promises to nearly or quite equal that prince of fine flavored potatoes, the justly esteemed Mercer. But in order to keep growers supplied with not only new and hardy, but also very choice sorts, a good deal of time and money must be expended in experimenting with new seedlings. We have already noticed some successful efforts in this direction in *THE WEEKLY SUN*, and shall chronicle the most important of them from time to time for the benefit of our readers.

Dr. Hexamer has not occupied himself with originating varieties, but devotes much time to testing all he can obtain of more than average promise. He applies thorough though not strictly high cultivation, and the results thus attained are of public value, as showing what kinds are hardy or otherwise in his

latitude and on certain soils. Last year the doctor raised about two hundred distinct varieties, and during the coming season he will cultivate not less than three hundred. His crop of 1868 amounted to 1,800 barrels of sound potatoes from 27 acres of land. About one-tenth of the whole were diseased. Many farmers and others who grow but one or two of the old kinds lost one-quarter to one-third of their crop. Dr. Hexamer's loss was mainly confined to a comparatively few varieties. The two past seasons were especially unfavorable to the cultivation of this esculent. Both were unusually wet, though not in like months. The latter part of the growing season of 1867 was wettest, hence late potatoes suffered more from the rot than early ones. In 1868 the reverse was the case.

The most prolific potato in Reisig & Hexamer's ground last year was the Cuzco, averaging 392 bushels to the acre. The Harison "followed hard upon," reaching 389 bushels. These two varieties completely distanced all others, as the next highest on the list only came up to 264 bushels. The last named tuber is becoming a great favorite with market men in particular, being described as large, skin smooth and white, eyes small, flesh white, fine grained and of good flavor, solid to the core, keeps well, and is, of course, hardy. The Harison seems to occupy a place among late potatoes corresponding to that of the wonderful Rose among the earlies. With Dr. Hexamer it thrives best in dry soils, though it has done fairly in low grounds. Next to the Cuzco and Harison the doctor would rank the Lapstone, Kidney, Gleason, and Pinkeye Rustycoat. As to the earlies, his experience confirms that of many others in placing the Rose fairly in advance of all known varieties. He would still esteem the Goodrich, though it did not maintain its former high reputation last season, and in some other localities rotted badly. The early Cottage and Sebec rank high, and the Dykeman does well in most soils. "Bresee's No. 4," also an early, (one of the varieties tasted at the dinner

of B. K. Bliss & Son, as lately reported in *THE WEEKLY SUN*,) has succeeded fairly with the doctor.

All of the above named varieties date back but a very few years, and the names of some of them will probably be entirely new to the general reader. The Mercer, which for a long time ruled supreme through this part of the country, has almost universally yielded to disease (and old age!) and been discarded. Some grower on Long Island did, indeed, raise a good healthy crop of them last year; but there is reason to fear it was an exceptional case, and is not likely to lead to permanent improvement. The late favorites, Prince Albert and Peachblow, are doubtless thoroughly infected with the rot, and are no longer cultivated with profit. The Peachblows in market come from the West.

As Dr. Hexamer grows potatoes exclusively for seed—and they must, therefore, be fully matured and in prime condition—and as he is known to obtain large yields, and is believed to be thoroughly up on this subject—our readers will, of course, be pleased to know something of his mode of cultivation. He prefers a clover sod, pastured during the season if the soil is in pretty fair condition, turned over late in the Fall and cross-plowed in the Spring. If the land selected has been a timothy meadow, and especially if the soil is thin, he would fertilize very moderately at most. He relies mainly on thorough tillage, plows the crop only twice, but sends his men through again and again, if necessary, to hand-pull all the weeds. Heavy manuring, moreover, is thought to create a favorable condition of disease in the tuber, particularly in a wet season, or if the soil is naturally moist and rich. The doctor finds that planting may be safely done as late as the middle of June. He invariably plants in rows two and a half feet apart each way; his chief reasons being that the young weeds are more easily subdued, and the soil more completely stirred than when the crop is grown in drills. In order to inform himself on the topic of proper selection of seed, the doctor has experimented largely with whole potatoes, large, medium and

small sized, divided and sub-divided, with buds (eyes) of different numbers, and with none at all. Though the heaviest yield resulted from large, uncut potatoes, the most profitable crop, he thinks, will follow a selection of seed in which the number of potatoes below the medium size predominates (excluding very small ones). The medium sized tubers are cut in two pieces, and the large ones are quartered. If the weather should be damp about the time of planting, the seed may properly be prepared a day or two in advance.

When the crop is ripe and ready to be secured, a very pertinent question is, how to unearth it most easily and cheaply. In prairie, and most alluvial soils, many would say, use the plow. A son of Erin might "recommind the spade, yer honor;" others the spading fork, hoe, or common potato hook. Dr. Hexamer has answered this question to the satisfaction of himself and a good many besides. He has engrafted on the potato hook long in use, two additional tines, making six in all, and calls the instrument a "pronged hoe."

The potato is a valuable article of food, and as the standard vegetable on the tables of all classes, should be plentiful and cheap.

The singular malady which has infected it for a few years past, has caused great loss to growers, and deterred many from raising it as a market crop. It is to be hoped that the efforts of such men as Dr. Hexamer, and those experimenting with new seedlings, will restore confidence in its reliability, and also lead to the introduction of perfectly hardy and very choice varieties.

MANAGEMENT OF THE POTATO CROP.

Country Gentleman, August 13th, 1868.

