
CANEBRAKE

Agricultural Experiment Station,

UNIONTOWN, - - ALABAMA.

Bulletin No. 16, - - July, 1893.

Potatoes.--Amounts of Seed.

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POTATOES—AMOUNTS OF SEED.

Having had some inquiries for information concerning the adaption of varieties to this section, it was hoped to make some tests along that line. However, no southern dealer could supply us with seed on account of the adverse conditions of the past season, and variety tests of any worth were necessarily abandoned. It may be noted that as far as a preference for a single variety is concerned, it is hard to find any constant data for any particular section, except in the elimination of a number of feeble varieties. When the strong varieties are somewhat roughly determined, it is the voice of all experimenters that there will be yearly differences as to the relative rank of those within the better class. The best suggestion is to adhere to the standards until suitable tests add new names to the list of general merit.

As to the amount of seed which should be planted to insure the best yield, there is yet a variety of opinions existing among farmers generally, and especially among those who plant for home consumption alone. A few experiments were attempted in this line, not for the sake of novelty, but rather to secure some data upon which to base our suggestions to the farmers of this section. Work of a similar nature, often on a more extended scale, has been carried out by many stations; yet the value of these results to practical workers is more or less confined to limits of the respective States. Therefore we feel justified in submitting the work here appended, with the hope of a further dissemination of the results already so often corroborated.

The land most convenient for the experiments was a piece of waxy soil of a shelly type, and recognized as being poor for horticultural operations. In addition to this, it was planted in sorghum the previous season. Before bedding in the fall, a top dressing of four tons per acre of stable manure was ap-

plied, and after the seed were planted an application of two tons per acre of well rotted manure was drilled in the open furrow. The seed pieces used were of the following sizes: (1) 3 ozs., (2) 2 ozs., (3) 1 oz., (4) two eyes, (5) one eye, and (6) slips. The same tests were made with three varieties, viz; Peerless, Beauty of Hebron, and Burbank. The following tables will show the relative results, and accompanying notes will attempt to account for a few discrepancies.

TABLE I.—PEERLESS.

Plot.	SIZE OF SET.	Bus. per acre total yield.	Mer-chantable.	Small.	Amount of seed per acre.	Yield over amount of seed.
1	Four ounces	125	110	15	36	89
2	Two ounces	112	100	12	18	94
3	One ounce	89	79	10	9	80
4	Two eyes	77	70	7	5	72
5	One eye	55	48½	6½	3	52
6	Slips..	41	37	4	3	38

TABLE II.—BURBANK.

Plot.	SIZE OF SET.	Bus. per acre total yield.	Mer-chantable.	Small.	Amount of seed per acre.	Yield over amount of seed.
1	Four ounces	188	172	16	36	152
2	Two ounces	178	160½	17½	18	160
3	One ounce	164	146½	17½	9	155
4	Two eyes	134	123½	10½	5	129
5	One eye	92	86	6	3	89
6	Slips..	67	60	7	3	64

TABLE III.—BEAUTY OF HEBRON.

Plot.	SIZE OF SET.	Bus. per acre total yield.	Mer-chantable.	Small.	Amount of seed per acre.	Yield over amount of seed.
1	Four ounces	141	125	16	36	105
2	Two ounces	131	118	13	18	113
3	One ounce	125	115	10	9	116
4	Two eyes	145	136	9	5	140
5	One eye	118	113	5	3	115
6	Slips..	77	72	5	3	74

The tuber is but a short, fleshy stem, bearing upon its surface the eyes or buds. Sprouting is the act of pushing into growth these buds, and since all of the nutriment at first gained by these young shoots must be furnished by the fleshy portion of the tuber, it is evident that the size of this piece directly affects the number of stems put forth, and the relative vigor of the growth. Again, what is known as a single eye, is in reality several eyes grouped together, and here, too, we see why the size of the piece has more to do with the regulation of the number of thrifty stalks than we are wont to accord it.

Thus cutting the tuber (if it is to be cut) to definite sizes is of more consideration than cutting with special reference to the number of eyes. Now the results in the preceding tables show a gradual increase in the total yield towards the larger pieces. There is one exception in the case of the Beauty of Hebron, and it is peculiar to note that this same departure is shown in Bulletin 29 of the West Virginia Experiment Station. It was anticipated from the growing crop, and can probably be assigned to previous fertilization, as the land was an old garden spot. It is one of those rarities often encountered in experimental work, and shows that results of one year and on one plat are not always conclusive. That increasing the size of the piece planted increases the yield has been proved by general conclusions drawn from results at the following stations:

Ala. (Bull. 1), Ga. (Bull. 8 and 17), Ind. (Bull. 42 and 31), Ky. (Bull. 16), La. (Bull. 16 and 4, Sec. Ser), Miss. (Rep. '90), Mass. (6th Ann. Rep.), Md., Bull. 2), Mich. (Bull. 57 and 93), Nev. (Bull. 14), N. Y., Geneva Rep's.), Ohio (Bull. 1 Vol. III), R. I. (Rep. '90), S. C. (Bull. 8), Tenn. (Bull. 1, Vol. III), Utah (Bull. 14), W. Va. (Bull. 29), Wis. (Bull. 22).

As to the actual profit of using more seed, there is greater diversity of opinion, but it is generally agreed that pieces or whole tubers weighing from one to four ounces are preferable. With us, two-ounce pieces are best, but in good soil, where the

crop capacity is greater, an increased weight would be advantageous. Certainly the custom of using small pieces with one and two eyes should be abandoned, and no tubers, or pieces should be cut smaller than the size of a hen's egg. More than this, there is often a poor stand where small pieces are used, and I have noted plots thus seeded being practically invaluable during a poor season; while heavier seeding to a great extent removes this difficulty.

