

REPORT  
of the  
TOMATO GENETICS COOPERATIVE

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## FOREWARD

The Tomato Genetics Cooperative is a group of workers who have a common interest in tomato genetics and who are organized informally for the purpose of exchanging information and germplasm stocks. Participation is voluntary and costs of activities are met by assessments to members. Membership is invited to contribute ideas and suggestions to make this organization more effective and/or expand its role.

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As of April 1983, Tomato Genetics Cooperative membership was 380 (see Directory of Members) representing 42 countries. This report has truly become an international forum for communication among tomato research workers!

Back issues of previously published issues remain available for \$3.00 per issue. Payment should accompany requests for back issues to avoid delays in handling. Back issues currently available are Volumes 10-11, 14, and 16-32.

PART I

Daskaloff, Chr., M. Konstantinova and E. Molle Inheritance of pericarp thickness in field tomato fruits.

Investigations aiming to assess the mode of "pericarp thickness" inheritance were made in relation with the breeding program for the development of tomato cultivars with fine tomato fruit appearance and quality. Three diallel crosses including 22 lines and cultivars were used for that purpose were grown in the field (March - September) during the 1976-1981 period.

Overdominance with a considerable share of dominance was observed in the inheritance of pericarp thickness. The effect of the female parent is slight. A large part of the variation is hereditary, indicating that breeding for thick fruit flesh is feasible. In the breeding of hybrid cultivars, the approximate thickness of the pericarp in  $F_1$  could be predicted on the basis of the parental cultivars.

It was also observed that in all cultivars studied, pericarp thickness was greatest in field-grown fruit. It was also found that in all genotypes studied, the pericarp is thicker when the tomato plants are grown in the field.

Georgiev, Chr. and B. Atanassova Possibilities for facilitation of tomato hybrid seed production using ps-2 sterile lines with low level stigma.

Lines combining positional (ps-2) male sterility and low level stigma have been selected. They possess the following advantages: 1. Higher productivity of flower emasculatation and a possibility

for performing it by unqualified workers; 2. insignificant percentage of self-pollination (not more than 0.08%) compared to the lines Vrabicanske nizke ps-2 and Start ps-2 (from 3 to 5%). These results could be explained by the observation of Rick and Dempsey (1969) that stigma position influences the frequency of natural self-fertilization.

Literature cited

Rick, C.M. and W.H. Dempsey. 1969. Bot. Gaz. 130(3):180-186.

Laterrot, H. Reoccurrence of Pto.

Pto, the dominant allele for Pseudomonas tomato resistance,

reported by Pitblado and Kerr (TGC 29) in some Canadian lines of tomato, is efficient against all the 163 of P. tomato isolates that we have studied.

As Pilowsky and Zutra (TGC 32), we found various resistant accessions in wild Lycopersicon species (L. pimpinellifolium, L. hisutum, L. peruvianum). We have studied the inheritance of resistance in L. pimpinellifolium PI 126937 and the allelic relation with Pto.

The study was conducted with two French strains of P. tomato isolated by Rat (INRA-Angers) according to previously described inoculation methods (Laterrot and Rat, Meeting of the Eucarpia Tomato Working Group, Avignon, France, 1981, 257-267). Results are presented in Table 1.

Table 1. Reaction of F<sub>1</sub>, F<sub>2</sub> and BC progenies from the crosses between L. pimpinellifolium accession PI 126937 and the tomato lines MONALBO (susceptible to Pseudomonas tomato) and ONTARIO 7710 (resistant to P. tomato).

Line or cross	Number of plants	
	Resistant	Susceptible
MONALBO (susceptible)	0	38
ONTARIO 7710 ( <u>Pto</u> )	42	0
PI 126937 ( <u>L. pimpinellifolium</u> )	13	0
F <sub>1</sub> : MONALBO x PI 126937	20	0
F <sub>1</sub> : ONT 7710 x PI 126937	20	0
F <sub>2</sub> : (MONALBO x PI 126937) $\bar{\times}$	99	36 (a)
F <sub>2</sub> : (ONT 7710 x PI 126937) $\bar{\times}$	151	0
BC : (MONALBO x PI 126937) x MONALBO	62	66 (b)
BC : (ONT 7710 x PI 126937) x MONALBO	129	0

(a) X<sup>2</sup> for expected ratio of 3 resistant : 1 susceptible = 0.118,  
P value = 0.50-0.70

(b) X<sup>2</sup> for expected ratio of 1 resistant : 1 susceptible = 0.075,  
P value = 0.70-0.80

The resistance of PI 126937 is governed by a single dominant allele, which is at the same locus as Pto.

Laterrot, H. Use of pollen mixture technique in interspecific cross between Lycopersicon esculentum and L. peruvianum.

The breeding value of L. peruvianum is well known but crosses with the tomato remains difficult. Different methods are used by breeders

to obtain F<sub>1</sub> hybrids and plants of the first backcross.

We have successfully used the technique of pollen mixture to facilitate hybridization.

Emasculated flowers, of a tomato line bearing a recessive seedling marker gene, are pollinated with a 1:1 mixture of tomato and L. peruvianum pollen.

Many seeds are obtained, however, only seedlings without the marker gene are hybrids. This technique, but without the marker gene, was first used in 1965, to obtain the first backcross from which the PEROU line (Tm-2 without ny) was developed; the F<sub>1</sub> hybrids had been obtained by in vitro culture of immature seeds.

The pollen mixture technique, with a tomato line bearing a recessive marker gene as female parent, was used in 1978 to obtain F<sub>1</sub> hybrids and again in 1980 to realize the first backcross in the CMV partial resistance program (marker genes aa for the F<sub>1</sub> and c for the backcross). On the same F<sub>1</sub> hybrids we have obtained the first backcross for Tomato Yellow Leaf Curl Virus (TYLCV) resistance with ag as marker.

With this technique, 1 to 5 hybrids per 100 pollinated flowers are obtained. It is probably possible to improve this technique by using a male sterile line to eliminate emasculation of the female parent. In this case the tomato pollen comes from a male-fertile line bearing the same marker gene as the female line. Efficiency of the method might also be enhanced by double pollination; the first by L. peruvianum and the second a short time later, with tomato pollen.

