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EDITOR AND PROPRIETOR.

The ROCKY MOUNTAIN HUSBANDMAN is designed to be, as the name indicates, a husbandman in every sense of the term, embracing in its columns every department of Agriculture, Stock-raising, Horticulture, Social and Domestic Economy.

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AGRICULTURAL.

PROGRESS IN POTATO CULTURE.

It might be supposed that with a plant so long under cultivation and so widely distributed as the potato, it was hardly possible at this late day to discover anything new in regard to its properties or general management. Perhaps those who have made the culture of this tuber a specialty, conducting their experiments upon scientific principles, find very few opportunities for announcing startling discoveries; but as the majority of our farmers are not of this class, there is an abundance of room for them to learn, as well as make improvements. We know that it is very difficult to make farmers abandon old systems of culture for new ones, or even to seek knowledge in this direction by carefully-conducted experiments; consequently a majority of them plant potatoes in the same way that their fathers did before them, either in hills or drills, and with whole tubers for seed, or perhaps at most divided into two or three parts.

But with all this strict adherence to the old systems of culture, which formerly brought such satisfactory results to the grower, diseases have crept in, and a general decrease in the yield and quality has followed, especially in the older States. Causes of failure have been sought in various directions. Sometimes it has been attributed to natural deterioration of the potato, supposed by some persons to be an inevitable result of continuous cultivation of a plant through a long series of years; others attribute it to change of climate; while the really scientific agriculturist drops all theories, and seeks a solution of the mystery by experimenting in the general management of this crop. He takes none of the old rules in regard to planting whole, half, or quarter tubers for seed as his guide, but begins with a single bud in a hill, gradually increasing the number until he reaches the whole tuber, carefully noting the results. The same system is practiced in preparing the soil, and its depth, mechanical texture, and the effect of various kinds of fertilizers are never lost sight of in conducting an experiment which will serve as a guide for future operations in the same field.

Much as our farmers have learned in regard to the possibilities in potato culture, late experiments show that we are still making progress, and not only learning the requirements of this plant, but how to produce the greatest yield from the smallest quantity of seed put into the ground. When it was first claimed that four to six hundred pounds had been produced from one planted of the Early Rose, many doubted the truth of the assertion; but now we have still greater results to report, and with every assurance of their being true.

Last spring the well-known seedsmen of this city, B. K. Bliss & Sons, offered \$500 in premiums to growers of the largest quantity of Snowflake and Eureka potatoes from one pound of seed. Competitors for the above

premiums were placed under no restrictions in regard to their mode of culture excepting that the tubers must not be grown from slips or forced by artificial heat, the object being to ascertain the merits of the respective varieties named, with such culture as is usually given to crops in a well-managed garden. The following is a portion of the report of the committee appointed to award the prizes:

FOR THE LARGEST NUMBER OF SNOWFLAKE FROM ONE POUND OF SEED.

	Lbs.	
1st prize to P. C. Wood, Esther, Ill.....	1,417	\$100
2d prize to J. L. Perkins, Little Sioux, Iowa.....	1,304	50
3d prize to P. H. Sells, Verona, Essex county, N. J.....	1,125	40
4th prize to J. I. Salter, St. Cloud, Minn.....	1,090	30
5th prize, A. Rose, Penn Yan N. Y. 1,089	1,089	20
6th prize to H. V. Rose, " 1,069	1,069	10

FOR THE LARGEST QUANTITY OF EUREKA FROM ONE POUND OF SEED.