ALTHOUGH rather unseasonable for practical advantage this year, I am led to make a few suggestions in addition to, or modification of, my article on "The Potato—its Culture," (published on page 249, vol. 29, *Country Gentleman*,) from a suggestion received

from a correspondent (who probably overlooked the article referred to,) in West Virginia, who says he has been a "constant reader of the *Country Gentleman* for a dozen years or more," that an article from my pen on potato culture would be acceptable to the readers of the *Country Gentleman*, &c. He says he has grown potatoes yearly, with an average yield of two hundred bushels per acre; but desiring to increase the area and grow a premium crop the coming year, wishes to obtain further information. From this letter I judge he is now pretty well posted, and ought to give the public the benefit of his experience through the *Country Gentleman*. His selection of lands to be appropriated to the coming crop is part in clover, not having been turned for five years, and part in timothy, turned once since 1854. He does not state what the soil is, whether a clay, sandy loam, or what; but from his letter I gather the soil is an appropriate one for the crop, and from its being in clover in part, I judge it to be well adapted to potatoes.

My views of the potato and its culture, are pretty well expressed in the article referred to above, to which I wish to call attention; but with additional experience and research, some little modification on some points is the result.

That the potato can be grown successfully with the same negligence of culture as formerly, is plainly untrue. What the reason of this change is, is a question that has never yet been solved; and whether it ever regains its former hardness, remains for time to determine. At present we know that, if we would grow good crops of potatoes, we must give them suitable soil, in good condition, and thorough culture.

A soil may be in condition to grow a large crop of tops, yet but few tubers, as an excess of certain ingredients in a soil tends to produce foliage, while another set tends to form tubers. To produce best effects, these different qualities should be equalized. The best potatoes for eating, although less profitable for market, are those grown in soil of moderate fertility, growing medium sized tubers; yet few who purchase for their own consumption seem to act

as if they believed it, for a large sized potato will sell in preference to a medium sized one, generally.

A timothy or clover sod, if the soil be other ways suitable, not subject to either drouth or wet, is an excellent soil for growing good potatoes on, if properly plowed and put in condition. Unless the sod be well turned and suitably compacted, a drouth is more apt to affect the crop than on old ground; yet taking one season with another, the sod is the preferable selection. The plowing should be with a narrow furrow slice, and not less than eight inches deep, if the supersoil will admit of it; rolled to compress, and then well harrowed, to fine the soil. The proper preparation of the soil equals one-half a good crop. Animal or rank manures should not be applied to the crop, but the soil may be enriched through previous crops with such manures, or mild compost manures may be applied and worked into the soil, and the seed planted; but an old sod will usually furnish just the nutriment needed by the crop.

Were I to attempt a premium crop on my correspondent's soil, (farm manure being out of question, as he says, except plenty of barley straw,) I would use one of the following preparations, and compost my straw with swamp muck, salt and lime, or sods, &c., and use it for other crops: Take one hundred and fifty pounds of Peruvian guano and mix it with three hundred pounds of plaster, fresh ground; or ten bushels of wood ashes, two bushels of lime and one of salt, well mixed some two or three weeks before using; either of these to the acre. Plow and harrow as above, as early in Spring as the ground would work dry; then lay off my rows three or three and one-half feet apart, with a one-horse plow, making a furrow four to six inches deep; into these furrows drop my fertilizer, and close beside it drop my seed; distance depending upon the size of growth of the top, (a large growing variety requiring more room than a smaller one,) from sixteen to twenty-four inches apart. Moderate sized, well ripened, whole tubers, are best for planting; but sets of good size, with two or three eyes, will do where the seed is changed once in a few years. With the small plow turn a light furrow back,

covering the potatoes three inches deep. Just before the young plants break through the ground, take a square seed harrow, turn it bottom up, and drag it crossways the rows over the field. This destroys any weeds, and equals a dressing, leveling and smoothing the surface.

After the plants break through the ground, apply a light top-dressing, say a small tablespoonful to a hill, of the same fertilizer as above. After-culture consists in twice plowing, with a light furrow, towards the plants, and finishing by following with the hand-hoe, to mend baulks and destroy any weeds left. Lay them by as soon as they come into blossom. If any weeds show themselves, pull or cut them out. Clean culture pays.

Harvest the potatoes before the Fall rains, and when the ground is not wet. A bright sun will soon injure unearthed potatoes; therefore they ought not to lie exposed to its rays, when clear. Gather, and store in a dry, uniform low temperature, not subject to frosts, &c.—a dark cellar is best—or market soon as convenient, storing in the meantime in a dark room, if not carried immediately from the field. Every handling adds to the expense of the crop, deducting just so much from net profit.

As to machines for digging, I am not posted, never having seen any in operation. I am informed that where large quantities of potatoes are grown, they have machines for cutting, planting, and also for digging; but with what success they work I am unable to say. White skinned and fleshed potatoes are usually preferable to colored skinned, but more liable to accidents than the latter.

As to the varieties, they are numerous, and almost every market has a preference; so it would be impossible to recommend any particular variety that would suit every market, and all soils.

W. H. WHITE.

CULTURE OF POTATOES.

Country Gentleman, September 5th, 1863.

"MESSRS. EDS.—Will Mr. W. H. White, who, in the *Country Gentleman* of 13th August, recommends breaking up sward, after three or four years mowing, and planting potatoes and corn, be good enough to state the manner of planting and cultivating pursued by him, and also whether he thinks the same system would do with land over limestone, somewhat stiff and heavy, though not clayey, and oblige

"*Kingston, Canada.*

"D. S."

