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U. S. DEPARTMENT OF AGRICULTURE.

6.8 BUREAU OF PLANT INDUSTRY.

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ECONOMICAL METHODS OF CUTTING SEED POTATOES.

UNDER normal conditions, the cost of seed for planting a unit area of potatoes is high in comparison with the cost of seed for a like area of most other staple annual crops. This year, because of the scarcity of seed potatoes, the price is unusually high. It is therefore desirable to prepare the tubers used for seed in such a way as to plant the greatest possible area consistent with satisfactory crop yields.

Experience has demonstrated that a seed piece weighing from  $1\frac{1}{2}$  to 2 ounces approaches the ideal for use in the humid areas of the United States adapted to potato culture, and that such seed pieces prepared by cutting a 4-ounce tuber into halves, as shown in figure 1, B', are most desirable. The fact that *smaller* seed pieces, containing one or at most two eyes, give satisfactory yields should be sufficient incentive, on account of the scarcity and high cost of good seed, so to prepare such seed that it will plant a maximum acreage. Good seed cut so that there is one or, at most, two good eyes on a seed piece approximating 1 ounce in weight planted 12 inches apart in rows 30 or 36 inches apart will give a satisfactory stand and use the minimum quantity of seed considered advisable.

Figures 2 and 3 illustrate tubers of different form and size so cut as to carry at least one eye upon each seed piece and yet maintain a seed piece of a size sufficient to supply the developing plant with enough reserve food to give it a vigorous start. Contrary to what might be supposed, the large tuber shown in figure 3, which weighs 8 ounces, is capable of being cut into 11 suitable seed pieces each with one or more good eyes, while the 5-ounce tuber shown in figure 2 could only be cut into 6 satisfactory seed pieces. The larger tuber was in this case the more economical for seed purposes. It must be remembered that these two tubers are very different in shape and represent different types of the same variety. It is not, therefore, just to conclude that the large tuber will, for all sorts, prove to be the most economical for seed; this would be particularly true of varieties such as Rural New Yorker No. 2 and Sir Walter Raleigh. In general, it is believed that the 4 to 6 ounce potato will furnish the maximum number of single-eye pieces per bushel of seed stock.

This season all tubers of 2-ounce weight should be cut into halves, all  $3\frac{1}{2}$  to 4 ounce tubers should be quartered, and all larger seed tubers should be cut to single-eye pieces. With the pieces planted one in a place in well-prepared soil, and with good cultivation, the resulting crop will justify the care suggested in the preparation of the seed.

