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THE PRITCHARD TOMATO

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ORIGIN

The Pritchard tomato was developed from a cross of Marglobe on Cooper Special made in the greenhouses of the United States Department of Agriculture at Washington in 1926 by the late Fred J. Pritchard, formerly senior physiologist in the Division of Horticultural Crops and Diseases.

The purpose of this cross was to combine the excellent color, solidity, thick walls, high quality of fruit, and the disease resistance of the fruit and plant of the Marglobe with the tendency to heavy early production of the "self-topping" Cooper Special.

Cooper Special was used as the maternal parent of the Pritchard tomato because it sets an abundance of nearly globular fruits which mature early. The Cooper Special plant possesses the distinctive characteristic of producing terminal flower buds beyond which no further branch or stem development occurs. Thus the stems and branches are shorter than in most varieties and have the appearance of being "topped."

Marglobe, which is the pollen parent of the new Pritchard tomato, is very resistant to the Fusarium wilt of the plant and to the nail-head rust of the fruit. The vines possess unusual vegetative vigor, and under optimum conditions the stems and branches continue to elongate, producing blossoms and fruit until killed by frost. The scarlet (R)¹ fruits are larger, much more solid, and have heavier outer and inner walls than the scarlet red (R) fruits of Cooper Special.

CHARACTERIZATION

The Pritchard tomato produces medium-dense erect vines with foliage somewhat similar to the Marglobe parent. However, it

¹ Names of colors followed by (R) are according to the following authority: RIDGWAY, R. COLOR STANDARDS AND COLOR NOMENCLATURE. 43 p. Washington, D. C., 1912. Scarlet is commonly called "red," and scarlet red "pink" or "purple," by many tomato growers and packers.

possesses the determinate habit of growth which is commonly called "self-topping." The spread of the vines is markedly less than in Marglobe. The foliage is sufficiently dense to shade the fruit during its development, thus preventing sunburn. The fruit (fig. 1) is of a slightly flattened globular shape, scarlet in color, medium in size, with thick outer and inner walls which give the fruit considerable firmness, an important quality for a canning and shipping tomato. The internal color is of uniform scarlet red, similar to but usually deeper than that of Marglobe. In season the Pritchard tomato is but little later than Earliana, ripening about the time of Bonny Best. However, the early and total yields of ripe fruit are heavier than those of the Earliana or Bonny Best, and the fruits possess superior



FIGURE 1.—The Pritchard tomato

firmness and table quality. As this variety sets a large number of fruits, rich or liberally fertilized soil is required to develop the fruit to fancy sizes. The variety is resistant to *Fusarium* wilt and to nailhead rust of the fruits.

NAME

The Pritchard tomato was named in memory of the late Fred J. Pritchard, internationally known breeder of disease-resistant varieties of tomatoes, formerly of the United States Department of Agriculture. Mr. Pritchard had practically completed the development of this new variety before his death in January, 1931, and had sent out numerous small lots of seed for testing, under the name of Scarlet Topper.

TECHNICAL DESCRIPTION

SEASON

Medium early; 65 to 70 days from transplanting medium-sized plants, which have not reached flowering stage at transplanting time, to first commercial harvest. On sandy soil in favored locations may be as early as 60 days. A heavy crop is usually matured in about four pickings, the heavy-bearing period being short on account of determinate or "self-topping" type of growth.

PLANT

Size medium; at time first fruit ripens, plants typically 45 to 50 cm (18 to 20 inches) high, with maximum spread of 125 to 135 cm (4 to 4½ feet). Amount of plant growth varies greatly, depending on local conditions.

Habit medium erect; growth compact; fruits usually shaded.

Branches medium in number, typically 6 to 8; medium short, 52 to 68 cm (21 to 27 inches); rather thick or sturdy. Main stem medium in thickness, 1.8 to 2.5 cm (¾ to 1 inch).

Leaves rather large; petioles sturdy and long; blades long; leaflets slightly cut or nearly entire; upper surface a little lighter than dark dull yellow green (R); lower surface a little grayer and bluer than pois green (R).

Flowers above medium in number per cluster, typically 5 or 6; rarely fasciated; style medium short.

FRUIT

Exterior.—Sepals medium in number, typically 6; medium long.