In replying to the above, I would refer your correspondent to my former articles on "The Potato,—its Culture," and "Management of the Potato Crop," published in the *Country Gentleman* under date, and referred to in article of August 13th. Yet, for convenience, I will here briefly repeat, and give my mode of planting, cultivating, &c. Select soil rather dry, or that perfectly well drained; plow and fine the soil as thoroughly as for a premium crop of any kind, as early in Spring as the soil will work freely and well, and plant; as early planted prove the best crops. The soil, if an old sod, will usually be in good heart for potatoes. If it has been cultivated to corn or tobacco—either of which I use for potatoes—and is in good heart from manure previously applied, where tobacco was the preceding crop, no fertilizer is applied, unless it be tobacco stalks cut fine, a small double-handful to the hill; but where they follow corn or a sod, apply guano and plaster, or plaster and ashes, leaving out the salt and lime, as they appear to have an injurious effect on tobacco, and we grow that as one crop in the rotation.

I open my drills for planting with a one-horse plow, four or five inches deep, drop my fertilizer, when applied, two or two and a-half feet apart, according to growth of tops of potatoes, and drop my potatoes beside it if guano, or on it if ashes; with my one-horse plow turn back the furrow, covering the potatoes four or five inches deep.

For seed, I prefer to use whole potatoes, of a size selected below those for table use, and above the smallest, yet when seed is scarce I cut medium sized tubers in halves, and place one whole,

or one half, in each hill. I believe, from my experience, that this cutting potatoes in small sets tends to weaken and the deterioration of the crop. See the reports of the Early Goodrich: "My Early Goodrich are not as good as last year!" and such like complaints come to us, which I have no doubt is the result of minute subdivision of tubers for seed; and if similar complaints are not heard of the Early Rose within a few years, I shall find myself mistaken. I know that where I have used sets instead of whole tubers, the potato has deteriorated much more rapidly in quality and health.

As soon or just before the potato plants break the surface, take a harrow, turn it bottom or teeth up, and drag it over the field; this equals a first dressing; after-culture consists in twice plowing with the one-horse plow, turning the furrow towards the row, and mending with the hand-hoe, the last working just as the plants begin to show blossom. If weeds show after, cut or pull them out by hand. Harvest before Fall rains, and dry before storing in a dark, cool cellar. As a result of storing them before drying, last year I did so to some extent, and the potatoes had a rank, strong flavor, and had to be overhauled.

I believe in raising the soil around the plants, making a hill, not very high or conical, as more conducive to the health of the crop, and as growing a better crop.

If your limestone soil is well drained, dry, and in good heart, and can be fined so as to grow good crops of Indian corn or grain, I see no reason why it will not grow good potatoes with similar fertilizers, leaving out the lime, as I recommend in the article of August 13th, and with the same treatment as pursued in the above experience. A hard soil is no objection for potatoes, if it is not inclined to be wet, as I have eaten potatoes grown on hard, stony soils, of as good flavor as any I ever ate. The natural soil of the potato is a stony or rocky one.

South Windsor, Conn., Sept. 28, 1868.

WM. H. WHITE.

THE CULTURE OF POTATOES.

Country Gentleman, November 19th, 1863.

IN your issue of October 15th, Mr. W. H. White, (whose articles, by the way, abound in practical good sense and judgment,) writing on the culture of potatoes, says:

"For seed, I prefer to use whole potatoes, of a size selected below those for table use, and above the smallest. * * * I believe, from my experience, that this cutting potatoes in small sets tends to weaken and deteriorate the crop. See the reports of the Early Goodrich: 'My Early Goodrich are not as good as last year!' and such like complaints come to us, which I have no doubt is the result of minute subdivision of tubers for seed; and if similar complaints are not heard of the Early Rose, within a few years, I shall find myself mistaken."

Mr. White thus starts anew a very important question, which ought to be thoroughly discussed, experimented upon, and settled; for, although he seems to be so entirely satisfied on the subject himself, there are many who, like the writer, will feel great surprise at his experience, and whose experience and conclusions have been just the opposite of his. Had I been giving what I deemed the best mode of cultivating this great product, I should have recommended the character of soil, the opening of the drills, the application of Peruvian guano and plaster, and the distance of the seed apart, exactly as spoken of by Mr. White; but upon the kind of seed to be used, and its preparation, I should have recommended a course just the reverse. Why should whole potatoes be planted? Every eye on a potato (if sound) gives rise to a vine, and forms a root. If, therefore, there are a number of eyes planted together, as must be the case where a whole potato is deposited in the ground, can the vines flourish as they would if grown separately and a considerable distance apart? They certainly could not; and the inevitable consequences of thick bunches growing from so many eyes, will be potatoes of uneven size, many very small, and unripe when taken up, even late in the Autumn. I had found this to be the case with many crops when the seed had been cut into large pieces of uniform size, without regard to the number of eyes. Consequently, when the very question of whole seed planting, or

cut planting, was being agitated, I determined to try the plan which seemed to be most in accordance with common sense, remembering that if too many branches are suffered to remain on an apple tree, or too many apples to remain on the branches, the fruit would be very imperfect, and of very small size. Accordingly, I carefully cut the seed so as to leave but one eye in a piece, and dropped the pieces about eighteen inches apart. The result was a fine crop of large potatoes, of uniform size, there not being small ones enough from an acre of ground to furnish Mr. White seed sufficient to raise enough potatoes for dinner. The potatoes from which these one-eye pieces were cut were selected from the largest of the previous year's crop; and here, I think, is probably the difficulty with Mr. White's crops when they so rapidly deteriorated. Instead of selecting the largest, most perfect and ripest for seed, he used a size below those for table use, and planted them whole. The combination of these two causes—seed not thoroughly ripe, and plants being too thick—will manifestly deteriorate any crop. My motto for potato growing now is: *The largest and most perfect seed, cut into one-eye pieces, and planted wide apart.*

On the first day of June last, I planted two and a-half bushels of Buckeyes and two bushels of Merrimacs, altogether occupying about three-quarters of an acre of land. For nearly four weeks after they were put in the ground, not a drop of rain fell. Again, during the whole of the month of July, a most distressing drouth prevailed. The latter part of the season was more favorable, and on the 3d of October, I put my diggers to work, and found that I had one hundred bushels of very fine, perfectly ripe potatoes, with no small ones whatever.