The screening for tomato varieties and of environmental conditions resulting in a higher percentage of interspecific hybrids with L. peruvianum could be interesting.

Laterrot, H. and K.M. Makkouk

Selection for partial resistance to  
Tomato Yellow Leaf Curl Virus (TYLCV).

Resistance of L. pimpinellifolium  
(LA 121) to yellow leaf curl  
virus (TYLCV), as demonstrated  
by Pilowsky and Cohen (Phytopath.

1974. 64(5):332-335), is expressed, under natural conditions of infection, in summer, in Jordan and Lebanon. LA 121 plants show later and less severe symptoms as compared to the susceptible cultivars.

A breeding program was conducted starting with F<sub>2</sub> plants selected in Jordan and Lebanon from the crossing of PORCIMOR [(Tm2<sup>2</sup>, Tm1) x LA 121]. Fifty-four F<sub>2</sub> plants were selected from 267 plants inoculated by grafting with TYLCV-infected tissue.

Subsequent TYLCV selection was always conducted in Lebanon under natural conditions of infection, with the susceptible controls being 100% infected.

The program undertaken has involved 5 cycles of selection for TYLCV resistance (T), 2 backcrosses (BC), the first using MARMOR (a line of the Marmande type with Ve, Tm2<sup>2</sup>) and the second with MARSOL (a line of the Marmande type with Ve, I, Mi). Four cycles of intercrossing (I) within offspring obtained from selfing of resistant plants were also performed (Figure 1). During this program, we have also tried to select TMV-resistant plants.

Figure 1. Scheme for deriving LATYLC.

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- T - ☒ - T - ☒ - BC - I - T - ☒ - BC - I - T - ☒ - I - T - ☒ - I -

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Final intercrossing using 37 plants from 37 TYLCV resistant selections resulted in a population which has been named LATYLC.

The next step is

During selection, it was noticed that partially resistant plants are capable of producing fruits, while susceptible ones are not. TYLCV control by partial resistance, chemical sprays, and/or by cultural practices, should lead to better production. At the same time, work is in progress to incorporate the high level of L. peruvianum resistance to TYLCV into tomatoes.

LATYLC should be considered as an improved genetic source for partial resistance to TYLCV. It bears fruits of various sizes and shapes and shows segregation for the gene sp and probably for the genes Tm2<sup>2</sup>, Ve, I and Mi.

Lemke, C.A. and M.A. Mutschler  
Incompatibility between *Solanum pennellii* and *Lycopersicon esculentum*.

though pollen grains germinated and pollen tubes grew at variable rates. However, twelve seeds from the cross, (line 72-34-C x S. pennellii, P.I. 246502) x 72-34-C were successfully produced in the greenhouse during January 1982. This seed was viable and two plants were produced from the six seeds planted. It is unlikely that this seed was the result of an accidental self-pollination since crosses were made in the greenhouse and the F<sub>1</sub> are unable to produce fruit without controlled pollinations as they have exerted styles. In addition, leaf shape and size of the plants produced from this cross resembled L. esculentum more than F<sub>2</sub> progeny. Further studies of incompatibility relationships between L. esculentum and S. pennellii are underway.

Rick (1960) reported that the cross, (L. esculentum x S. pennellii, P.I. 246501) x L. esculentum, was unsuccessful in producing viable seed even

#### Literature cited

Rick, C.M. 1960. Hybridization between *Lycopersicon esculentum* and *Solanum pennellii*: Phylogenetic and cytogenetic significance. Proc. Nat. Acad. Sci. 46:72-82.

Lemke, C.A. and M.A. Mutschler The inheritance of pseudostipules in progeny of *L. esculentum* x *S. pennellii*.

The inheritance of pseudostipules in progeny derived from *L. esculentum* x *S. pennellii*, (P.I. 246502) has not previously been reported. This trait is present

in *S. pennellii*, absent in *L. esculentum*, and is expressed with complete dominance in the F<sub>1</sub>. Pooled F<sub>2</sub> and BC<sub>1</sub> data for presence vs. absence of pseudostipules fit 15:1 and 3:1 ratios, respectively (Table 1), although the size of pseudostipules is variable in the F<sub>2</sub>. However, it is important to note that germination in the F<sub>2</sub> populations derived from these crosses ranged from 30% to 50%. Poor germination implicates post-zygotic eliminations of F<sub>2</sub> individuals. Backcross generations germinated as well as the tomato parents and the F<sub>1</sub> populations (95-99%). Rick (1969; 1972) suggested that differential elimination of recombinant gametes and zygotic products could account for at least part of the reduction in recombination and distorted monogenic ratios found in his studies. Selective elimination would have an impact on the observations taken on these traits. If selective elimination had taken place, it is likely that the number of genes controlling this trait would be underestimated.

Table 1. Inheritance of Pseudostipules.

Population	Pseudostipules	No Pseudostipules	$\chi^2$ (15:1 or 3:1)
1	17	0	
2	0	45	
(2x1) F <sub>1</sub>	12	0	
(2x1) F <sub>2</sub>	92	6	0.01
(2x1) x <sub>2</sub>	21	8	0.08
(2x1) x <sub>1</sub>	21	0	
3	0	46	
(3x1) F <sub>1</sub>	12	0	
(3x1) F <sub>2</sub>	105	11	2.07
(3x1) x <sub>3</sub>	16	12	4.76*
(3x1) x <sub>1</sub>	8	0	
4	0	41	
(4x1) F <sub>1</sub>	12	0	
(4x1) F <sub>2</sub>	130	5	1.20
(4x1) x <sub>4</sub>	25	1	5.42*
(4x1) x <sub>1</sub>	23	0	
5	0	42	
(5x1) F <sub>1</sub>	12	0	
(5x1) F <sub>2</sub>	77	3	0.85
(5x1) x <sub>5</sub>	19	8	0.38
(5x1) x <sub>1</sub>	27	0	
	df	F <sub>2</sub>	BC <sub>1</sub>
Total	4	4.12	10.64
Pooled	1	0.16	0.11
Homogeneity	3	3.96	10.53*

\*, \*\* Significant at 5 and 1% levels, respectively.