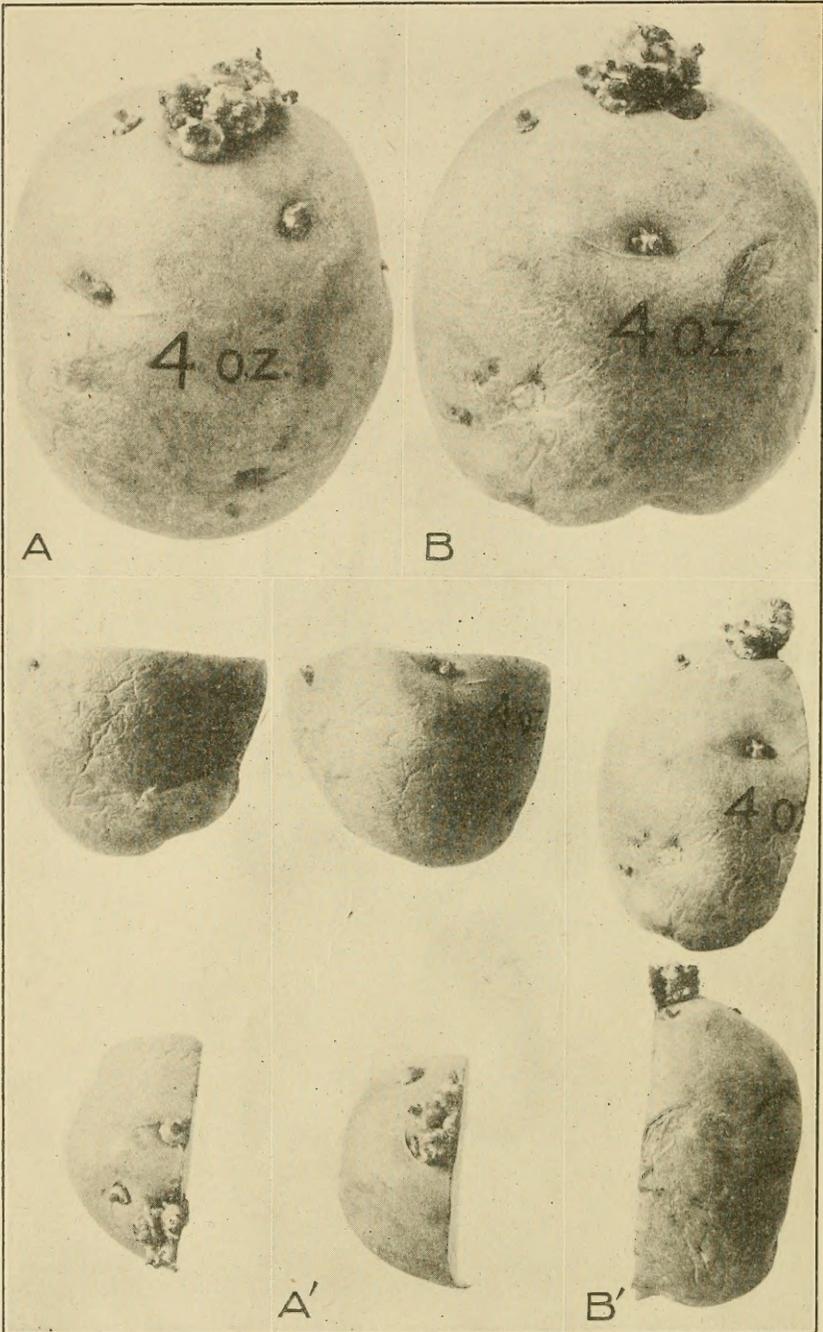


FIG. 1.—A and B, 4-ounce Irish Cobbler seed potatoes; A', the 4-ounce seed potato shown at A, quartered; B', the 4-ounce seed potato shown at B, halved.

Planted in rows 36 inches apart and with the pieces 12 inches apart in the row, it would require approximately 14,520 pieces to plant an acre. If the 4-ounce tubers are quartered, as shown at A', it will require approximately 3,630 potatoes (907½ pounds, or 15½ bushels of seed) to plant an acre. If the tubers are cut into halves only, as shown at B', it will require twice the quantity of seed mentioned above, or about 30½ bushels. If the seed pieces are 12 inches apart in rows only 30 inches apart it will require about 17,424 pieces to plant an acre.

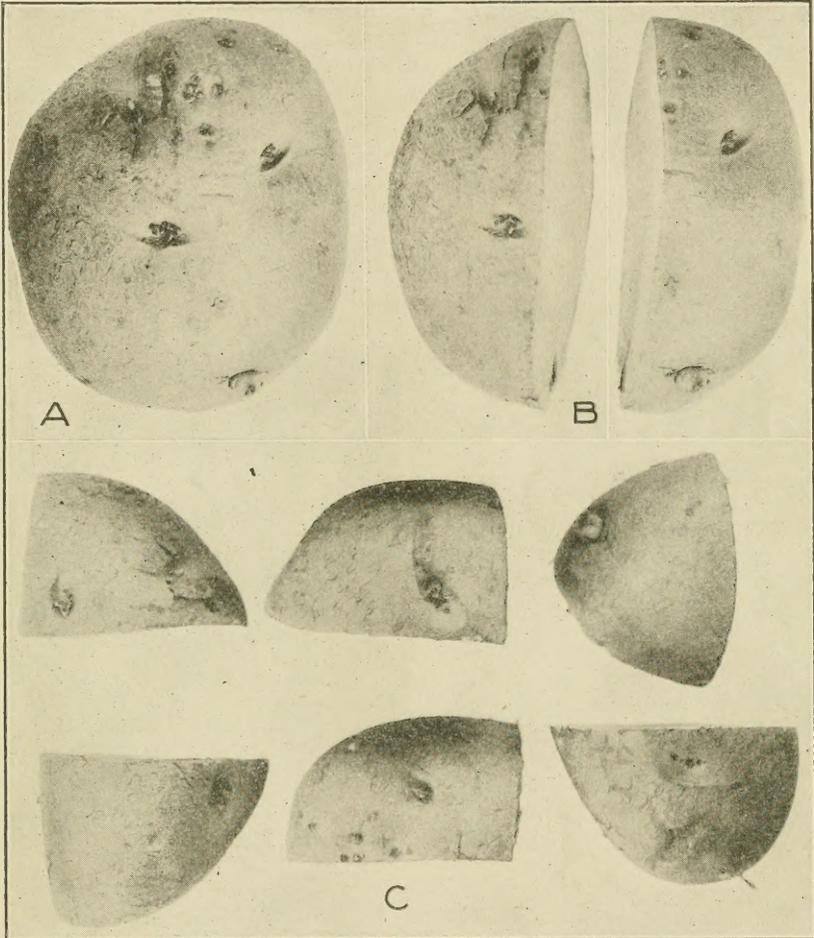


FIG. 2.—A, a 5-ounce Green Mountain seed potato; B, first step in cutting such a potato into seed pieces; C, the process of cutting completed.