One word more as to deterioration. It is established beyond question that seed used in rotation from successive crops will, in the course of a few years, show rapid deterioration, and if persistently used, will *entirely run out*. Our farmers find, of late years, that wheat seeded in this way is soon overtaken by almost countless ills, and the practice now obtains of renewing crop every two or

three years with seed obtained from a distance. Why should potatoes not do this same thing? Ten years ago the White Mercer potato was the only variety cared for in this vicinity. Now you can hardly find one in the community; for although they are universally acknowledged to be unsurpassed in quality and flavor, they will not yield. A few years ago the Buckeye, which is very little inferior to the White Mercer, was most prolific, and although I have found no reason to quarrel with it as yet, the complaint is becoming general that it is following the example of its predecessor. Hence I find no difficulty in concurring in the prediction of Mr. White, that in a few years the Early Rose, now so much lauded, will in fact be "the last Rose of Summer," as well as the last one to be found in a farmer's cellar.

Montgomery Co., Md.

AN HONEST FARMER.

CULTURE OF THE POTATO.

Country Gentleman, February 11th, 1869.

MESSRS. EDITORS:—Allow me to answer, through the columns of the *Cultivator & Country Gentleman*, a correspondent who says he is a reader of your valuable journal, and obtains thereby much practical information, &c. His questions call for much explicit information that may be of practical value to other inexperienced individuals who propose to commence farming as a business, and the replies may serve to call out further information and discussion which will be of practical value. After his introduction he says:

"I am within thirty miles of Boston; have some forty acres of light, sandy loam, that can be plowed *very early* in the Spring. I propose, this year, to plant about ten acres with potatoes, and four or five with roots. Have eighty or ninety cords of manure on hand, and shall buy twenty to thirty more in the Spring. Also have a ton of bone dust and four hundred bushels of leached ashes."

He then commences his questions, concerning "potatoes" first, which I propose to insert and follow with my replies:

1. What is the best early variety for market, and the two best late kinds?

What would be the best for the Boston market might be of very different value in any other market. The best way to get this question solved, is to study the market you propose to trade in. I should try two or three of the most marketable varieties of early, say Early Goodrich, Sebec, and perhaps the Early Rose, after I had tested its quality. For late, Jackson Whites or Oronos, Peach-blows, and try the Harison.

2. In applying leached ashes with manure, how many bushels would you put on to the acre if broadcast, and how many if in drills?

Apply the manure and ashes separately; that is, plow down your manure, and apply your ashes either in the drill or as a top-dressing after the potatoes have broken ground. From forty to fifty bushels would make a fair top-dressing, the larger amount giving half a pint to a hill; this mode of application I prefer for the crop. An improvement would be made by adding one bushel of salt to twelve of ashes, mixing and letting lie a week or two before using, and a still greater advantage if to this two bushels of lime is added; in either case, one half the quantity would suffice.

3. Which is the better way to apply it, in conjunction with the manure, broadcast or in the drills? Answered in 2.

4. If in drills, is it better to strew it along and plant the potatoes on it, or to drop the potatoes first and then the ashes over or side of them?

Put it only where the seed is to be dropped beside of, as it is the crop we are manuring, not the land. I never experienced any ill effects from having the ashes in contact with seed potatoes, when planted on dry soil.

5. In manuring with yard manure, is it better to put it on broadcast, if one has plenty of it, or in the drills? Broadcast for potatoes.

6. If broadcast, how much should be applied?

Six to ten cords, although you may not get full pay for it in the first crop.

7. If manured in the drills, will it cause the potatoes to rot if placed directly in contact with the manure?

My experience, of late years, is unfavorable to manuring potatoes in the drill, where animal manure predominates, as it appears to injure the potatoes. Composted with muck—the muck largely predominating, and the manure well decayed—good results are obtained on sandy loams.

8. How would it answer to open a furrow, drop the potatoes, then cover directly with three or four inches of manure?

See reply to 7. No bad effects would result if the manure were a compost like that described.

9. Would that injure the seed any?

See foregoing. The vitality of the seed might not be affected.

10. How much would the crop be increased to apply manure broadcast, and in the drills also? Most of the land was in grass, and I did not obtain possession of it till the latter part of November. Had ten acres plowed immediately, but presume that it will not be rotted much by Spring.

To answer this definitely would require an intimate knowledge of the soil to be cultivated, and a foreknowledge of the season and events. But, with judicious application and culture, we might reasonably look for from fifty to one hundred per cent. increase, unless the soil was in a high state of culture.

11. If I cross-plow, harrow, and then plow again as soon as the frost is out of the ground, will it be in shape for early potatoes?

Too much of a good thing, my dear fellow! Once plowing, and shallower than in the Fall, not to turn up the fresh, undecayed turf, is all the plowing necessary for your "light sandy loam," then a good harrowing, and it is ready. If you apply your manure, spread and plow it under at the time of plowing in Spring.

12. How will late potatoes succeed, planted in an orchard where the trees shade most of the ground? Soil is warm and in good heart.