Population:

- 1 S. pennellii
- 2 'VF Vendor'
- 3 'New Yorker'
- 4 'New York 402'
- 5 line 72-34-C

Literature cited

- Rick, C.M. 1969. Controlled introgression of chromosomes of Solanum pennellii into Lycopersicon esculentum: Segregation and recombination. Genetics 62:753-768.
- Rick, C.M. 1972. Further studies on segregation and recombination in backcross derivatives of a tomato species hybrid. Biol. Zentralbl. 91:209-220.

Lin, S., W.L. George and W.E. Splittstoesser The parthenocarpic trait (pat-2) of the tomato cultivar Severianin was incorporated into two different stigma exsertion lines, EX-1 and EX-2 (Scott and George, 1980, Euphytica 29:135-144). Two F<sub>4</sub> lines designated EX-1 Parth and EX-2 Parth were used to produce F<sub>1</sub> hybrid seed without emasculation of the female parent. Under glasshouse environments it is possible to use parthenocarp with stigma exsertion to reduce selfing contamination in hybrid seed production (Table 1).

Table 1. Selfing contamination and seedless fruit production from crosses of exserted, nonparthenocarpic and exserted, parthenocarpic lines.<sup>z</sup>

Female line (genotype)	Field study		Glasshouse study	
	% potato-leaf plants ( <u>c</u> )	% seedless fruits	% potato-leaf plants ( <u>c</u> )	% seedless fruits
EX-2 ( <u>pat-2</u> <sup>+</sup> , <u>ps</u> , <u>c</u> )	-	0	6.5	0
EX-1 Parth ( <u>pat-2</u> , <u>ps</u> <sup>+</sup> , <u>c</u> )	8.2	12	3.0	2
EX-2 Parth ( <u>pat-2</u> , <u>ps</u> , <u>c</u> )	1.0	15	0.8	4

<sup>z</sup>Crosses were made in July 1980 and December 1980 to February 1981 for the field and glasshouse studies, respectively. The pollen parent was Severianin (pat-2, ps<sup>+</sup>, c).

In the two parthenocarpic, exserted lines, EX-1 Parth and EX-2 Parth, selfing contamination in the glasshouse study was 3.0% and 0.8%, respectively, which is significantly less than the 6.5% found in the EX-2 control. The EX-2 Parth line which also has positional sterility has the least selfing contamination in both glasshouse and field environments.

Several F<sub>1</sub> hybrid seed production schemes have been proposed in tomato using in seed parents various male sterility genes with and without exserted stigmas to eliminate emasculation. Using stigma exsertion leads to F<sub>1</sub> plants with exserted stigmas which can result in fruit-set problems. Parthenocarp controlled by pat-2 might be used in an F<sub>1</sub> hybrid seed production scheme by using stigma exsertion in the seed parent and having both parents homozygous pat-2/pat-2. The F<sub>1</sub> hybrid produced (Table 2) would have the ability to set fruit parthenocarpically, and thus, the potential to overcome yield reductions due to problems of fruit setting caused by stigma exsertion in the F<sub>1</sub> hybrid.

Table 2. Total fruit number and percentage of parthenocarpic fruit.<sup>z</sup>

Line/cross	Parthenocarpic genotype	Total number fruit per plant	% parthenocarpic fruit
Severianin	<u>pat-2/pat-2</u>	22	68
Heinz 1350	<u>pat-2</u> <sup>+</sup> / <u>pat-2</u> <sup>+</sup>	14	0
Severianin X Heinz 1350	<u>pat-2</u> <sup>+</sup> / <u>pat-2</u>	9	0
EX-2 Parth X Severianin	<u>pat-2/pat-2</u>	33	53

<sup>z</sup>Transplanted into the glasshouse on December 7, 1980 and data collected on April 5, 1981.

However, in field environments, this scheme may not be useful because of the large percentage (12-15%) of seedless fruits that are produced after hand-pollination (Table 1). The autonomous formation of seedless fruit in certain environments probably prevents the formation of seeds. Reduced seed yield would not be acceptable in commercial hybrid seed production. This scheme should be tested in several environments in order to determine those most favorable for hybrid seed production.

Maisonneuve, B. Cold resistance of  
L. hirsutum pollen.

L. hirsutum accessions from  
high altitudes demonstrate  
tolerance to low temperatures

with respect to seed germination (Paull et al., XXth Int. Hort. Cong., Sydney, 1177, 1978) and seedling survival; at low temperatures, pollen germination from L. hirsutum (LA 1777) is also better than the pollen from L. esculentum (Zamir et al., T.A.G. 59:235-238, 1981).

Pollen quality of two L. hirsutum accessions from high altitudes, LA 1393 and LA 1777 received from C.M. Rick, has been studied. Pollen quality was estimated by the percentage of normal grains (round, smooth) after aceto-carmin staining. The plants were grown in pots in a heated glasshouse; at beginning of flowering, in April 1981, the plants were placed in a growth chamber for 7 days at 7°C. Pollen quality from flowers which were at anthesis from 5th until 17th day after the end of the cold treatment was measured (method described in Agronomie 2(8), 1982 by Maisonneuve).

Pollen quality from L. hirsutum was always superior to control pollen (Coldset and Precoce, varieties with high and low susceptibility to low temperatures) (Table 1).

These two accessions of L. hirsutum are more resistant than all the tomato varieties we have tested for quality of pollen formed at 7°C (Maisonneuve, Eucarpia Tomato Working Group, Avignon: 195-202, 1981).

Table 1. Pollen quality (% normal grains) after a seven-days-treatment at 7°C.