	Lbs.	
1st prize to J. L. Perkins, Little Sioux, Iowa.....	1,066	\$100
2d prize to P. C. Wood, Esther, Ill. 1,403	1,403	50
3d prize, A. Rose, Penn Yan, N. Y. 1,149	1,149	40
4th prize to M. M. Rose, " 1,145	1,145	30
5th prize to J. I. Salter, St. Cloud, Minn.....	1,087	20
6th prize to H. V. Rose, Penn Yan, N. Y.....	1,066	10

When, two years ago, your committee awarded the first prize for the largest yield of extra early Vermont potatoes from one pound of seed, to Mr. Salter, of Minnesota, for the then unprecedented yield of 607 pounds, many considered the climax of productiveness reached, and not a few doubted that such a quantity had ever been grown from so small a quantity of seed. Yet so much has the general interest and ambition stimulated the cultivators of the soil, both here and in Europe, that in England nearly double that amount (1,082 lbs.) has been grown from one pound, and in our own country no less a yield than nearly treble that obtained then entitles now to a first premium, and nothing less than a thousand pounds from one can win even the lowest premium.

These marvelous results will naturally cause many suspicions about the correctness and truth of their statements; yet no one who has carefully examined the reports and affidavits, and has read the many letters received from disinterested parties, all of which vouch for the reliability of the successful competitors, can doubt the veracity of their reports. We have given above the full address of every successful competitor, so that any one may satisfy himself about the standing of these gentlemen, and if any false statements should have been made, we would be glad to ascertain the fact, that such parties may be exposed and excluded from competing for premiums to be offered hereafter.

Ten barrels of potatoes for one pound of seed! What next? It is easy to calculate: 15, 20, and 40 barrels! There is not one competitor who does not know that he could have done better, and that he will do so next time; that if every one of his hills had yielded like the best ones, and in a more favorable season, his yield have been much larger, and that if two hills can be made to yield fifty-six pounds, more can be made to yield a like and even larger amount, which would in this case have given 6,680 pounds, or over forty-one barrels.

The hard-working farmer who, year after year, toils on his sterile hillside farm, who plants four and five barrels to produce such a crop, will smile at such a vision, and yet perhaps talk of selling the old farm and emigrating to the land where soils like those that produce the premium crops await him. Like Mr. Perkins' soil, "a mixture of sand and clay, very rich in vegetable matter to

the depth of eighteen feet, and underlying this is a gravelly subsoil. For three years the ground was used as a stock yard, the straw being left on the ground to rot and be burned." Another competitor describes his soil as, "black loam, four feet deep, on the bank of a creek, and it has been used as a cattle yard for ten years." Another, "as vegetable mould and sandy loam, three feet deep, never cultivated before." Many describe their soil as "deep, very rich, the best potato soil in the State."

The fertilizers used comprise nearly every known manure, and the quantities applied are not less enormous than the crops raised with them. Most growers have made compounds of various materials, and some seem to have faith in complicated formulas, which they prepare with the accuracy of a physician's prescription. About the value of wood ashes, hen manure, and plaster, however, there seems to be no doubt, and we find them used by a large majority. Sulphur has been used by a great many. This substance does not enter into the composition of the potato, and it would be interesting to know if its application really increases the yield. Have experiments to this effect been made?

The fact that single eyes and eyelets will, with good care, produce large crops, has been sufficiently proved. All the large yields were grown from very small sets. In some cases single eyes were divided into ten pieces, and in one instance two hundred and forty sets were made from one pound, nearly all of which grew well. The sets, with few exceptions, were planted singly, yet we find a product of nine hundred and seventy pounds raised from fifty-two hills, two sets to each, nearly nineteen pounds per hill, and six hundred and seventy-seven bushels per acre. Whether this large yield is due only to the very favorable soil they grew in—a rich black loam, formerly used as a hog yard—and the immense quantities of ashes applied in the hills and as top dressing—one peck to the hill—or to the two set system, does not appear. It is to be regretted that a part of the plat was not planted with one set to the hill, and the products weighed separately.

The planting, in nearly all cases, was done between the 10th and 26th of May, and one-fourth of all the competitors dropped the seed on the 10th of May, nearly a week earlier than in former years.

