TSH44

Fruit lye peeled at 18% for 60 seconds at 95°C

Executive Summary

TSH44 matures about the same time or earlier than H5108 or H1014 with higher yield, similar size and solids, but superior colour for both paste and wholepack. Fruit will hold for an extended period of time without softening.

Description of TSH44 (98.5 days)

Over 2 years, the maturity of TSH44 was 2 days earlier than H1014 while yield was about 16% higher. Percent soluble solids, viscosity, and pulp color were similar. Fruit weight was slightly larger at 50 compared to 48 grams for H1014. Uniformity of fruit size was excellent as can be seen from the peeled fruit picture. Fruit firmness was superior due to the presence of genes reducing the amount of enzyme that causes fruit softening during ripening. This firmness and enhanced field holdability is maintained for an extended period of time (up to a month). Peeled color was significantly better than H5108. This hybrid would provide significant benefits in terms of yield, color and product recovery for both paste and whole peeled product.

TSH46

Executive Summary

TSH46 is an early crimson hybrid with good yield comparable to or better than H1014 or H1301. Higher soluble solids coupled with excellent viscosity and high color make it highly suitable for paste production. For peeled product, excellent firmness and colour will result in high recovery.

Description of TSH46 (99.3 days)

In 2021 trials, maturity of TSH46 was 1.2 and 2.4 days earlier than H1014 and H1301respectively, and about 1 day later than TSH44. Yield was 3 ton/acre more than H1014 and equal to H1301. Fruit weight was 60 grams compared to 48 grams for H1014 and 43 grams for H1301. Soluble solids were 5.9%, slightly less than 6.1% for H1301, but viscosity was much better. Colour was outstanding, due to the presence of the crimson gene, with an a/b ratio of 2.61 compared to 2.4 for both H1014 and H1301. Peeled colour was outstanding, far superior to either H1014 or H1301. Firmness was also superior to H1014, and slightly better than H1301. Size uniformity was excellent as can be seen from the peeled fruit picture.

TSH47

Executive Summary

TSH47 is a later maturing hybrid with outstanding yield and firmnesss. Fruit will hold without softening for up to a month or more reducing field and factory losses. With excellent peeled color and firmness, peeled recovery is very high. High viscosity enhances paste quality.

Description of TSH47 (112.3 days)

In 2021 trials, maturity of TSH47 was 10.6 days later later than H1301 and yield was 5.3 ton/acre more. Fruit weight was 58 grams compared to 43 grams for H1301. Soluble solids were 5.4% compared to 6.1% for H1301, but viscosity was 51% higher. Colour was similar to H1301with an a/b ratio of 2.4 for both. Peeled colour was outstanding, far superior to H1301. Size uniformity was excellent as can be seen from the peeled fruit picture. Firmness was outstanding due to the presence of a gene that reduces the amount of enzyme that causes fruit softening during ripening. This firmness and enhanced field holdability is maintained for an extended period of time (up to a month). Firmness is also enhanced by thick fruit walls and ovate fruit shape. The extremely good fruit firmness enhances field holdability and peeled fruit recovery, not only for lye peel systems, but also for steam peeled processes. This hybrid offers significant advantages in terms of maintaining high quality for an extended period of time while producing very high yields. If planted May24, harvest without Ethrel application should start on September 13 and could continue until October 13. Hence the majority of ripening and solids accumulation would occur during the most favorable time during the first two weeks of September. TSH47 would be suitable for both paste and whole peel production.

TSH48

Executive Summary

TSH48 is a crimson mid-season hybrid with outstanding yield, color and firmnesss, suitable for both wholepack and paste.

Description of TSH48 (107.0 days)

In 2021 trials, maturity of TSH48 was 5.3 days later than H1301 putting it in the mid-season category. Yield was 2.8 ton/acre more than H1301. Fruit weight was 59 grams compared to 43 grams for H1301. Soluble solids were 5.7%, slightly less than 6.1% for H1301, with similar viscosity. Colour was outstanding, due to the presence of the crimson gene, with an a/b ratio of 2.53 compared to 2.4 for H1301. The high color level can be seen in the above picture where the fruit have been cut in half. Peeled colour was outstanding, far superior to H1301. Firmness was also excellent. Size uniformity was excellent as can be seen from the peeled fruit picture. It should provide high recovery for wholepeel, and result in excellent paste with high color.

YIELD AND QUALITY RESULTS FROM REPLICATED PLOTS AT TOMATO SOLUTIONS - 2019/2020

HYBRID	DAYS TO HARVEST	*TOTAL YIELD T/AC	FRUIT WT (G)	PEELED COLOR RATING 0=VERY GOOD 9=VERY POOR	PEELED FRUIT FIRMNESS 0=VERY GOOD 9=VERY POOR	VISCOSITY (SECONDS THRU SAUCE TUBE) HIGHER IS THICKER	% SOLUBLE SOLIDS	a/b COLOR RATIO
** TSH43	97.4	36.3	60.4	2.6	2.3	11.4	6.0	2.56
** TSH04	97.6	35.0	46.8	3.0	2.6	10.1	5.6	2.42
** TSH44	98.5	46.4	50.0	2.8	2.6	11.5	5.5	2.44
* TSH46ogc	99.3	43.0	60.0	1.0	0.0	12.4	5.9	2.61
** H1014	100.5	40.0	48.0	2.6	3.2	11.1	5.5	2.42
* H1301	101.7	43.2	43.0	3.3	1.0	9.2	6.1	2.4
* TSH48ogc	107.0	46.0	59.0	0.0	1.0	9.5	5.7	2.53
* TSH47	112.3	48.5	58.0	1.0	0.0	13.9	5.4	2.36

* INDICATES DATA FROM 2021 ONLY

** INDICATES AVERAGE OF 2 YEARS

YIELD: Yields were recorded from plots planted at a 4 foot row spacing and 16 inch plant spacing for a population of approximately 8200 plants per acre. For small vine size hybrids such as TSH43, TSH04, etc., it is very probable that a higher yield would be achieved than reported here when planted commercially in twin rows at a population of 12-13,000 plants per acre.