	Number of days after the end of the cold treatment												
	5	6	7	8	9	10	11	12	13	14	15	16	17
LA 1393	87	80	81	88	80	88	79	95	-	96	97	95	97
LA 1777	96	90	97	94	93	98	83	95	85	95	99	98	98
Coldset	84	16	21	37	47	7	0	0	1	31	75	72	97
Precoce	36	43	86	84	77	25	3	48	61	96	85	97	96

Patterson, B.D. Selection for chilling  
resistance derived from L. hirsutum.

Seedlings of L. hirsutum (the  
form from high altitudes)  
survive exposure to cold better

than seedlings of L. esculentum. However, such survival tests are not sufficiently sensitive to use as selection techniques for the transfer of chilling resistance from L. hirsutum to L. esculentum. A better selection technique was devised which is non destructive and which stimulates the

diurnal variation in cold stress experienced in the native habitat of L. hirsutum. Seedlings were germinated at 25°C and then subjected to 16-hr nights at 0°C (e.g. on melting ice) alternating with 8-hr days at 20°C. After 20 days under this regime, seedlings of L. hirsutum develop secondary leaves, but in seedlings of L. esculentum the apical meristem is damaged, and no secondary leaves are formed. In progeny of the second backcross (L. esculentum x L. hirsutum x L. esculentum) cold-resistant seedlings were selected with this method. Most of the cold resistance of L. hirsutum as measured by this test could be recovered in this second backcross line.

Philouze, J. Attempts to map pat-2.

Crosses were made between several stocks bearing marker genes on different chromosomes, and Severianin, to try to locate the pat-2 gene responsible for the parthenocarpic character of Severianin (Philouze and Maisonneuve, TGC 28, 1978). The results of the crosses are given in Tables 1, 2 and 3. No linkage relations was found with pat-2 and any of the 13 tested marker genes: ms-32 (chromosome 1), ms-10<sup>35</sup> (2), bls (3), c (6), sp (6), bs-2 (7), bu (8), dl (8), al (8), u (10), j-2 (11), hl (11), a (11). In addition, tests for disease resistance in our pat-2 breeding material revealed no linkage between pat-2 and any of the 5 genes: Mi (6), Tm-2<sup>2</sup> (9), I (11), I-2 (11) and Ve (12 ?). (TABLES 1, 2 and 3 ON NEXT PAGES).

Philouze, J. Epistatic relations between ls and pat-2.

Crosses were made between Severianin, which develops parthenocarpic fruits as a result of the pat-2 gene (Philouze and Maisonneuve, TGC 28, 1978), and lateral suppressor (ls/ls) lines, with 2 objectives: (1) localization of the pat-2 gene on the chromosome map, ls (lateral suppressor) being a marker gene on the chromosome 4, and (2) to obtain ls/ls pat-2/pat-2 recombinants. Are these recombinants interesting from a practical point of view? Is pat-2 able to overcome the very low fertility characteristic of the ls gene?

Two ls/ls lines were used: Primabel ls/ls a spontaneous mutant in the Primabel cultivar, and Monalbo ls/ls obtained by introduction after 5 backcrosses of the ls allele from LA 329 (received from C.M. Rick) in the Monalbo cultivar (a MoneyMaker type homozygous for Ve).

40 F<sub>2</sub> ls/ls plants from the cross (Severianin x Primabel ls/ls) and 40 F<sub>2</sub> ls/ls plants from the cross (Severianin x Monalbo ls/ls) were grown in a heated glasshouse in spring (planted on February 16), and 220 F<sub>2</sub> ls/ls plants from the cross (Severianin x Monalbo ls/ls) were grown in the open field (planted on April 30). No fruits of normal size developed on any of the 300 F<sub>2</sub> ls/ls plants. Small, dull, ribbed, seedless fruits, characteristic of ls/ls plants, developed on both non-pollinated emasculated flowers and open-pollinated flowers. It was impossible to screen for pat-2/pat-2 plants under these conditions. Two hypotheses could be formulated: (1) the ls and pat-2 genes are linked; (2) the ls and pat-2 genes are independant, but the ls gene prevents the expression of the pat-2 gene.

To choose between these 2 hypotheses, open-pollinated fruits from 50 F<sub>2</sub> ls/ls random plants from the cross (Severianin x Monalbo ls/ls) (F<sub>2</sub> plants

Table 1. Backcross generations: [F<sub>1</sub> (stock with marker gene x Severianin) x Severianin]; all the plants grown are classed for the marker gene and for pat-2.

Chromosome	Gene	Stock with marker gene	Number of plants (1)				$\chi^2$ (expected ratio 1.1.1.1)	Probability	
			Total	$[\underline{\mu}^+ \underline{pat-2}^+]$	$[\underline{\mu}^+ \underline{pat-2}]$	$[\underline{\mu} \underline{pat-2}^+]$			$[\underline{\mu} \underline{pat-2}]$
6	<u>sp</u>	Apédice [ <u>sp</u> <sup>+</sup> ]	30	7	8	4	11	3.32	0.10 - 0.50
		Moneymaker [ <u>sp</u> <sup>+</sup> ]	30	7	6	9	8	0.66	0.50 - 0.90

(1)  $\mu$  = mutant

Table 2. F<sub>2</sub> generations from F<sub>1</sub> (stock with marker gene x Severianin); all the plants grown are classed for the marker gene and for pat-2.

Chromosome	Gene	Stock with marker gene	Number of plants (1)				$\chi^2$ (expected ratio 9.3.3.1)	Probability	
			Total	$[\underline{\mu}^+ \underline{pat-2}^+]$	$[\underline{\mu}^+ \underline{pat-2}]$	$[\underline{\mu} \underline{pat-2}^+]$			$[\underline{\mu} \underline{pat-2}]$
6	<u>sp</u>	Apédice [ <u>sp</u> <sup>+</sup> ]	50	29	8	12	1	2.42	0.10 - 0.50
		Moneymaker [ <u>sp</u> <sup>+</sup> ]	120	64	23	23	10	1.03	0.50 - 0.90
8	<u>dl</u>	LA 897	46	32	9	4	1	5.17	0.10 - 0.50
	<u>al</u>	LA 897	46	27	8	9	2	0.39	0.90 - 0.95
10	<u>u</u>	Moneymaker	120	62	27	25	6	1.93	0.50 - 0.90
11	<u>j-2</u>	Europeel	150	93	20	23	14	6.45	0.05 - 0.10

(1)  $\mu$  = mutant

Table 3. F<sub>2</sub> generations from F<sub>1</sub> (stock with marker gene x Severianin); the plants are classed before plantation for the marker gene and after plantation for pat-2.

