

Comparative Productiveness of Some Twelve Varieties of Tomatoes on Fertile Prairie Soils

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Due to the increased interest in vegetable growing in Illinois in the last few years, the class in Vegetable Gardening at the Illinois State Normal University decided it would be a worthwhile undertaking to run tests on a number of varieties of tomatoes. The seeds were planted in flats and the young plants were shifted only once in the greenhouse. On April 30th the plants were set in the field. The planting distances were five feet between the plants within the rows which were spaced six feet apart. The rows ran north and south. Each row had twenty-seven plants. All missing plants were replaced within a period of ten days.

In choosing the varieties it was decided to select some of the older varieties which are commonly grown in the home gardens of central Illinois, and also to include some that are not generally grown, but which may be more desirable varieties to grow.

Twelve varieties were selected and were to be tested for earliness of yield, total yields, productiveness of graded or select tomatoes, and resistance to Fusarium wilt. The Fusarium wilt was later excluded from the tests because no varieties showed any indications of the infection, even though eight of the twelve varieties were known to be susceptible. If Fusarium wilt had been present no doubt greater differences in yield would have been recorded.

The susceptible varieties were Bonny Best, Golden Queen, Great Baltimore, John Baer, New Globe, New Stone, Oxheart and Ponderosa. Of the available resistance varieties, the Illinois Pride, Marglobe, Marhio and Pritchard were chosen. The Illinois Pride was the most recent development of resistant varieties and had been given out for tests, but was not offered for sale until this year. It was an Illinois selection from the Century variety and recommended more especially for less fertile soils than found in central Illinois. The Marglobe was developed by the United States Department of Agriculture. The Marhio was developed by the Ohio Experiment Station. The Pritchard was originated by the late Dr. F. J. Pritchard of the United States Department of Agriculture in 1931.

The first tomatoes were harvested from the Greater Baltimore and John Baer on July 15th, or exactly seventy-six days after planting in the field. By July 23rd all varieties, except the Oxheart, had produced tomatoes. The Oxheart produced only one tomato by July 31st. On July 31st the ranking of the tomatoes according to the total yields were as follows: Greater Baltimore, 33 lbs.; Bonny Best, 26.25 lbs.; New Globe, 20.5 lbs.; Marhio, 16.75 lbs.; John Baer, 13.37 lbs.; New Stone, 12.25 lbs.; Pritchard, 11.75 lbs.; Illinois Pride, 10 lbs.; Marglobe, 7.37 lbs.; Ponderosa, 5.25 lbs.; Golden Queen, 4.75 lbs., and Oxheart, 0.25 lb.

No attempt was made to grade the tomatoes at this time because the prices at the local market were favorable on the ungraded tomatoes.

Giving a rating of 100 to the Greater Baltimore on the earliness of yield up to July 31st, the ratings of the other varieties were found to be as follows:

Bonny Best, 79.5; New Globe, 62.1; Marhio, 50.8; John Baer, 40.5; New Stone, 37.1; Pritchard, 35.6; Illinois Pride, 30.3; Marglobe, 22.3; Ponderosa, 15.9; Golden Queen, 14.4, and Oxheart, 0.76. In the test the Greater Baltimore was superior to all other varieties for early tomatoes. Bonny Best and New Globe were the next two best varieties to plant for early tomatoes.

By August 18th the Greater Baltimore was still leading all of the varieties with a total production of 102.5 lbs. Bonny Best was still maintaining second place with a total of 88 lbs. New Stone moved from sixth to third place with a total of 77 lbs. New Globe remained in fourth position with a total of 74.5 lbs. and Illinois Pride moved from the eighth place to the fifth with 70.25 lbs. yield. The other varieties were distributed according to their yields in the following order: Pritchard, 66.75 lbs.; Marhio, 64.25 lbs.; Golden Queen, 62.25 lbs.; Marglobe, 50.87 lbs.; John Baer, 45.87 lbs.; Oxheart, 22.75 lbs.; Ponderosa, 13.25 lbs.