Immature fruits apparently spherical in shape, pale green in color, except dark green area about stem, which persists until fruit begins to turn color.

Mature fruits medium size, typically 140 to 175 g (5 to 6 ounces) in weight. When viewed from stem or styler end, slightly elliptical, measuring 6.9 to 7.6 by 6.3 to 6.9 cm (2¾ to 3 by 2½ to 2¾ inches). When viewed from the side, slightly flattened, globe-shaped, measuring 6.9 to 7.6 cm (2¾ to 3 inches) at greater equatorial diameter and 5.7 to 6.3 cm (2¼ to 2½ inches) in depth. Cavity medium shallow, about 0.3 cm (one-eighth inch), sides gradually sloping; typically smooth, or sometimes with broad, very shallow, slight creases radiating from the stem. Basin rarely present. Styler end slightly rounded and smooth; styler scar small, often a mere dot.

Color, as usually harvested, grenadine (R) or scarlet; when fully ripe slightly darker than scarlet, tending toward English red (R); ripens evenly about the stem; skin yellow.

Interior.—Outer walls thick, typically 0.6 to 0.8 cm (one-quarter to one-third inch). Inner walls very thick, 0.8 to 1.3 cm (one-third to one-half inch). Cells visible upon cutting at equator, few, typically 6 to 7, fairly regular in shape, and usually arranged as segments of a circle. Well-defined solid central fleshy mass, large fleshy placentae; cells small, well filled with pulp, seeds few. Flesh firm, color scarlet red (R). Flavor sweet, mildly subacid.

FIELD TESTS

Two generations of the progeny of this cross were grown each year in greenhouses and experimental field plots of the United States Department of Agriculture at the Arlington Experiment Farm, near Washington, D. C., until 1928. Several selected lines were also tested in southern Florida during the winter of 1928-29. These progeny lines exhibited remarkable uniformity in plant and fruit type in these tests, and no nailhead rust of the fruits occurred. They were grown in progeny rows at the Arlington farm during the summer of 1929, and plants were very rigidly selected for earliness, resistance to *Fusarium* wilt, productiveness, and uniformity. Another field test of these selected lines was conducted in southern Florida during the winter of 1929-30, in which they again exhibited pronounced uniformity of fruit and plant type and freedom from

nailhead rust of fruit. They also proved their ability to produce large yields of fruit in the first three or four pickings.

The most promising lines were grown in progeny rows at the Arlington farm during the summer of 1930. The best individual plants were selected for further breeding purposes, and the seed from the remaining plants of these lines was saved for placing with tomato growers for preliminary trials. Small packets of this seed were rather widely distributed during the fall of 1930 to commercial seed firms, market gardeners, and canners.

Many favorable reports have been received by the department regarding the behavior of this variety in these commercial tests. The reports have been quite consistent with respect to the earliness of the variety, the uniformity and nearly globular shape of the fruit, the heavy yield of fruit produced in relatively few pickings, and the very good internal color of the fruit. This excellent interior color promises to be of particular value in the production of tomato juice and other tomato products.

The results of these tests indicate that the Pritchard will fulfill the market gardeners' need for a tomato variety nearly as early as the Earliana that will produce an abundance of high-quality early fruit of a desirable shape and color. The variety should also make an excellent shipping tomato if grown on rich or liberally fertilized soils.

ADAPTABILITY

Although the Pritchard tomato was developed for marketing fresh, rather than for canning and other methods of utilization, there are indications that within certain limits it may be advantageously used as an early canning variety. Since it is sometimes difficult for the canneries to procure enough tomatoes early in the season to enable them to operate profitably, the tendency of the Pritchard to bear very heavily for a relatively brief period and then to decline rapidly in production should enable the factories to operate at full capacity earlier in the season before the regular canning varieties begin to bear heavily. Therefore, it would seem that a portion of the acreage to be handled by a factory could well be devoted to this promising variety if the planting is timed to avoid the midseason glut.

SOURCES OF SEED

The Department of Agriculture has no seed of this or other varieties for general distribution. In order that the Pritchard might be available in quantity as soon as possible, a limited quantity of seed was supplied to each of a large number of commercial seed growers and seed firms for purposes of increase. The wide distribution of stock seed in this manner should enable the seed trade to supply the demand for the variety by the 1933 season.