13. If they will not succeed, what vegetable will do the best?

Potatoes, as well as all other vegetables, require sun in order to develop a good crop. I should not expect much of a crop of any kind of vegetable in the shade of an orchard, as you describe, but perhaps, if a favorable season, potatoes would do as well as any.

14. What is the best way to plant, cut or whole tubers, and in hills or drills?

My opinion has been expressed in former articles in the *Country Gentleman*, that whole tubers, in my experience, were the *best*, and good-sized sets from large, well-developed tubers the next, and that in planting I use a size next under the table size, if I have them; if not, cut sets from the table size. Hills, so far as I am experienced, are preferable to drills, distance governed by size of growth of tops.

15. Is it an advantage to hill them much?

The hill needs to be broad and flat, and elevated a few inches above the center, between the rows; not a sharp, conical hill, as I used to see when a boy. Such hills are not very advantageous now, as we grow potatoes.

16. I have not enough storage room, and will they keep well placed in heaps on the ground, covered eight or ten inches with meadow hay and a foot of soil?

If the ground is dry, and no surface water will collect around them, they will keep thus placed, but I would give a heavier covering of soil. I have seen them come out fresh in Spring from being buried entirely beneath the surface, covered with a layer of straw, and over that some eighteen inches of earth, but the ground was well drained and dry.

17. What are the best times to plant early and late potatoes?

I have found, of late years, that the earlier I could get my potatoes planted in Spring, after the ground would work well or fair, and escape freezing or frosts after they were up, the better; say the latter part of April or early in May, general seasons.

W. H. WHITE.

A WORD FOR THE POTATO.

Prairie Farmer, November 15th, 1868.

WHILE we have machines and inventions by the thousand, by which muscular force has been lightened in almost every department of human industry, we are not advised that inventive genius has as yet been able to render us any material assistance in reducing the large amount of muscular force required to produce that important article of food, the potato. We are aware that there are potato diggers, and potato cutters and droppers, but as yet they are not a very great success.

The reason that the production of the potato is in a measure neglected by the farmer, is from the fact that it requires a great deal more labor to produce them than most any other article of food. Even though they should prove a remunerative crop, they are still neglected, from that inherent tendency of man to shun labor. As the potato forms one of the three great staple crops that supply our food, we have made a calculation, as near as we could, of the amount of labor required to produce an acre of each kind, ready for market, not taking into consideration horseflesh or machinery. For the production of an acre of wheat, we make three days; corn, five; and potatoes, about twelve. Now these figures demonstrate the main reason, we think, why potato culture is comparatively neglected. Of course, there may be other auxiliaries, such as the liability of many varieties to rot, the fear of the potato bug, and the uncertainty of a crop in many localities. So when the day will come when we may be relieved by machinery of the excess of muscular force required to produce the potato, then

will the production of that most excellent and indispensable article of food rise to its true importance, and stand on an equality with the other great staples of the country. We can easily conceive that if we were compelled to go back to the primitive mode of raising wheat, using the sickle and the flail, the production of it would be nearly abandoned, or we would have to import cheap labor from China or elsewhere. But though it may take four times the physical force to produce an acre of potatoes, in comparison with wheat, yet we contend that in localities where they can be grown successfully, and where there is a market, they are much more profitable. To illustrate, we will make a calculation. An acre of potatoes, at a moderate yield, would give about one hundred and fifty bushels, and at fifty cents, would amount to \$75.00; nine days' extra work over wheat, at \$1.50 per day, \$13.50. Now take this amount from the \$75.00, and we have \$61.50. An acre of wheat, at moderate yield, twenty bushels, and at \$1.75 per bushel, would amount to \$35.00. So you see, after taking out the extra labor, potatoes are nearly twice as profitable as wheat; and also placing them at about the lowest figure they ever sell for. Many times they go up to \$1.00 and \$1.50 per bushel, whereas wheat scarcely ever goes over thirty per cent. above the figure on which we have made our calculation; so that the advantage is thrown still more in favor of the potato.

Allow me to say a few words about a few varieties that have been tested in this locality. The potato is like the grape in respect to its local adaptability. It will not do to pronounce a potato worthless because we read in our paper that it has been tried in some other State, and is worthless. Neither will it do to invest largely in a potato that we hear has done well in some other locality. The Early Goodrich is a potato that was introduced in this section about three years ago, and with high sounding praises and high prices, but it is a very low priced potato now, and is very inferior in quality; all we can say for it is that it yields well and is free from rot. The White Sprout had the run here several

years before the Goodrich, and was only eaten because there was no better early potato to be had. It is about two weeks earlier than the Goodrich, yields well, rots badly, and in quality is about on a par with the former. There is no early variety of potato in this locality that is of first quality. The Mercer is a first quality potato as second early, but is not much raised, on account of its liability to rot. The Cuzco rots badly, and the Harison some, neither of them much of a success, and quality not good. The Shaker Russet yields well, but it is very inferior in quality. The Buckeye is considered a very fair potato, but the Peachblow takes the lead among potatoes as the Concord does among grapes. It is a potato for the whole country; its quality is excellent, and its extreme hardiness and its capacity to maintain its vitality through the extreme dry and hot Summer months, make it the great favorite in this section.

There is one fact that must not be overlooked, and that is, that with many varieties the quality of the potato depends to some extent on the time of planting or the size of the tubers. A very large potato is generally inferior in quality to one of medium size of the same variety, and a round potato is the most desirable shape, as it will more evenly mature all its parts, and consequently is less liable to rot, whereas all long varieties, in many seasons, will not mature the end farthest from the stem, and consequently will rot badly. We have all noticed that in some long varieties one end cannot be eaten, while the other is passable. We believe potatoes a profitable crop if they do require hard digging; and that they will give a better return than corn or wheat, where rightly managed, we are satisfied.