After August 15th the Golden Queen was no longer harvested. Being yellow tomatoes, there was no market for them throughout the season and nearly all of them were cracked badly. No select tomatoes were harvested from the Golden Queen at any time.

On October 2nd the last pickings were made and the following totals were recorded:

Greater Baltimore, 178.5 lbs.; New Stone, 175.5 lbs.; Illinois Pride, 157.5 lbs.; Bonny Best, 151 lbs.; Pritchard, 140 lbs.; New Globe, 133.5 lbs.; Marglobe, 125.87 lbs.; Marhio, 125.25 lbs.; John Baer, 122.87 lbs.; Oxheart, 80.75 lbs., and Ponderosa, 73.25 lbs.

If the tomatoes were ranked on the basis of total production and the highest producer were given a rating of 100 it would be found that the following ratings may be accorded to the varieties: Greater Baltimore, 100; New Stone, 98.3; Illinois Pride, 88.2; Bonny Best, 84.6; Pritchard, 78.4; New Globe, 74.8; Marglobe, 70.5; Marhio, 70.3; John Baer, 68.8; Oxheart, 45.2, and Ponderosa, 41.0.

If one were to choose varieties on yield alone it would probably be well for him to choose the tomatoes on the above rating scale, but this basis may lead to disappointment, for not all of the above yields were select tomatoes. From August 14th through August 29th, the tomatoes were graded into select and culls because the price paid for select tomatoes warranted the grading. It was found that wide differences in the percentage of good select tomatoes occurred between varieties. During the time of grading the following percentages of first select tomatoes were found:

Illinois Pride, 62.4%; Pritchard, 51.6%; Bonny Best, 51.3%; New Stone, 42.7%; Greater Baltimore, 33.9%; Marglobe, 31.9%; Ponderosa, 31.6%; Marhio, 30.3%; John Baer, 23.5%; New Globe, 14.5%; Oxheart, 12%, and Golden Queen, 0.0%.

Using the above percentages and assuming that the same percentages prevailed throughout the season, an attempt was made to rank the varieties according to the amount of select tomatoes which would have been produced. The total yields of first grade tomatoes were found to be for the varieties as follows:

Illinois Pride, 98.28 lbs.; Bonny Best, 77.4 lbs.; New Stone, 74.94 lbs.; Pritchard, 72.2 lbs.; Greater Baltimore, 60.5 lbs.; Marglobe, 40.19 lbs.; Marhio, 37.95 lbs.; John Baer, 28.85 lbs.; Ponderosa, 23.15 lbs.; New Globe, 18.3 lbs.; Oxheart, 9.69 lbs., and Golden Queen, 0.0 lbs.

If we allot 100 as a basic figure for the best producer of select tomatoes we have the following ratings:

Illinois Pride, 100; Bonny Best, 78.8; New Stone, 76.3; Pritchard, 73.5; Greater Baltimore, 61.6; Marglobe, 40.9; Marhio, 38.6; John Baer, 29.3; Ponderosa, 23.6; New Globe, 18.6; Oxheart, 9.9, and Golden Queen, 0.0.

During a season such as occurred in 1936 when earliness of yield is not considered, Illinois Pride should be found as an excellent variety to plant in central Illinois. Bonny Best, New Stone and Pritchard are also good yielders in central Illinois.

In conclusion, it may be advisable to set out a few plants of Greater Baltimore in the home garden, if no Fusarium wilt is present and early tomatoes are wanted. Bonny Best is a good early producer as well as a high yielder, but is susceptible to wilt. Marhio and John Baer are best resistant varieties to plant for early tomatoes.

For best production of graded tomatoes, Illinois Pride, a wilt resistant variety, is a favorable variety to plant in central Illinois during a dry season such as occurred in 1936. Pritchard, another resistant variety, is a good variety for fertile prairie soils. If wilt is not present Bonny Best, New Stone and Greater Baltimore have merits in central Illinois.