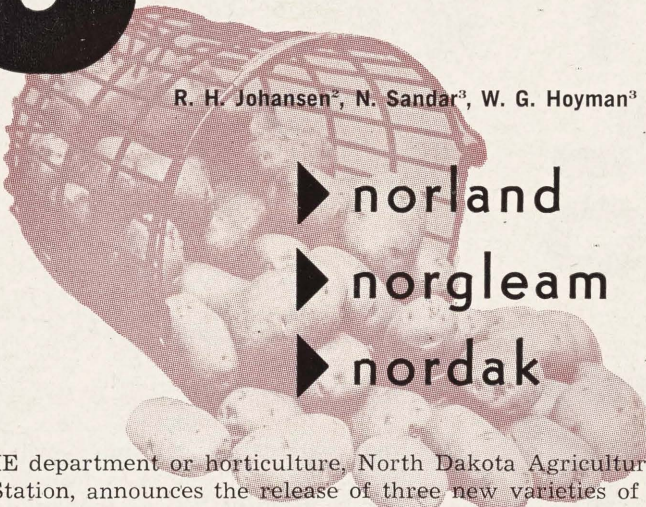


# 3 new potato varieties developed

R. H. Johansen<sup>2</sup>, N. Sandar<sup>3</sup>, W. G. Hoyman<sup>3</sup> and E. P. Lana<sup>1</sup>

- 
- ▶ norland
  - ▶ norgleam
  - ▶ nordak

**T**HE department of horticulture, North Dakota Agricultural Experiment Station, announces the release of three new varieties of potatoes: Norland Norgleam and Nordak.

Potatoes are the major horticultural crop in North Dakota and the need for new varieties having early maturity, disease resistance and improved horticultural characteristics has become increasingly important to the potato grower. To meet this need, the department of horticulture has carried on an extensive potato breeding program for more than 20 years. The department of plant pathology, the United States Department of Agriculture and the State Seed Department have cooperated in this program.

Early maturity of the vines and the ability to produce high marketable yields early in the season are important characteristics of all three varieties. (See table I). In maturity, Norland and Nordak are similar to Red Warba, while Norgleam resembles Irish Cobbler. All three have shown fairly wide adaptability in other areas.

Norland was tested under the pedigree number ND 2906-1R. It is a selection from a cross between Redkote and ND 626. This cross was made in the greenhouse in 1950 and seedlings of the cross were grown in the greenhouse that same year. The seedlings were grown in the field at the Langdon substation<sup>5</sup> in 1951, at which time the original selection was made. Various trials since 1951 indicate that Norland is adapted to North Dakota and to some other states, particularly to those in the North Central region. This variety possesses early maturity, bright red skin, good early yielding ability, good tuber type, shallow eyes, moderate scab resistance, good cooking quality and produces a high percentage of U.S. No. 1 tubers.



# varieties t ndac<sup>1</sup>

At Northwood, and at some other locations, silver scurf has been common on Norland. It is also susceptible to infection by the common potato viruses and by the fungus causing late blight. In limited trials Norland has made acceptable potato chips immediately after harvest in August and after storage and re-conditioning.

Norgleam (ND 457-1-16) and Nordak (ND 457-1-10) are sister selections resulting from a self-pollinated North Dakota selection, ND 457-1. (ND 457-1 is a cross between Sebago and Minnesota 92.36-5). Both of these varieties were grown as seedlings in the greenhouse in 1950 and in the field in 1951. Extensive field trials since 1951 have shown that they are adapted to North Da-

kota and to certain other states, and to several areas of Canada.

Norgleam and Nordak are similar in many respects. Both have white skin, early maturity, excellent cooking quality, good early yielding ability, good tuber type, shallow eyes and resistance to virus Y. The pitted and russet types of scab have been observed on both varieties in North Dakota and greenhouse tests have shown they were susceptible to the fungus which causes late blight. Both varieties have remained free of silver scurf when grown at Northwood where this disease has been severe on Red Pontiac and on some other selections and varieties.

Because of their short stolons, Norgleam and Nordak are very susceptible to sun greening unless ade-

TABLE I.—Average Yields and Specific Gravity<sup>6</sup> of Six Potato Varieties Grown at Three Locations and Harvested on Two Dates, 1955 and 1956.

Variety	Grand Forks and Park River <sup>7</sup> Williston Irrigation					
	Early harvest 8/15		Late harvest 9/15		Late harvest 9/15	
	Marketable yield bu./a	Spec. grav.	Total yield bu./a	Spec. grav.	Total yield bu./a	Spec. grav.
Norland (ND 2906-1R) .....	241	1.078	334	1.073	516	1.078
Norgleam (ND 457-1-16) ..	247	1.086	346	1.083	488	1.083
Nordak (ND 457-1-10) .....	217	1.085	324	1.083	518	1.083
Red Pontiac .....	219	1.074	380	1.073	620	1.074
Triumph .....	232	1.080	325	1.075	458	1.077
Early Gem .....	147	1.074	294	1.072	468	1.077

quately hilled. In limited trials they have been unacceptable for potato chips immediately after harvest in August, but they have made acceptable chips after a period of storage and reconditioning. Yield and specific gravity of Norland, Norgleam and Nordak are found in table I.

#### **Increase and Release**

The three new varieties Norland,

Norgleam and Nordak have been released to some certified seed potato growers for increase. If normal growing conditions exist during the 1957 season, approximately 8,000 to 10,000 bushels of Norland and approximately 2,000 bushels each of Norgleam and Nordak should be harvested this fall.

---

<sup>1</sup>Acknowledgment is extended to the late Dr. J. H. Schultz for his contribution to the potato breeding project.

<sup>2</sup>Assistant Horticulturist.

<sup>3</sup>Plant Pathologist, Crops Research Division, Agricultural Research Service, Department of Agriculture.

<sup>4</sup>Horticulturist.

<sup>5</sup>The Langdon substation is under the direction of Superintendent Victor Sturlaugson.

<sup>6</sup>Specific gravity—a high reading generally indicates good cooking qualities.

<sup>7</sup>Yields of locations and years averaged.



## *Cover Story*

Ed Lana, head of the NDAC horticulture department (on the left), and Bob Johansen of the department are proudly showing off the new potato variety, Norland, which the horticulture department recently released.

This new potato together with Norgleam and Nordak are the results of 20 years of research carried on by the department with the help of the USDA and the state seed department.

They have been looking for a potato with early maturity and disease resistance. The increase in yield was a bonus. The story on page 3 tell all about the development of these new varieties.