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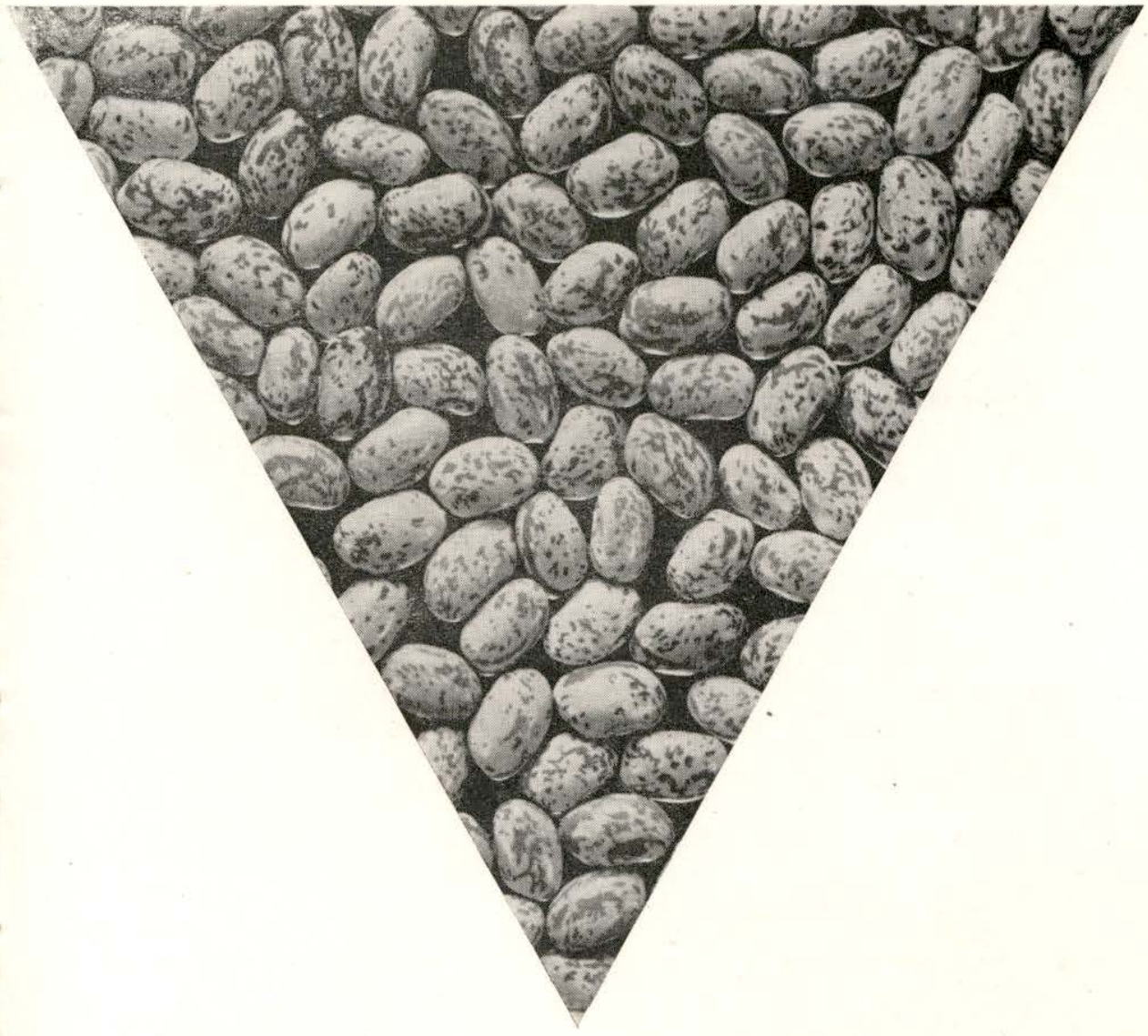
CIRCULAR 78 DECEMBER 1944

The Scottsbluff Pinto Bean

JAMES H. JENSEN



THE AGRICULTURAL EXPERIMENT STATION
of the
University of Nebraska College of Agriculture
W. W. BURR, *Director,* Lincoln

Nebraska Experiment Station Circular 78, December 1944, 2M.

The Scottsbluff Pinto Bean

James H. Jensen

ORIGIN

SCOTTSBLUFF Pinto is the name of a new variety of pinto field bean being released this year by the Nebraska Agricultural Experiment Station. The new bean variety is a selection from a cross between Great Northern and the common pinto bean. In a bean-breeding program conducted for the past several years by the Department of Plant Pathology, attempts have been made to obtain improved varieties of both field and garden beans for Nebraska. Although the breeding program was primarily concerned with the development of disease-resistant varieties, it was observed that Scottsbluff Pinto, possessing no notable disease resistance, has been outstanding in earliness, plant vigor, yield, and quality.