Chromosome	Gene	Stock with marker gene	Phenotype	Number of plants			$\chi^2$ (expected ratio 3.1)	Probability
				Total	[ <u>pat-2</u> <sup>+</sup> ]	[ <u>pat-2</u> ]		
1	<u>ms-32</u>	Monalbo	[ <u>ms-32</u> ]	43	30	13	0.63	0.10 - 0.50
2	<u>ms-10</u> <sup>35</sup>	Porphyre	[ <u>ms-10</u> <sup>35</sup> ]	107	77	30	0.52	0.10 - 0.50
		[ <u>ms-10</u> <sup>35</sup> aa]						
3	<u>bls</u>	Minimonk	[ <u>bls</u> <sup>+</sup> ]	40	30	10	0	-
			[ <u>bls</u> ]	40	26	14	2.13	0.10 - 0.50
6	<u>c</u>	Apédice	[ <u>c</u> <sup>+</sup> ]	50	41	9	1.31	0.10 - 0.50
			[ <u>c</u> ]	10	9	1	1.20	0.10 - 0.50
7	<u>bs-2</u>	Pieralbo	[ <u>bs-2</u> <sup>+</sup> ]	40	26	14	2.13	0.10 - 0.50
			[ <u>bs-2</u> ]	54	45	9	2.00	0.10 - 0.50
8	<u>bu</u>	LA 897	[ <u>bu</u> <sup>+</sup> ]	46	36	10	0.27	0.50 - 0.90
11	<u>hl, a</u>	LA 925	[ <u>hl</u> <sup>+</sup> <u>a</u> <sup>+</sup> ]	48	35	13	0.11	0.50 - 0.90
			[ <u>hl</u> <u>a</u> <sup>+</sup> ]	18	14	4	0.08	0.50 - 0.90
			[ <u>hl</u> <sup>+</sup> <u>a</u> ]	13	7	6	3.11	0.05 - 0.10
			[ <u>hl</u> <u>a</u> ]	36	30	6	1.33	0.10 - 0.50

grown in the open field), were harvested. A few seeds were obtained from 25 plants only. The germination of these seeds was very low, and it was possible to follow the F<sub>3</sub> offspring of only 9 F<sub>2</sub> plants. One F<sub>3</sub> plant issued from each of the 9 F<sub>2</sub> plants was used as male parent to make crosses with pat-2/pat-2 ls<sup>+</sup>/ls<sup>+</sup> material. Four "F<sub>1</sub>" plants with the same male parent (total: 36 "F<sub>1</sub>" plants), and 2 plants of both of the control varieties Severianin and Monalbo, were grown in a heated glasshouse in spring (planted on March 30). The plants were considered parthenocarpic when 5 to 7 fruits developed on the first truss, from a maximum of 7 non-pollinated emasculated flowers, and when the size of seedless fruits from open-pollinated flowers was comparable to that of seeded fruits on the same plant.

The 9 F<sub>3</sub> ls/ls plants could be classed in the following genotypes: 2 +/+, 5 pat-2/+ and 2 pat-2/pat-2 (Table 1). The expected ratio for independence between ls and pat-2 is 3/8, 2/8 and 3/8. The  $\chi^2$  : 4.48 is not significant (0.10 < P < 0.50). It can be concluded that the ls and pat-2 genes are independent and that, in presence of ls, pat-2 is unable to express its ability to develop parthenocarpic fruits of normal size. In other words, as far as fruit-setting ability is concerned, ls is epistatic to pat-2.

Table 1.

F <sub>3</sub> <u>ls/ls</u> plants from the cross (Severianin x Monalbo <u>ls/ls</u> )	Number of plants of the "F <sub>1</sub> " hybrids ( <u>pat-2/pat-2</u> <u>ls<sup>+</sup>/ls<sup>+</sup></u> material x F <sub>3</sub> plant)			Genotype of the F <sub>3</sub> plants
	Total	( <u>pat-2+</u> )	( <u>pat-2</u> )	
5-1	4	2	2	<u>pat-2/+</u>
25-1	4	0	4	<u>pat-2/pat-2</u>
27-1	4	3	1	<u>pat-2/+</u>
43-1	4	0	4	<u>pat-2/pat-2</u>
69-1	4	2	2	<u>pat-2/+</u>
132-1	4	4	0	<u>+/+</u>
161-1	4	2	2	<u>pat-2/+</u>
176-1	4	4	0	<u>+/+</u>
196-1	4	2	2	<u>pat-2/+</u>
<hr/>				
Control varieties	Number of plants			Genotype
Severianin	2	0	2	<u>pat-2/pat-2</u>
Monalbo	2	2	0	<u>+/+</u>

Rick, C. M. Crossability between L. esculentum and a new race of L. peruvianum.

Crosses between L. esculentum and L. peruvianum generally succeed only with the intervention of embryo culture. Various methods

of circumvention have been devised, including Gunther's esculentum-peruvianum chimera and Hogenboom's selecting for congruity in highly inbred peruvianum. In both examples  $F_1$  progeny are produced if the derived stocks of L. peruvianum are used as female parents.

In our routine testing of accessions from the northern range of the species, we encountered a race from northern Dept. Cajamarca that differs markedly from all others that we have tested. Two accessions of the same morphology and crossability relations belong to this race: LA1708 collected by Carlos Ochoa between Chamaya and Jaen, and LA2122 collected by us in 1980 near Cuvita along Rio Chamaya. This race shows the general morphological features of L. peruvianum from the Marañon drainage -- small, straight anther tubes, unbranched inflorescences, and slender elongate stems. Amongst the more familiar peruvianum races, var. humifusum shows considerable resemblance with the Chamaya-Cuvita material. The latter is also partially isolated from other races by a fairly high  $F_1$  gamete sterility that has no apparent chromosomal basis that can be detected in meiosis. A long chain of crossabilities links the Chamaya-Cuvita race with the remainder of L. peruvianum.