Lawrence, Nov. 2d, 1868.

N. CAMERON.

EARLY ROSE POTATO--ITS HABIT, PRODUCT, MERITS.

Country Gentleman, August 13th, 1868.

HAVING noticed, in a late number of the *Country Gentleman*, an account of samples of the "Rose" potato sent you for trial, and

having obtained a peck of that variety with a view to test its merits thoroughly, I now beg leave to "report progress" on the "Rose." Believing your numerous readers will be interested in the result, I offer the following detailed report:

After securing my peck of the "Rose" at \$5, the price rapidly ran up from \$20 to \$60, and even \$80 per bushel, or \$1 to \$3 per pound. Such fabulous prices led most people to regard the "Rose" as a humbug, and the sellers thereof as imposters, and the purchasers at such prices as fools.

When the price I paid at the time I bought, was named to some of my friends, they regarded me as infected with "potato on the brain;" but my confidence in the real value of the article was based on the statements of Mr. Heffron, of Utica. I therefore determined to give them a fair trial, and report the result, for the *benefit of whom it may concern*.

How I Treated the Seed.

To obtain from them as many sets as possible, I split each potato lengthways, laid them on sand in shallow boxes, cut side down, covered them with fine sand an inch deep, kept in a warm place, applied warm water sufficient to keep *damp*, not *wet*. They were ready to plant from the 15th to the 25th of April, according to the forwardness of the sprouts.

They were planted on trenched ground—that is, the ground was trenched under each row, two forks wide and two forks deep—trenching performed so as to keep the good soil at the surface; rows three feet apart; plants set sixteen inches apart in the row.

On setting the sprouts, they received a slight dressing of wood ashes, and then were covered with earth. On making their appearance above ground, they received another slight dressing of ashes, and again after the first hoeing, making twelve quarts of ashes to each row of one hundred and eight feet in length.

The peck of seed, by the method adopted, enabled me to cut nine hundred and twenty sets, sufficient to plant eleven and a

quarter rows of one hundred and eight feet each. The split potatoes laid on sand soon sprouted, so that I could see each eye distinctly. They were lifted out of the sand, and each eye cut off with a piece of the mother potato sufficient to support the sprout. These were removed to other shallow boxes, two or three inches deep, laid on sand close together, and covered with the same an inch to two inches deep.

When the tops were six or eight inches high, the leaves were completely riddled by that garden pest, black fleas, and when about a foot high, fully one-tenth of the plants wilted down and dried up. At first I thought too much ashes had been applied, but on a close examination the decay proved to be caused by a grub worm attacking the stalk. As the vines died down, I dug them up, and was astonished to find from three to nine potatoes on each vine, in size from a pea to a hen's egg.

Being invited to act as one of the judges on vegetables, at the Show of the State Agricultural Society of New Jersey, held on the 23d and 24th of June, I was astonished to find the Early Rose on exhibition. There were two plates of "Rose," (marketable size,) sent in by Mr. J. L. Conover, of Red Bank, N. J. They were planted on the 14th of April, and dug on the 22d of June, making sixty-nine days, counting in days of planting and digging, and that too in spite of the past very unfavorable Spring.

The judges on vegetables thought the "Rose" well worthy of notice, being a decided acquisition to our stock of early potatoes, and they therefore awarded a special premium of \$5 to the grower.

Subsequently I was invited to visit the crops of Early Rose now being grown by the Messrs. Conover, of Red Bank, N. J., for Mr. Bliss, (seedsman) of New York city, and Mr. Best, of Utica, N. Y. On the grounds I found several gentlemen of the New York press, Mr. Heffron and Mr. Best, of Utica, Messrs. Bliss & Son, of New York city, and a number of the friends and neighbors of the Messrs. Conover, who joined us in a careful examination of their several plats of "Rose" under cultivation. After a careful

examination of the growth and habits of the "Rose," the number on a vine, their size and promising appearance, they arrived at the conclusion that the product would be about one hundred barrels per acre.

In this view I did not exactly concur, feeling satisfied the "Rose" would do better, and produced a statement made up the day I left home for New Jersey. To show a friend how they produced, I dug up a stalk with nine potatoes on it, and found they weighed two pounds and five ounces. I therefore concluded to dig five vines as they ran, count and weigh them, so as to be able to compare notes with the New Jersey growers. The product was thirty-five potatoes, weight eight and one-half pounds, average one and three-fourths pounds to a vine.

Now, owing to the smallness of the top, and the compact habit of the "Rose," they can be planted one foot apart in the row, rows three feet apart. This gives 14,520 sets to an acre; so that four bushels of seed, carefully cut, *one eye to a set*, will plant an acre, which, at only *one pound of potatoes from an eye*, gives two hundred and forty-two bushels to the acre; one and one-half pounds, three hundred and sixty-three bushels; and one and three-fourths pounds, four hundred and twenty-three bushels—sixty pounds to the bushel—the plants I dug and weighed producing at the latter rate. I expect the balance of mine to do even better, as they are growing yet; but when I gather the crop I will complete the report, showing the number of bushels obtained from a peck of "Rose" seed. The quality is fine, dry, and white, and fine grain with good flavor.

I am satisfied that if the "Rose" is planted when the ground has become warm, say the 20th of April, in warm localities, that a good, marketable sized potato can be grown in sixty days. They are certainly two weeks earlier than the Goodrich.

Staten Island, N. Y.

J. C. THOMPSON.

POTATO EXPERIMENTS.

