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George H. Valentine

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FIELD SELECTION OF SEED POTATOES

by

George H. Valentine  
Assistant Agronomy Specialist

A. THE IMPORTANCE OF GOOD SEED POTATOES:

What is meant by GOOD SEED POTATOES? Prof. Wm. Stuart of the U. S. Dept. of Agriculture defines good seed as follows: "Somewhat immature tubers - reasonably uniform in size and shape, with skin bright and free from scab - and firm and sound with sprouts just starting. Seed of such quality when given suitable cultural conditions can be relied upon to produce a remunerative crop, other things being equal."

Much labor, time and material is wasted each year due to the use of poor seed. The total production may be increased from 10 to 25 per cent by the use of first class field selected seed.

B. HARVESTING SEED POTATOES IN THE FIELD:

"Comparatively little attention has as yet been given to the subject of the productiveness or unproductiveness of certain strains of plants within a variety. It is believed that this is a very important factor in the production of large yields, as in any variety, if studied closely, many unproductive plants may be found. This assumption is amply substantiated in the results secured from investigations conducted by the Department of Agriculture. Certain selections were made from strong and weak plants which were being grown on the tuber-unit basis. A record was made of the number and weight of the large and small tubers in each selection, and from these five of the best were selected for planting. The accompanying data give the average yields the second season from the strong and weak plants of the 12 varieties studied:

Strong tuber units = 3.28 pounds of primes; 1.18 pounds  
of culls. Total, 4.46 pounds.

Weak tuber units = 0.20 pound of primes; 0.51 pound of  
culls. Total, 0.71 pound.

The strong plants gave more than 16 times as large a yield of primes or merchantable tubers and only a little over twice as many culls as the weak plants. The proportion of small tubers would, without doubt, have been materially reduced if the vitality of the low-yielding plants had not been so weakened that in many instances no tubers were produced". Farmers' Bulletin 533.

It is not a difficult task to field select seed potatoes. During the growing season the strong vigorous plants should be marked by means of a small stake. The best hills from those marked may be saved and stored separately for seed. This method of seed selection will eventually furnish high-grade seed stock. High-grade seed stock can be maintained only through a continuous process of selection. In this method the selected hills which have been staked must be dug separately. Then, if after digging, the hills should happen to be scabby or otherwise undesirable the entire hill should be discarded.

#### C. STORING THE SEED POTATOES:

Potatoes should be stored at a temperature ranging from 35 to 40° F. Before potatoes are put into storage they should be free from serious damage caused by sunburn, cuts, scab, rot, blight or other injuries. Potatoes should be stored immediately after harvesting.

When potatoes are stored in common cellars in the bulk they should be piled not more than five feet deep and should be put into bins which are separated by air spaces and which have slatted sides and bottoms. It is not advisable to place potatoes on earth floors regardless of whether stored in bulk or in containers. (Complete information regarding storage and storage houses is given in Extension Cir. No. 9, "Vegetable Storage", State College, Brookings, S. D.