Several esculentum ms stocks were mated with individual plants of both accessions under field conditions on several occasions. The results were generally consistent -- good fruit set and much more ovule development than crosses with other peruvianum accessions. Occasional seeds develop to maturity and germinate without special aids. Their frequency approximated 1 hybrid seed per five fruits. The crosses also yielded other viable seeds, but these proved to be of pure esculentum phenotype, and their fertility and other features suggest parentage from stray contaminating pollen from surrounding plants. Altogether, this picture of seed development somewhat resembles, but, if any different, more advanced, than that of crosses between L. esculentum and L. chilense. The similarity in crossing relations with L. chilense seems only superficial because they are at morphological extremes and their crossability with L. chilense is equal to that of the other Marañon races.

The  $F_1$  hybrids show the expected hybrid phenotypes, have great vigor, and their gamete fertility is reduced to about 25% of normal. Except for a slightly reduced chiasma frequency, their meiosis is normal. Although the  $F_1$ 's have the self-incompatibility typical of esculentum-peruvianum hybrids, crosses between intercompatible  $F_1$ 's yield quantities of  $F_2$  progeny. Also typical is the obstacle to  $BC_1$  to L. esculentum, although, as in the original cross, the barrier is not as severe as in other peruvianum hybrids.

The Chamaya-Cuvita race has not been evaluated for potentially useful traits. Seeds of these interesting new accessions are available to interested colleagues.

Rick, C. M. Transgression for exserted stigma in a cross with L. pimpinellifolium.

The most exserted, largest-flowered biotypes of L. pimpinellifolium hail from NW Peru. An accession (LA1581)

from this area (Cuculi, Dept. La Libertad) with exsertion of +1 to +2 mm was selected for hybridization and transfer of the character to L. esculentum cv

VF36 (LA490) with stigma insertion of -2 to -3 mm. Inheritance appears to be polygenic and additive, although with some degree of dominance for the wild trait -- a feature that abetted selection in each successive BC. The project was conducted on a tiny scale, yet, following BC<sub>2</sub> and three selfed generations under intense selection, it was possible to fix a high level of exertion, the maximum lines with values of +3.5 to 4.5 -- at least twice as much as the exertion of the high parent. Tanksley et al. (Heredity 49:11-25, 1982) also observed transgression for exertion in a more recent experience with BC<sub>1</sub> L. esculentum x F<sub>1</sub> with L. pennellii. The plants of these derivatives (LA2380) have small determinate habit and produce fruits of large cherry dimensions.

Another consistent feature of these derivatives is low fruitfulness: their natural fruit set in the greenhouse is nil; in the field, very low. The response to selfing and outcrossing to other esculentum lines is also poor. Since the parent lines, F<sub>1</sub>, and BC's had high fertility, the problem seems to be vested in the only observed change, i.e. elongated styles. Presumably these style lengths represent the maximum limits that pollen tubes can traverse. An identical problem was encountered in, of all things, a naturally-occurring population (LA1917) of L. peruvianum with greatly exerted stigmas from Llauta (Dept. Ica), Peru. Although our seed supplies are limited by low fertility, small samples of LA2380 are available for interested investigators.

Scott, J. A. and J. D. Farley A mutant  
with reduced side shoots.

A mutant was found in 'Ohio  
M-R13' which had no normal  
lateral branching (suckers).

Characteristics of this mutant are: reduced side shoots at the leaf axils - often there are a few normal laterals near the basal nodes, some internodal side shoots, bifurcation(s) of the main stem, and only 1 to 2 flowers per truss. Genetic work indicates this mutant is a single recessive gene and it is not allelic to bl. No linkage was detected with y, ps, d, r, c, gs, l, or a.

In order to improve flowering, crosses were made to mult, mup, pol, and fa. Selections were made in the F<sub>2</sub> and F<sub>3</sub> generations. Slight increases in flowering were occasionally found with pol, a greater number of plants with improved flowering was seen with mup and the best results were obtained with fa. The best F<sub>3</sub> selection for good flowering and limited suckers had a range of 3-7 ( $\bar{x}$ =4) flowers per truss, no normal side shoots, 1 bifurcation, 3 internodal suckers, and good fruit set. Thus far no plant has been obtained combining greater than 2 flowers per truss with no sideshoots. Each time a plant has no sideshoots it also has only 1 or 2 flowers per truss. However, it does appear possible to obtain reasonably good fruit set with limited sideshoot formation. The name suckerless and symbol sul, is proposed for this mutant.

Tanksley, S. D. and L. M. Harris Pgi-1  
6Pgdh-2, and Est-4 are on chromosome  
12.

Previous research has shown that  
the enzyme-coding genes, Pgi-1,  
6Pgdh-2, and Est-4 are linked  
with the following order and

map distances: Pgi-1--8cM--6Pgdh-2--8cM--Est-4. However, until now, this linkage group has not been assigned to any chromosome. To decide this matter the following experiments were performed.

Spontaneous triploid ( $2n=36$ ) plants (L. esculentum cv. T3) were identified in a field planting and transferred to the greenhouse. These plants were subsequently used as the female parents in crosses to a diploid L. chmielewskii accession which was homozygous for an alternate allele at the Pgi-1 locus.  $F_1$  progeny from this cross were assayed electrophoretically to identify aneuploid plants possessing two doses of the esculentum allele and one dose of the chmielewskii Pgi-1 allele. Three such plants were identified. Chromosome counts revealed that two were trisomic,  $2n=25$ , while the other possessed two extra chromosomes,  $2n=26$ . The two trisomic plants, which presumably carried an extra chromosome with the Pgi-1 locus, were saved while the other plant was discarded.