A comparison of the distance between the hills with the average yield per acre gives a most interesting and valuable table, as follows:

The sets planted at a distance of	
2x3 feet gave a yield of 378 bushels per acre.	
2x4 " " " 462 " "	
3x3 " " " 651 " "	
3x3½ " " " 441 " "	
3x4 " " " 372 " "	
3½x4 " " " 342 " "	
4x4 " " " 332 " "	
4x8 " " " 88 " "	

The large number of data of which the above figures form an average, give these statistics a special value. It will be seen that although the greatest yields from one pound grew from hills four feet apart, the largest crops per acre were raised at distances of three feet each way, and that as the distances between the hills are increased or decreased, the yield diminishes in regular proportion. In the first case, there remains wasted ground which is not reached by the roots of the plants, and in the latter, the roots are so crowded that they cannot obtain all the nourishment they are capable of consuming.

The mode of planting and cultivating with a large number of the best cultivators, consists in crossing their fields with furrows six and more inches deep. The sets are dropped at the crossings and immediately covered with about two inches of soil or compost. The vines as they grow are hilled up gradually and frequently to a final height

of twelve to eighteen inches. Then large, broad hills are made, using all the soil between the rows.

Considerable space in the reports, enough to fill a good sized volume, is taken up with descriptions and praises of the new varieties.

P. T. QUINN,
F. M. HEXAMER,
GEORGE THURBER. } Committee.

The Snowflake has received more and higher praise than has probably ever been bestowed upon any potato. There is no dissenting voice among the whole list of reports, nearly every one of which contain, "it is the best potato I ever saw." Its quality and uniformity of size are especially commented upon. In many cases twenty-five to forty perfect potatoes were found in every hill planted, and tubers of two or three pounds each cooked readily and completely through. Mr. Perkins could select 1,000 tubers weighing 1,000 pounds from a gross product of 1,304 pounds, and finds them preferable to any potato out of over a hundred varieties he grew. Mr. Salter "never saw so fine a potato; beautiful in color and shape, firm in texture, flesh white; luscious cooked in any way; it stands unrivaled." There is certainly within our knowledge no variety which combines all the essential points of a potato in as high a degree as the Snowflake. Quality, shape, size, color, yield, are all that could be desired, and it is difficult to perceive in what direction further improvement can be obtained.

The Eureka having had nearly as extensive a trial as the Snowflake, has likewise received many favorable notices. Some growers value it as much even as the preceding. Its main value, however, seems to consist in its immense productiveness. Two hills yielded 56 pounds in one case, and in another instance 970 pounds grew from 52 hills, being an average of nearly 19 pounds per hill, and 677 bushels per acre. There are cases reported where three tubers from one hill weighed nine pounds; and one grower reports one single tuber weighing five pounds. [This is the heaviest weight of one single tuber we have ever heard of, and if a heavier potato of any kind was ever grown, we should be much pleased to have it reported as a matter of record.]

Yet like those excellent old varieties, the Pinkeye, Kidney, Mercer, and others, which have deteriorated and passed away, so will these now un eclipsed favorites have their day and will be heard of no more. Therefore do not pause in your good work, Messrs. Pringle, Brownell, Compton, Breese, and all those who believe in eternal progress! We can never know how much we may accomplish as long as we continue our labors. There has been a gradual increase of vigor, combined with good quality, in many of the new seedlings raised since the time of the Rev. Mr. Goodrich. The Snowflake and Eureka have been grown alongside of some older sorts, and it has been found that "the new varieties will stand almost any amount of manuring and return a corresponding yield of tubers, while the older sorts under the same treatment, would make nothing but vines and a few small tubers.

F. M. HEXAMER, Secretary.

We think those who read the above report carefully, cannot fail to see the effect of high culture upon the potato, as well as be convinced that a large yield can be produced from a small amount of seed. In fact, it confirms what we have for years asserted in these columns, that the cutting or dividing tubers for seed, instead of being injurious, or in any way tending to cause deterioration in the potato, has had just the opposite effect. Our readers, as well as the whole community, are greatly indebted to Messrs. Bliss & Sons for instituting these series of experiments, as the result will do much toward awakening an interest in the new and improved sorts of the potato, as well as promoting better systems of culture.—*New York Sun.*