Rural New Yorker, April 17, 1869.

THERE has been a variety of opinions, with farmers, in regard to planting potatoes, some contending that they get a better yield to plant whole ones; others that it is best to cut them, and some will cut more than others, &c. Therefore, on the 26th day of May last, I thought that I would experiment a little in planting. I planted eight rows of twenty-six hills each. Soil a light gravel; variety, Peachblow; yield in the Fall as follows:

First row, seed very large, whole ones, one in a hill; product, merchantable ones, one hundred and six pounds; small, four pounds. Second row, seed very large, cut in two pieces, one piece in a hill; product, merchantable ones, ninety-six pounds; small, two pounds. Third row, seed medium sized, whole, one in a hill; product, merchantable ones, eighty-eight pounds; small, one and one-fourth pounds. Fourth row, seed medium sized, cut in three pieces, two pieces in a hill; product, merchantable ones, eighty-one pounds; small, one and one-half pounds. Fifth row, seed very small, whole, two in a hill; product, merchantable ones, sixty pounds; small, four and one-half pounds. Sixth row, medium sized, cut in two pieces, one piece in a hill; product, merchantable ones, seventy-nine pounds; small, one and one-half pounds. Seventh row, seed medium sized, cut once crosswise; seed end planted one in a hill; product, merchantable ones, seventy-four pounds; small, two and one-fourth pounds. Eighth row, seed medium sized, cut once crosswise; stem end planted, one piece in a hill; product, merchantable ones, seventy-eight pounds; small, two pounds.

The fore part of the season was quite dry, which somewhat accounts for the largest yield where the largest seed was planted, as the largest seed retains the most moisture.

Kirtland, Lake Co., O., 1869.

H. P. HARMON.

CULTIVATING POTATOES.

Rural New Yorker, June 12, 1869.

THE *Staats Anzeiger*, a paper of Northern Germany, gives some particulars of a new method of cultivating the potato, discovered by Guhlich, of Pinneburg, in Holstein, and which is said to have given surprising results wherever it was tried. The leading features of this new mode of culture are, 1. Turning up the soil to a considerable depth. 2. Choosing as seed, large, sound, and many-eyed potatoes. 3. Leaving each seed potato a space of twelve square feet. 4. Laying the seed potato with the budding side down. By a report laid before the last meeting of the Frankfort Agricultural Society, the following results of experiments made in potato growing last year, are made known:

In one morgen, (two-thirds of an acre,) which was planted with eight metzen seed, and where each seed was left twelve square feet, the produce was one hundred and eight scheffels, (German bushels.) Another morgen, planted with twelve metzen, and when each seed potato had a space of nine square feet, yielded eighty-eight scheffels. A third morgen was planted with one scheffel of seed, each potato being left six square feet, and the produce was seventy-eight scheffels. The average crop obtained from seven to eight scheffels on the same land, was fifty to sixty scheffels. The advantage claimed for Guhlich's system, is that it saves six or seven bushels of seed per morgen, and also increases the product from twenty-five to one hundred per cent.

COLORADO POTATO BUG.

Western Rural, July 8th, 1869.

NUMEROUS letters and specimens from Ionia and Kalamazoo counties show that the Colorado Potato Beetle, (*Doryphora 10 lineata*, Say) is coming in full force. This beetle (heretofore described) is about one-half inch long. Its wing covers are as broad as long. It is in color a light flesh hue, with ten black lines running the full length of its wing cover. The larvæ are reddish

with black dots on each side. In both larvæ and imago states they relish the tender green of the fresh potato tops very much, and unless kept at bay will prove their ruin.

Every farmer should see to it that the very first of these should be destroyed. As each female lays hundreds of eggs, they very soon spread to an alarming extent. Thus far hand-picking alone has been fully successful. Farmers be on the watch and give these little pests no foot hold.

Agricultural College, Lansing, Mich.

A. J. Cook.

AFTER POTATO DICING.

American Agriculturist, August, 1869.

THE usual crop after potatoes is weeds, which have ample time to mature their seeds before frost comes, and to make trouble for many years afterwards. Few farmers estimate the amount of damage done to their lands by this untimely seeding. We have seen land so stocked with charlock, Canada thistles, and other weeds, that the cost of all hoed crops upon it was fully doubled. Their presence depreciates the value of the oats and barley, and even of grass. No grain or grass seed fit to be sold can be raised upon it, and even the manure made from the feeding of such crops is less valuable by reason of the foul seeds. Yet many farmers press right on stocking their land with weeds, as if they were a most valuable crop. The potatoes are dug and marketed in July, or early August, and the ground lies waste for the rest of the season. If crops are not wanted, the opportunity should be improved to destroy weeds. Plow the land as soon as the potatoes are off. After ten days go over it with a harrow. This will destroy a second crop of weeds. In ten days more go over it with a brush harrow, which will destroy a third crop. In two weeks, follow with a harrow, and so on, until the frost comes in November. A second crop may be taken from the potato ground. If not in good heart, sow good superphosphate, or Peruvian guano, at the rate of 300 lbs. to the acre, on the old

rows. Go over the rows once with a cultivator. Sow turnip seed sparingly upon the fresh soil, and put them in with a light one-horse harrow or bush. When the turnips are up, cultivate between the rows, and keep these spaces free from weeds. The turnips will soon shade the ground, and prevent the growth of weeds in the rows. There are frequently three months or more between the early potato harvest and the closing of the ground, and in this time a fine crop of white turnips may be grown at a cost of less than six cents a bushel. They are excellent for young cattle, and will assist materially in making beef and mutton. Sometimes the potatoes come off early enough for buckwheat or the winter grains. If manure is judiciously used, two crops in a season may be taken from the soil.