Planted in rows 36 inches apart with the pieces 12 inches apart in the row, it would require about 2,420 five-ounce potatoes cut into six pieces, approximately 751 pounds, or 12½ bushels of seed, to plant an acre.

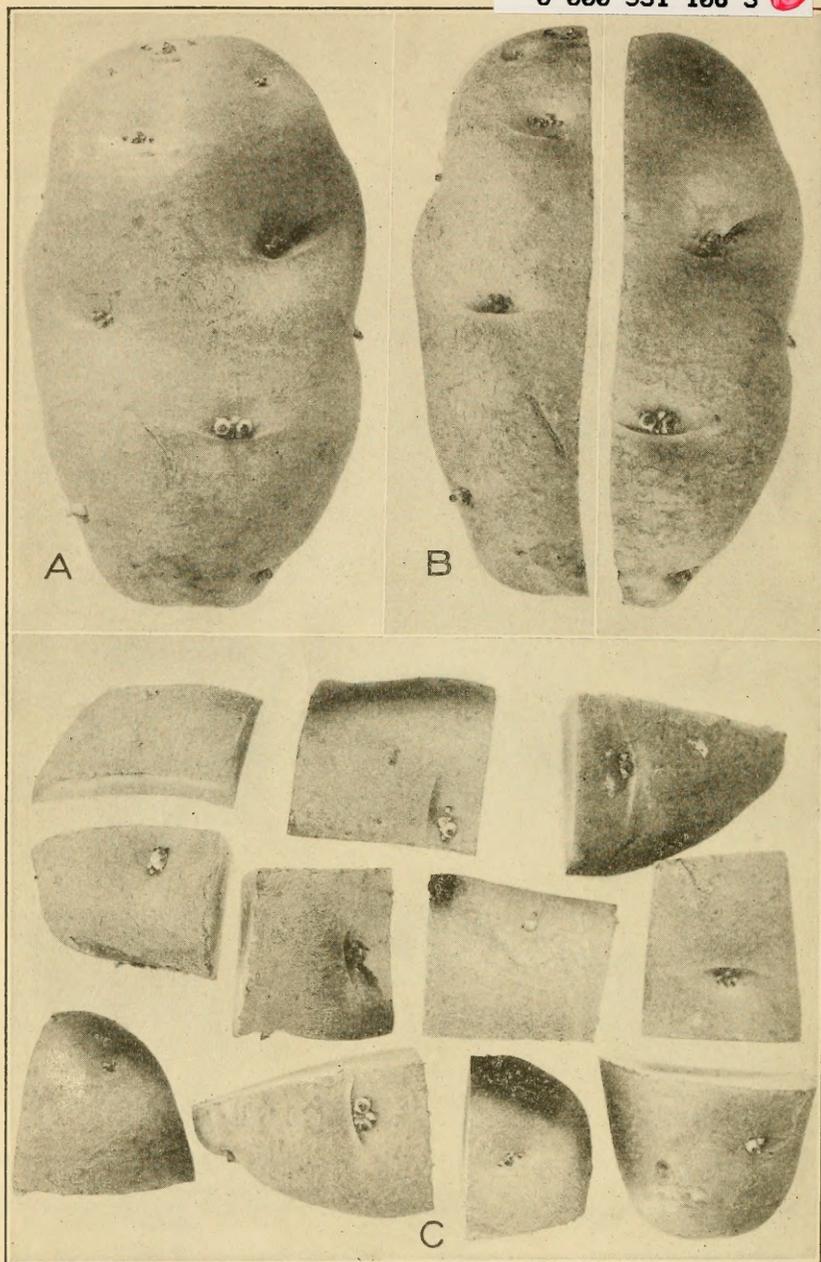


FIG. 3.—*A*, an 8-ounce Green Mountain seed potato; *B*, first step in cutting such a potato into seed pieces; *C*, the process of cutting completed.

Six of the eleven seed pieces into which the tuber was cut have only one eye; the remaining five have two or more. Planted in rows 36 inches apart and 12 inches apart in the row, it would require about 1,320 potatoes like the one shown at *A* to plant 1 acre—approximately 660 pounds, or 11 bushels.

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