Using the trisomic plants as females, crosses were made to testor stocks (L. esculentum) carrying recessive markers of known chromosomal positions. The  $F_1$ 's were selfed to produce  $F_2$  populations. The objective was to determine which chromosome was the trisome in the isolated Pgi-1 trisomics by observing disomic or trisomic segregation ratios for the marker genes. The table below summarizes the results.

$F_1$ ( $2n=25$ )	$F_2$ ratio (+:mut)	$\chi^2$ (3:1)	Prob.
<u>Pgi-1</u> ( $2n=25$ ) x <u>sf</u> (chrom. 3)	61:30	3.08	0.079
<u>Pgi-1</u> ( $2n=25$ ) x <u>alb</u> (chrom. 12)	195:22	25.56	0.000
<u>Pgi-1</u> ( $2n=25$ ) x <u>ag</u> (chrom. 10)	91:42	3.07	0.079
<u>Pgi-1</u> ( $2n=25$ ) x <u>tf</u> (chrom. 5)	61:17	0.43	0.578
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$F_1$ ( $2n=24$ )			
<u>Pgi-1</u> ( $2n=25$ ) x <u>alb</u> (chrom. 12)	134:40	0.38	0.538

Only in the  $F_2$  progeny of the cross to the chromosome 12 marker (alb) did the segregation ratio deviate from the expected 3:1 with a probability of less than 0.05. In this case the ratio was in the range of a trisomic ratio (195:22 or 9:1). To eliminate the possibility that such a skewed segregation was due to the interspecificity of the original crosses and not a true trisomic segregation, a diploid  $F_1$  from the same cross was selfed and the  $F_2$  examined for segregation of the alb marker. In this case, the ratio was very near the expected 3:1 (see table). A chi-square test of heterogeneity revealed that segregations in the trisomic and diploid progeny were indeed different ( $\chi^2 = 8.51$ ,  $p = 0.004$ ). These data thus establish that Pgi-1 is on chromosome 12. It follows that 6Pgdh-2 and Est-4 also reside on the same chromosome.

Udin, A. S. and C. Petrescu

An experiment was carried out to study the variability and heritability of some morphological

characters of tomato such as length of leaf and internode, plant height, number of inflorescences and fruits per plant, fruit weight, yield per plant and number of locules per fruit. The experiment conducted with 4 parents, 4 F<sub>1</sub> hybrids, 4 F<sub>2</sub> hybrids, 4 BC<sub>1</sub> and 4 BC<sub>2</sub> in the period of 1981-1982 revealed a series of conclusions which are as follows:

1. Hybridization remains the basic method of breeding for increasing the genetic variability in tomato.
2. The mean values of all quantitative characters showed the genetical differences of parents taken in the study.
3. The mean values of F<sub>1</sub> hybrids for all characters were found to be higher than those of their parents suggesting over dominance.
4. The extent of variability was smaller in F<sub>1</sub> populations than both parental and segregated populations for all the characters except the number of locules per fruit.
5. The coefficient of variation was found to be highest for yield per plant and smallest for leaf length both in parental and hybrid populations.
6. From the analysis of variance of the effect of gene action it was ascertained that the effect of additivity and dominancy appeared significant for all the characters.
7. The coefficient of heritability was found to be high for length of leaf and internode, plant height, number of inflorescences and fruits per plant and number of locules per fruit and small for fruit weight (0.23-0.35) and yield per plant (0.24-0.38).
8. The analysis of phenotypic correlations emphasizes the importance of leaf length, plant height, number of inflorescences and fruits per plant and fruit weight in selection for yield.
9. All hybrid combinations manifested positive heterosis in comparison with the better parent for all characters except the number of locules where all the hybrid combinations showed negative heterosis.
10. Maximum effect of heterosis calculated in comparison with the better parent was 22.6% for leaf length, 1.9% for internode length, 6.9% for plant height, 5.6% for number of inflorescences per plant, 9.2% for number of fruit per plant, 16.5% for fruit weight and 67.2% for yield per plant.

Wagner, T. P. Wagner 81-2, an early maturing hybrid with ripe fruit remaining in edible condition up to six months without refrigeration.

After testing hundreds of hybrids with one parent being the non-ripening (nor) germ-plasm as obtained from the TGC, one line (81-2) proved to

be exceptional in self life. The slightly slow ripening fruits were picked in the greenhouse in November 1980, and kept at room temperature. The large red cherry fruits remained in turgid and tasty condition for up to six months until April. It has been well documented that nor hybrids have a desirable slow - ripening character. This hybrid (81-2) has the added feature of superior quality of texture from the high pectin content. The female parent adding the higher pectin is 77-280, a frost tolerant selection

obtained from R. W. Robinson of New York. This selection is very early allowing the  $F_1$  to be much earlier than most nor hybrids. Wagner 81-2 tested in Ontario in 1981 was in the top 10% based on earliness of over 100 cultivars in observation trials at Simcoe, Ontario. The earliness and superior shelf life of this clone justified additional observation. Breeding is being done to increase size and pectin content along with crimson gene factors and pathogen tolerance. This researcher wishes to cooperate with others on this study.

Zamir, Daniel and Eduardo Vallejos

Low temperatures during microsporogenesis increase map distances.

A common objective in breeding programs is to transfer traits from one genetic background to another. In many cases, wild tomato species are

being used as a source of desirable genes. A frequent problem in such interspecific gene transfers is that linkage of undesirable traits is carried over with the genes of interest. The introgressed alien chromosome segments often behave as "blocks" with low frequency of recombination in the new genetic background (Rick 1969), a phenomenon which can reduce the usefulness of advanced breeding lines. In this note we report that low temperatures during microsporogenesis seem to increase recombination frequencies between two groups of linked isozyme markers.

A single hybrid plant of the cultivated tomato (cv T5) and L. hirsutum (LA 1777) was propagated by cuttings. Two of the clones were grown in a growth chamber at 24/19°C and another two at 12/6°C (12 hr cycle). Pollen that formed in the regulated environments was used to pollinate flowers of a male sterile variety in the greenhouse.  $BC_1$  seed was planted and seedlings analyzed for their isozymic genotypes. Among the 8 isozymes tested (Zamir and Vallejos 1982) Got-2/Got-3 and Pgi-1/Est-4 are linked. The results of recombination frequencies of the 2 linkage groups indicate a significant increase in map distances for progeny from crosses with pollen that formed at low temperature.