POTATO CULTURE.

Rural New Yorker, May 15, 1869.

“RURAL,” in *Chicago Tribune*, says: In answer to some inquiries on this head, it may be stated that to grow potatoes under straw the ground should be in fine condition, and the potatoes covered one or two inches deep with earth, and the surface rolled. Many experiments have been made in regard to the size of the seed used, but none of these have been altogether satisfactory and conclusive, and the most common practice is to plant in drills three feet apart, and eight to ten inches in the drill—one eye on the piece. A good practice is to drop the seed in every third furrow, and use a gauge wheel on the plow, so that it will not run over two to two and a half inches deep. Leave the land in that condition until the plants are nearly up, when the whole surface should be thoroughly harrowed and rolled. When two or three inches high, work with a two-horse cultivator, having on a shield, and turning the furrows towards the rows. A top dressing of manure will be found useful. In this mode of applying the manure, we need fear no bad effects from the rot. Repeated workings with the cultivator, until in bloom, are indispensable. After that period keep down the weeds with a double shovel-plow.

PLANTING POTATOES IN MARCH.

American Agriculturist, March, 1868.

POTATOES planted in March are usually subject to cold weather, great dampness of soil, and a succession of checks before the sprouts reach the surface; and after this the young plant is liable to freezing, and thawing, and soaking, to which it is hardly fair to expose it. It is a grand thing to finish up potato planting early; and it is work which may frequently be done when nothing else can be. If we use choice seed, and wish to make it go as far as possible, we are tempted to cut it in single eye pieces for planting. Doing this, with most varieties, we would be likely to lose half the seed,—perhaps more, early planted. It would be otherwise if the planting was to be done in May. Good sized pieces, or medium sized potatoes planted whole, are much the surest to give a good set if planted in March. The cutting should always be done several days before planting, and the heap turned over, or spread thin to dry somewhat. An incrustation of the starch and juices of the tuber, called healing, takes place, which defends the piece against decay. The best results are obtained in planting the potatoes about three inches deep, in drills, on dry, gravelly loam.

POTATOES ON SOD GROUND.

American Agriculturist, December, 1868.

“H. P. H,” Vinton, Ohio. “I want to plant potatoes next Spring in sod ground, where sheep have been fed for two or three winters. When is the best time to plow, and how wide should the ground be marked? Should it be one or both ways? How often should the ground be plowed, and how often should the potatoes be hoed? How should they be cut, and how many pieces in the hill?”—A good clover sod is one of the best preparations for potatoes. Any tougher sod is good to make a crop, and to guard against rot. The objection to it is the difficulty in getting the sod mellow enough for easy working. If plowed in August or September, the sod rots well. If plowed in the Spring, it

should be done deep enough to admit of cross-plowing without disturbing the sod. Harrow very thoroughly. Mark out the rows both ways thirty inches apart. Bush harrow just before the potatoes are up, to kill weeds. Start the cultivator or Share's harrow, a week or ten days later, going as near the potatoes as possible, and stirring all the surface soil. If the tops have a light covering of dirt, it will not harm them. Cultivate them the second time the other way of the rows. Two or three eyes to the hill are enough. Go through the potatoes a third time, to pull weeds. This often makes a difference of twenty-five per cent. in the yield. If the ground is made smooth and mellow, the hoe will hardly be needed. The advantage of hills over drills is that nearly all the weeds can be reached with the cultivator, and the expense of hand-hoeing be saved. If the land is very rough and full of sods, the hoe must be used. Unless planted very early, cut into pieces with one or two eyes.

RESULTS OF EXPERIMENTS IN POTATO CULTURE.

Country Gentleman, October 29, 1868.

EDITORS COUNTRY GENTLEMAN:—I have just completed my second experiment with assorted seed potatoes. They were Harisons, planted May 12th, on clay land, a heavily top dressed clover lay broken up in April ten inches deep—was very wet after planting, and dry at setting time, but with plenty of rain before the vines died to secure a fair crop of all late varieties.

The rows were three feet apart, and twenty-two and one-fourth rods long, and very even in quality.

No. 1 was planted with whole seed as near the size of hulled walnuts as I could get them; was drilled with fourteen pounds seed, equal to nine and one-fifth bushels per acre—produced five and one-half bushels, equal to two hundred and seventeen and one-half bushels per acre.

No. 2 was planted with cut seed, two and three eyes to each set, from selected, fair sized potatoes, drilled same as No. 1, with

twenty-one pounds seed—thirteen and one-half bushels per acre—produced six and twenty-one sixtieth bushels, equal to two-hundred and fifty-four and one-fifth bushels per acre.

No. 3 was planted with large size, selected potatoes, drilled, but farther apart than Nos. 1 and 2, with forty-eight pounds of seed, equal to thirty-one and one-third bushels per per acre—produced six and forty-sixtieth bushels, equal to two hundred and sixty-three and twenty-sixtieth bushels per acre.

No. 4 was planted, with halves of same selection as No. 3, and twenty-seven pounds of seed—seventeen and four-fifth bushels seed per acre—produced six and thirty-sixtieth bushels, or two-hundred and fifty-seven and five-sixtieth per acre; planted same distance as No. 3, and contained the largest proportion of salable produce, with No. 2 next, with about equal proportions of large in Nos. 1 and 3.

This, after last season's experiment, would induce me to cut good salable potatoes for seed in preference to using them whole, and, in times of scarcity, to use small seed, with care not to get them too crowded.

Springfield, Ohio.

J. T. WARDER.

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