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Centennial

R. Prashar

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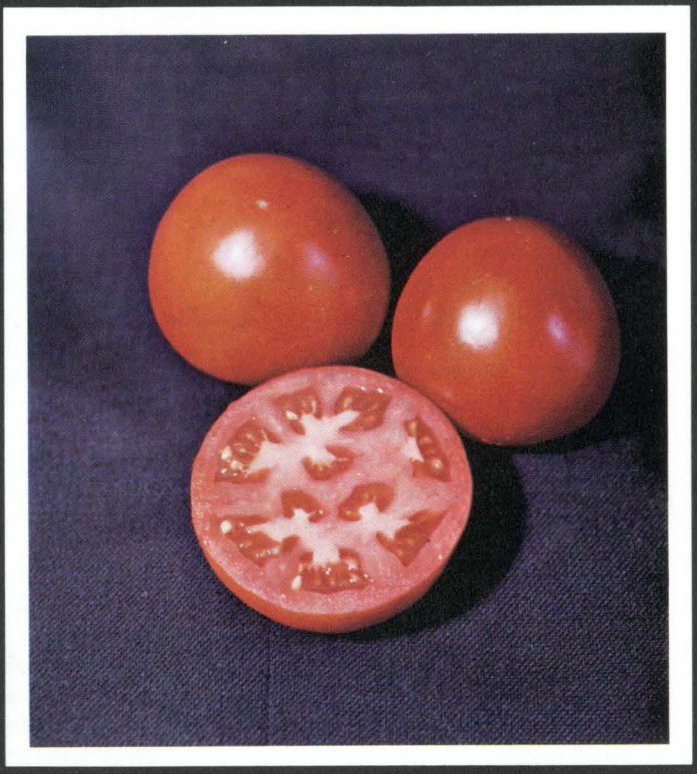

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Horticulture-Forestry Department
Agricultural Experiment Station
South Dakota State University, Brookings

Centennial

Paul Prashar
Associate Professor, Horticulture-Forestry Department

There has always been a desire for a medium-sized red tomato which is resistant to fusarium and verticillium wilt, has a compact vine capable of supporting a heavy fruit set early in the season, and has enough foliage to protect the crop from sunburn.

A heavy early set is desirable to take advantage of the short growing season in northern states. Due to limited space in the home garden, growers often plant tomatoes in the same area and do not follow rotation practices carefully. Centennial has exhibited many of the desired qualities fitting these conditions in several years of testing.

Plants are determinate (sp) and small, averaging 12 inches high with a 30-inch spread. In the early growth stage the plant is compact, but later the vines tend to open. Even in the later growth stages, there is sufficient leaf cover to protect fruit adequately from sunburn. The stem and fruit ends are strong, giving good support to the fruit clusters. Fruit clusters are located on strong branches and near the center of the plant, which reduces fruit spoilage due to rot fostered by wet soil. This hybrid sets fruit well under cool weather.

Fruit is uniform whitish green when immature and red when mature; global shaped, smooth, and firm; smooth at blossom end; and weighs an average 5 ounces. The stem attachment is small, slightly inset with smooth shoulders free of radial and concentric cracking. This hybrid has a gene for uniform ripening (u), and fruit matures to a deep red color. The many locules are small and seed quantity is moderate. Flavor of the raw fruit is good throughout the season. Centennial has exceptionally high early yield and no fruit sunburn.

Maturity of this hybrid is early, falling in the Fireball class. At Brookings maturity is approximately 4 days later than Fireball and 4-5 days earlier than Sioux.

Disease resistance. Centennial contains the genes (Ve) for resistance to verticillium wilt and (I) for resistance to fusarium wilt. Centennial was not bred for resistance to specific foliage diseases, although the elimination of all severely diseased parent plants is a routine practice in the breeding program.

Adaptation. Centennial is well adapted to home garden culture and the early fresh market. It should perform well where growing conditions are similar to or better than southeast South Dakota. Centennial has done well where the spring is generally cold and earliness is most desirable. A plant spacing of 30 inches in the row gives best results in a loam type soil with good fertility.

Centennial is a determinate plant so it should not be staked, although it would be helpful to use some sort of mulch under the plant. The hybrid has been tested for the last 5 years, and every year the performance has been outstanding.

Seed availability. Foundation seed stock will be maintained at the Experiment Station, SDSU, Brookings, S. D. Seed of the hybrid for commercial distribution should be available from seed houses in 1975.

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Table 1. Comparative performance of Centennial with commonly grown tomato varieties, Horticulture Experiment Farm, Brookings.

Variety	Yield of marketable fruit, pounds/plant by Sept. 1						Total yield of marketable fruit, pounds/plant						Average fruit size for season, oz./fruit					
	1968	1969	1970	1971	1972	1973	1968	1969	1970	1971	1972	1973	1968	1969	1970	1971	1972	1973
Fireball	9.1	8.7	4.4	8.9	4.1	8.5	11.1	10.2	12.0	11.5	6.1	11.3	3.7	3.8	3.5	3.6	2.9	3.7
Centennial	13.1	5.9	11.2	13.6	12.1	10.7	18.2	10.8	15.5	20.8	15.1	20.5	5.5	4.1	4.3	4.1	4.4	4.7
New Yorker	7.9	5.0	7.0	6.9	6.8	8.3	11.2	9.2	9.1	10.0	11.0	12.0	4.6	4.0	3.8	4.2	3.9	3.4
Jet Star	----	7.6	10.6	7.9	5.7	5.8	----	12.0	12.6	10.9	7.7	18.2	----	4.7	5.1	4.8	3.3	5.2
Spring Giant	8.1	4.5	8.5	11.2	8.1	7.9	12.1	6.1	13.6	20.2	10.1	17.1	6.4	4.1	4.8	4.8	4.8	4.1