3 Tomato Varieties for Machine Harvest Listed

The release of three processing tomato varieties which are suitable for machine harvest have been announced by the U. S. Department of Agriculture and horticultural specialists at Pennsylvania State University

The three varieties—Merit, Red Rock, and Potomac—all have better field crack resistance and ripe fruit burst resistance than the present round varieties now commercially grown in the East, reports Robert F Fletcher, Extension vegetable crops specialist, and R W Hepler, associate professor of plant breeding, both at Penn State

They point out that resistance of Red Rock is the best ever noted in a round type

Test results obtained in Pennsylvania are based on field trials in commercial tomato production areas through the cooperative efforts of American Home Foods, Inc , Furman Canning Company, U S Department of Agriculture Plant Science Research Division, ad hoc tomato advisory committee, and the Penn State College of Agriculture during the 1970 and 1971 growing season

MERIT

Merit (tested as 69B46 and 70B821) is a medium early maturing, small-vined type with good fruit ripening concentration Merit possesses the jointless character and resistance to Fusarium and Verticillium wilts Immature fruit color is uniform green The fruits have good resistance to field cracking, but will show some ripe fruit bursting on the vine after heavy rains

The fruits handle well in a machine (resistance to machine damage or breakage) They do not shatter from the vine at the point of machine pickup. Vine-fruit separation in the machine is easy

Average fruit size in Pennsylvania trials ranges from 0.14 to 0 16 pounds. The fruits are round and have a small stem scar and core With the jointless character, less than one per cent of the fruits harvested have stems. The fruits looked good when processed as a noncored whole pack This variety can also be used for products Color is good Solids and pH are average.

Merit can be either direct-seeded or transplanted As a transplant, spacing should be no more than 12 inches in-row Direct-seeded spacings of 8 to 12 inches between clumps are recommended

RED ROCK

Red Rock (tested as 69B281 and 70B831) is a mid-season to mid-late maturing variety with a medium sized vine This variety possesses the immature uniform green fruit color and jointless characteristics It is also resistant to gray leaf spot, Fusarium and Verticillium wilts The fruits have excellent resistance to field cracking and ripe fruit bursting

The fruits are exceptionally firm and handle very well through a machine They do not shatter at the point of machine pickup This variety was found to be more difficult for vine-fruit machine separation with some of the machines used than with other varieties tested The fruits show extremely good field vine storage This character allows for good concentration of ripe fruits

Average fruit size in Pennsylvania trials ranges from 0 16 to 0 19 pounds. The fruits are round to deep round in shape. Color is excellent, solids are better than average and pH is average.

Red Rock can be either direct-seeded or transplanted

Nitrogen management on this variety is critical. Too much nitrogen will cause excessive vine growth, especially in direct-seeded planting.

POTOMAC

Potomac (tested as 69B781 and 70B843) is indicated by the U. S. Department of Agriculture to be earlier than C28 in maturity. Pennsylvania trials have shown the variety to have the same maturity as C28 or to be a little later.

Potomac has a medium-compact to medium size vine It is a free flowering type making for good concentration of fruit set Potomac is resistant to gray leaf spot, Fusarium and Verticillium wilts.

The fruits are elongated in shape with fruit size averaging 0 15 pounds Immature fruit color is uniform green The fruits show good field crach resistance Ripe fruit burst resistance is intermediate between Merit and Red Rock

The fruits are firm and handle very well in a machine Vine-fruit machine separation is very good. The variety is not a jointless type so there will be stems on the fruit harvested The number of stems on fruit will be comparable to pear and normal hand-pick round types Fruit color is good, solids are average to better than average and pH is average

Potomac can be either direct-seeded or transplanted The foliage color of the plants is light green to yellow green The plants appear to need nitrogen when it is not needed.

SEED AVAILABILITY

Seed for reproduction by seed companies has been distributed by the U. S. Department of Agriculture for winter seed increases so that seed will be available for the 1972 planting season. Fletcher and Hepler feel these varieties should be tried by processors and growers to gain experience and become better acquainted with the cultural requirements and practices for machine harvest varieties.

Companies that have obtained seed for reproduction from the U. S. Department of Agriculture are·

A L. Castle, Inc., P.O Box 877, Morgan Hill, California 95037

Ferry-Morse Seed Co , Box 100, Mountain View, California 94040

Joseph Harris Co , Inc., Moreton Farm, Rochester, New York 14624

Keystone Seed Co., P.O. Box 1438, Hollister, California 95023

Peto Seed Co , Inc , P.O Box 4206, Staticoy, California 93003.

International Crops New Study Topic

Competency in worldwide crop production is the goal of one of the newest phases of international programs in the College of Agriculture at Pennsylvania State University.

Now is its third year, the objective is to develop specialized abilities among Penn State's faculty and graduate students, according to Dr. Robert E. Swope, Coordinator of International Programs in the College of Agriculture.

The program seeks to increase the number of scientists interested in and capable of assisting in agricultural developments outside of the United States. Opportunity is provided for graduate students to obtain experience in crop production research involving India and other developing nations

In charge of international crop production is Dr. Richard H Cole The five-year activities are supported by a grant from the U S. Agency for International Development (USAID).