

CIRCULAR 22

SEPTEMBER 1959

ALASKA 114

a tough-skinned main crop potato

C. H. DEARBORN, Horticulturist

ALASKA
S
33
E22
no. 22
C. 2

University of Alaska

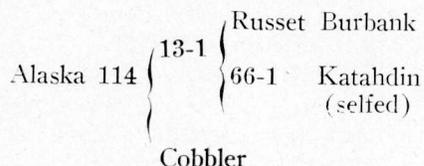
ALASKA AGRICULTURAL EXPERIMENT STATIONS

Cooperating with the
AGRICULTURAL RESEARCH SERVICE, U. S. DEPARTMENT OF AGRICULTURE

ALASKA 114, A TOUGH-SKINNED MAIN CROP POTATO

Alaska 114 was formally released to the Alaska Certified Seed Growers Association in 1954 although it had been field tested by a few members during the preceding year. The selection was made from seedlings derived from a cross of Cobbler x Minnesota 13-1.

Several thousand seedling tubers from this cross were obtained from Minnesota in 1942*. They were evaluated in the field at the College Experiment Station Farm for the first time in 1944. Numerous selections from this group were subsequently tested at Matanuska. Final selection of Alaska 114 was made in 1954 after field trials on cooperating farms. It was evaluated under pedigree number 114.42-3-44. The parentage of Alaska 114 is:



Tubers of Alaska 114 are uniform in size and shape. A field run average of 100 tubers shows that they are 2.7 inches long by 2.3 inches wide and 1.8 inches deep. They are short and oblong in appearance. Their skin is smooth to slightly scurfy, white, and highly resistant to feathering. Eye depth is medium to shallow. Eyebrows are short, and inconspicuous. Flesh

color is white with very little contrast between the center of the tuber and its outer layer.

The leaf arrangement of Alaska 114 provides uniform ground protection when successive night freezing frequently injures tubers of more open leaf type plants.

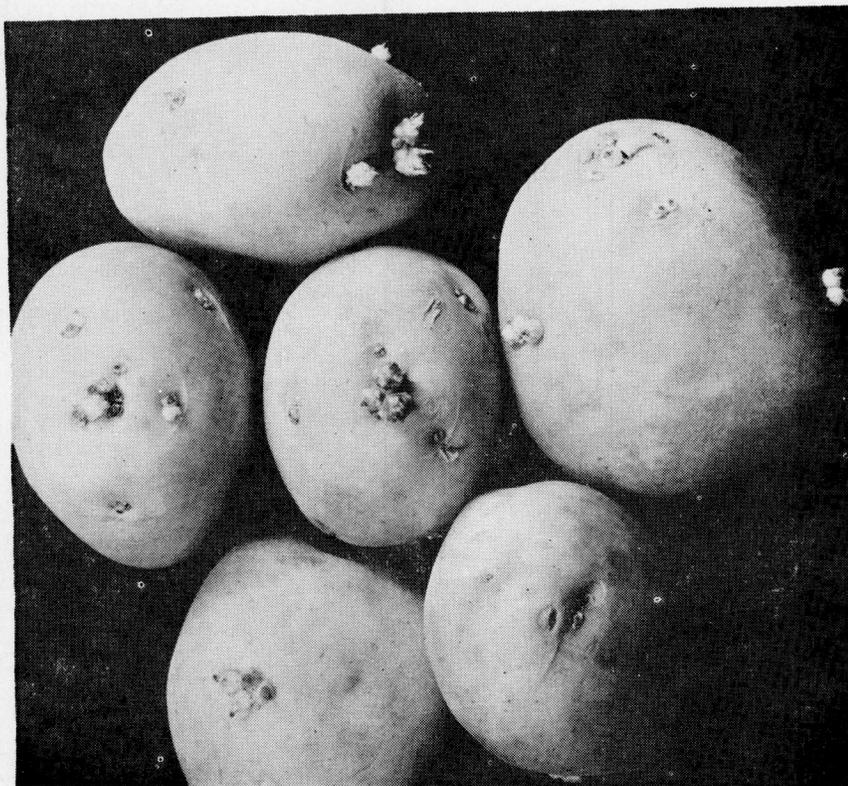
Leaves are dark green and relatively smooth. Stems are medium thick and prominently angled. Some reddish purple color occurs along the upper internodes. This color is usually not continuous on all surfaces of the internodes.