Scottsbluff Pinto has been tested in trial plots[1] for several years under both irrigation and dry-land culture and for the past two years several small scale field plantings of one-acre size or larger were grown for more extensive observation and seed increase. During the 1944 season 10-pound samples of seed were furnished each of 14 growers who were asked to plant the seed in comparison with their own commercial bean plantings. Because of floods and hail storms not all growers obtained a stand. In all grower-plantings reported, however, Scottsbluff Pinto yielded as well as any other field bean and in most of these trials it was rated superior in earliness and yield to the grower's commercial variety. In all comparative tests with common pinto, Scottsbluff Pinto produced a greater yield per acre and produced beans larger in size and of a more desirable type.

CHARACTERISTICS

Scottsbluff Pinto produces a vigorous, indeterminate, semi-trailing vine with strong stem and root system. Leaves are slightly larger, lighter green in color and are borne more upright, and the plant itself is taller than the common pinto. Flowers

[1]Grateful acknowledgement is made to Lionel Harris, Supt. of the Scotts Bluff Experiment Substation, L. L. Zook, Supt. of the North Platte Experiment Substation, and Robert Pahl, former supervisor of the Box Butte Experiment Farm, for providing facilities and aiding in carrying out field tests; to J. F. Brandon, U. S. Experiment Station, Akron, Colo., Glen Staten, New Mexico College of Agriculture, State College, N. M., Dwight Koonce, Colorado State College, Hesperus, Colo., Herbert De Vries, County Extension Agent, Cortez, Colo., and H. Lorin Blood, Utah Agricultural Experiment Station, Logan, Utah, for furnishing seed samples of pinto selections; and to a number of Nebraska growers who planted Scottsbluff Pinto in their fields and kindly supplied their comments on its performance.

are white, resembling those of the common pinto. Pods are splashed with red markings when nearly mature but lose the red marking at maturity. Scottsbluff Pinto pods are larger than those of common pinto, straight, constricted, flat, tough, fibrous, and do not shatter easily. Pods of Scottsbluff Pinto are borne slightly higher on the plant than those of the common pinto thus being less subject to discoloration and mold before harvest. The seeds, as shown in Figure 1, are shaped similar to those of other pinto beans but are slightly more plump and larger in size. The coloring is a medium to dark brown splashing or mottling on a cream or light brown background.

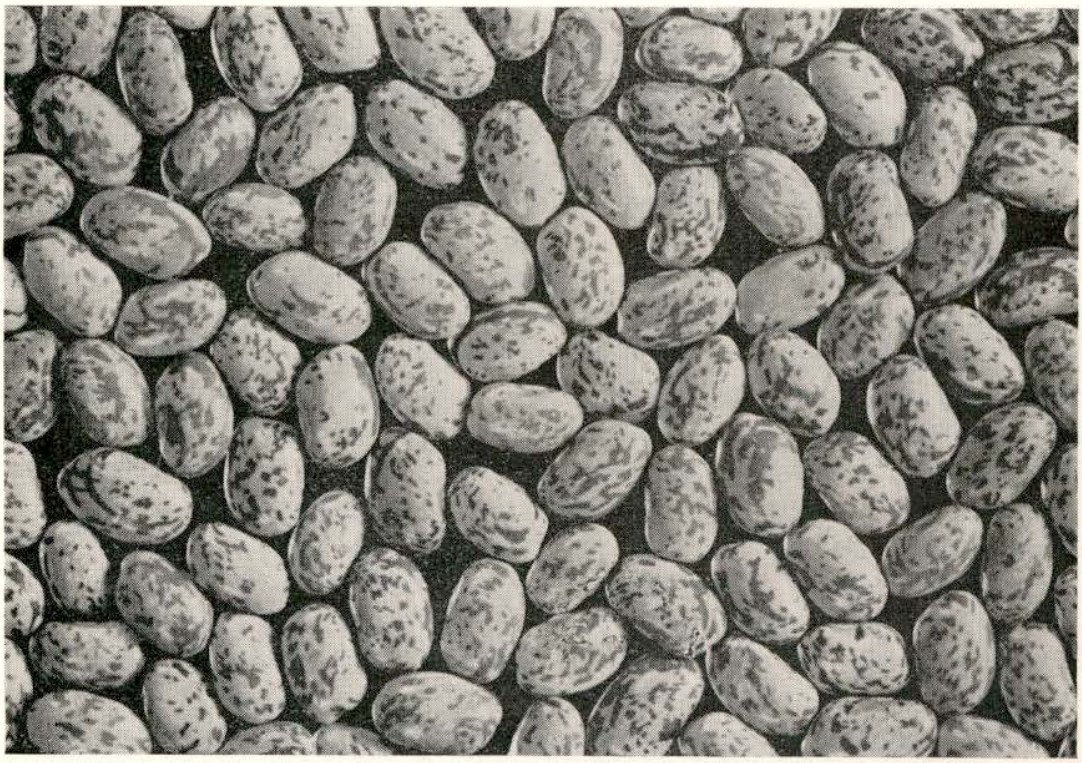


Fig. 1—Scottsbluff Pinto Beans, Natural Size

The outstanding character of Scottsbluff Pinto is its earliness. It matures a week to 10 days earlier than common pinto or about the same time as Great Northern beans under western Nebraska conditions and thus is not as likely to be caught by early frosts as is the common pinto.

COMPARATIVE YIELDS

Under Irrigation:

During the last three seasons, 1942-1944, Scottsbluff Pinto has been included in replicated yield tests at the Scotts Bluff Experi-

ment Substation, Mitchell, Nebr., along with common pinto and in two years with Great Northern U. I. 123. Each plot consisted of 5 rows 25 feet long and planted at a rate of 50 pounds per acre in rows 20 inches apart. The 3 center rows were harvested for yields. Yields shown in Table 1 are averages of 3 replications.

Table 1.—*Comparative varietal yields of No. 1 beans grown under irrigation at the Scotts Bluff Experimental Substation,* 1942-1944.[1]

Variety	Yield of No. 1 beans per acre		
	1942	1943	1944
	Pounds	*Pounds*	*Pounds*
Scottsbluff Pinto	3275	2672	2051
Common Pinto	1641[2]	2460	1644
Great Northern U. I. 123	2612	2798	.....

[1] Yields based on three middle rows of triplicate plots containing 5 rows 25 feet long and spaced 20 inches apart, planted at rate of 50 pounds of seed per acre.
[2] An early frost in 1942 killed vines of common pinto before maturity.

In small field-size plantings under irrigation at this Substation during the past two years, No. 1 bean yields of Scottsbluff Pinto have varied from about 2400 to 3100 pounds per acre.

In 1944 Scottsbluff Pinto was planted in field plots in comparison with 13 other varieties or selections of pinto beans, the seed of which was obtained from various sources in western United States. Of the 14 seed lots planted, only 4 were sufficiently early to mature satisfactorily under irrigation in western Nebraska. The comparative yields of these 4 lots are given in Table 2. Varieties which were not mature at time of harvest, and therefore probably too late for the North Platte Valley, under irrigation, were New Mexico 291, 295, 247, 406, and 641, Akron selection 27, and several pinto selections from Utah and Colorado. Soil and irrigation conditions were somewhat unfavorable in this test.

Table 2.—*Comparative yields of 4 lots of pinto beans under irrigation at the Scotts Bluff Experimental Substation,* 1944.

Variety	Total yields of beans per acre
	Pounds
Scottsbluff Pinto	1201
Common pinto	839
Idaho pinto[1]	696
Wyoming pinto[1]	901

[1] From Utah-grown seed.

Under Dry-land Conditions:

Scottsbluff Pinto beans were grown on dry land at the Box Butte Experiment Farm in each of the three years, 1942-1944.

During the first two years it was observed that the variety was well adapted to dry-land culture but no yield records were made. In 1943 a small field yielded 450 pounds per acre. In 1944, three 1/10-acre plots in the crop rotation experiment averaged 266 pounds per acre, even though the stand was poor because of floods and hail.

Yield records, presented in Table 3, were obtained from tests conducted under dry-land culture in two other localities in 1944. Plantings consisted of 4 replications of single row plots, 40 feet long, and 40 inches between rows.

Table 3.—*Comparative varietal yields of No. 1 pinto beans grown on dry land at the North Platte Substation and on a Cheyenne County Farm.*

Variety	Yield per acre	
	North Platte Substation	Cheyenne County Farm
	Pounds	*Pounds*
Scottsbluff Pinto	760	475
Common Pinto	564	472
Great Northern U. I. 59	615	433

In field-scale plantings at the North Platte Experiment Substation Scottsbluff Pinto was grown in a field adjacent to one planted with common pinto seed obtained from Colorado. The two fields were similar as regards soil, slope, date of planting, etc., and in both cases a portion of the fields had been fallowed and another portion croped the previous year.

Scottsbluff Pinto yielded 980 and 868 pounds per acre on the fallowed and cropped land, respectively, as compared to 625 and 499 pounds per acre for the Colorado pinto. The season of 1944 at North Platte was such that both varieties were mature at harvest. The earliness of Scottsbluff Pinto was very marked, however, under the North Platte conditions.

DISSEMINATION OF SEED

All seed stocks of Scottsbluff Pinto have been turned over to the Nebraska Crop Improvement Association, Lincoln, Nebr., for further increase and distribution.

SUMMARY

The Scottsbluff Pinto bean, produced by crossing common pinto with Great Northern, is believed to be a valuable early pinto variety adapted to western Nebraska under both dry-land culture and irrigation. While it has no notable disease resistance, its earliness, vigor, yield, and quality are of sufficient superiority to commend it to Nebraska growers.