Flower buds are oblong and darkened with reddish purple pigment. The showy corolla is of medium size and lavender in color with creamy tips. Flower clusters are abundant and rise 3 to 4 inches above the foliage. Pollen is abundant and of good quality. Seed balls are common.

CHARACTERISTICS

Alaska 114 is a medium vine type plant apparently not susceptible to leaf necrosis attributed to potash deficiency, which is relatively common to the foliage of Green Mountain (commonly called Arctic Seedling in Alaska) in the major potato areas of the State. The medium thickness of stems makes for easy vine removal with a mechanical beater.

*Dr. Zola M. Fineman conducted the first phases of selection and evaluation.



A random selection of green-sprouted Alaska 114 tubers, showing bud and stolon ends, and relative width, length and thickness

Tubers are protected by an exceptionally tough skin at medium to late stage of maturity. This tough skin and uniformity of appearance prompted the release of Alaska 114. The variety produces 6 to 8 tubers per hill. In seasons of moderate rainfall it yields as much as Kennebec, Green Mountain or Ontario. In dry seasons, or when grown at low fertility levels, many tubers remain small at harvest. Eye distribution is excellent for hand or machine cutting of seed.

The flesh is uniformly white. Hollow-heart has been troublesome in some seasons. A few fields have yielded hollow tubers of all sizes.

The variety resists sprouting in storage and development of sprout-tubers when planted in cold soils.

Alaska 114 appears somewhat more resistant to storage rots than other varieties grown in Alaska. It is susceptible to common scab. Nothing is known regarding its reaction to early or late blight because these diseases have not been reported in Alaska where 114 has been grown.

The variety has a very pleasant distinctive flavor similar to its Cobler parent. Excessive after-cooking darkening has not been observed in Alaska 114. It remains white, in

contrast to many other common varieties which turn dark and are therefore not fully accepted by many housewives. It has been judged as equal to Green Mountain for eating qualities, especially when baked. A considerable tonnage has been used for commercial chipping and French frying, further evidence of its value as a commercial variety.

harvest. Losses in tonnage at harvest due to bruising were materially less from Alaska 114 than from Green Mountain (Arctic Seedling) as shown in Table 2.

At the end of a 6-month storage period, the grade-out from Alaska 114 equalled that removed from Green Mountain at harvest to get the same sample appearance. The

TABLE 1.—Average yields of US No. 1 tubers and total solids of Alaska 114 compared with Green Mountain (Arctic Seedling) and Kennebec in Alaska's Matanuska and Tanana Valleys, for the six years from 1953 through 1958.

Variety	Yields		Total solids	
	Matanuska	Tanana	Matanuska	Tanana
	Cwt per acre		Per cent	
Alaska 114	307	144	22.3	21.3
Green Mountain	308	172	23.4	21.9
Kennebec	305	193	22.6	21.3

Alaska 114 has been compared in replicated trials with the highest yielding, best quality varieties grown in the State. It compares favorably with Green Mountain and Kennebec in yield and total solids as is shown in Table 1.

Low yields in the Tanana Valley for all varieties are attributed to drier growing conditions at that location.

Under normal harvest conditions in Alaska the skin of most potato varieties "feathers" badly. Immediately following harvest tubers are stored directly in cold, damp storages where the temperatures (38° to 45° F) are too low for rapid healing of bruises.

The tough skin of Alaska 114 affords the tubers a significant amount of protection from feathering at

grade-out from Green Mountain six months after storage was three times that for Alaska 114.

When bruising is not carefully controlled the market value per acre of Alaska 114 is obviously greater than for Green Mountain. When losses due to mechanical damage are low, as in this new variety, the consumer buys more undamaged tubers in his bag of US No. 1 grade potatoes.

Table 2.—Losses caused by mechanical damage during harvest in 1956 and 1957, expressed as per cent of 900-pound samples of Alaska 114 and Green Mountain (Arctic Seedling).

Time of loss	Alaska	Green
	114	Mountain
October (at harvest)	1.1	10.6
December (from storage)	5.1	21.1
March (from storage)	10.0	33.1
Average loss	5.4	21.6