Gene pair	Temperatures	Parental	Recombinant	C.O %	Heterog. $\chi^2$
<u>Got-2/Got-3</u>	24/19°C	501	113	18	3.9*
	12/6°C	326	101	24	
<u>Pgi-1/Est-4</u>	24/19°C	262	49	16	8.0**
	12/6°C	255	85	25	

\* P value 0.01-0.05.

\*\* P value 0.001-0.01.

These results suggest that low temperature treatments of the interspecific hybrids during pollen formation may help in better "reshuffling" of the two genomes.



Species Stocks -- Revised List

<u>Acc. No.</u>	<u>Site</u>	<u>Prov. or Dept.</u>	<u>Country</u>
<u>Lycopersicon cheesmanii</u>			
LA 166	Sta. Cruz		(All locations in the Galápagos Islands, Ecuador)
LA 317	S. Bartolomé		
LA 421	Wreck Bay, Cristóbal		
LA 422	Cristóbal		
LA 426	S. Bartolomé		
LA 427	Jervis		
LA 428	Sta. Cruz N.		
LA 429	Sta. Cruz Crater		
LA 434	Sta. Cruz, Rambech Trail		
LA 436	Villamil, Isabela		
LA 437	Villamil, Isabela		
LA 438	Isabela Coast		
LA 480A	Cowley Bay, Isabela		
LA 483	Fernandina Crater		
LA 521	Fernandina Crater		
LA 522	Fernandina slopes		
LA 524	Isabela, Pta. Essex		
LA 526	Abingdon, W. side		
LA 527	Bartolomé		
LA 528	Academy Bay, Sta. Cruz		
LA 529	Fernandina Crater		
LA 530	Fernandina Crater		
LA 531	Baltra		
LA 532	Duncan		
LA 746	Punta Essex, Isabela		
LA 747	Cape Trenton, Santiago		
LA 748	E. Trenton Island		
LA 749	Fernandina, N. side		
LA 927	Academy Bay, Sta. Cruz		
LA 928	Academy Bay, Sta. Cruz		
LA 929	Isabela, Pta. Flores		
LA 930	Santiago, Cabo Tortuga		
LA 932	Isabela, Tagus Cove		
LA 1035	Fernandina, low elevation		
LA 1036	Isabela, N. end		
LA 1037	Isabela, Alcedo		
LA 1039	Isabela, Cape Berkeley		
LA 1040	Cristóbal, Cal. Tortuga		
LA 1041	S. Cruz, El Cascajo		
LA 1042	Isabela S. Tomás, 6 km de VI		
LA 1043	Isabela S. Tomás, 10 km de VI		
LA 1044	Bartolomé		
LA 1136	Gardner, near Charles		
LA 1137	Jervis, N. side		
LA 1138	Isabela, E. of Cerro, Azul		
LA 1139	Isabela		
LA 1141	Santiago, N. Crater		

Acc. No.	Site	Prov. or Dept.	Country
<u>L. cheesmanii</u> (cont.)			
LA 1400	Isabela, Tagus Cove, N. of Pta. Tortuga	(All locations in the Galápagos Islands, Ecuador)	
LA 1401	Isabela, Tagus Cove, N. of Pta. Tortuga		
LA 1402	Fernandina, W. of Pta. Espinoza		
LA 1403	Fernandina, W. of Pta. Espinoza		
LA 1404	Fernandina, W. Flank Caldera		
LA 1406	Fernandina, S.W. Rim Caldera		
LA 1407	Fernandina, N.W. Bench Caldera		
LA 1408	Isabela, S.W. Volc., Cape Berkeley		
LA 1409	Isabela, Pta. Albermarle		
LA 1410	Isabela, Pta. Ecuador		
LA 1411	Santiago, N. James Bay		
LA 1412	San Crist., opp. I. Lobos		
LA 1414	Isabela, Cerro Azul		
LA 1427	Fernandina		
LA 1447	C. Darwin Sta.-Pta. Nunez, Sta. Cruz		
LA 1448	Pta. Ayora Pel Bay, Sta. Cruz		
LA 1449	C. Dar. Sta., Seismo Sta., Sta. Cruz		
LA 1450	Isabela, Ba. S. Pedro		
LA 1452	E. Slope Alcedo		
LA 1508	Corona del Diablo (near Floreana)		
LA 1627	Tagus Cove		
<u>L. chilense</u>			
LA 130	Moquegua	Moquegua	Perú
LA 294	Tacna (og)	Tacna	Perú
LA 456	Clemesí	Moquegua	Perú
LA 458	Tacna	Tacna	Perú
LA 460	Palca	Tacna	Perú
LA 470	Taltal	Antofagasta	Chile
LA 1029	N. Moquegua	Moquegua	Perú
LA 1030	Tarata Rd.	Tacna	Perú
LA 1782	Quebrada de Acarí	Arequipa	Perú
LA 1930	Quebrada Calapampa, Rio Acarí	Arequipa	Perú
LA 1932	Minas de Acarí	Arequipa	Perú
LA 1938	Quebrada Salsepuedes, Rio Cháparra	Arequipa	Perú
LA 1958	Pampa de la Clemesí	Arequipa	Perú
LA 1959	Huaico Moquegua	Moquegua	Perú
LA 1960	Río Osmoré	Moquegua	Perú
LA 1961	Toquepala	Tacna	Perú
LA 1963	Río Caplina	Tacna	Perú
LA 1965	Causiri	Tacna	Perú
LA 1967	Pachía	Tacna	Perú
LA 1968	"Cause seco"	Tacna	Perú
LA 1969	Estique Pampa	Tacna	Perú
LA 1970	Tarata	Tacna	Perú
LA 1971	Palquilla	Tacna	Perú
LA 1972	Río Sama	Tacna	Perú

Acc. No.	Site	Prov. or Dept.	Country
<u>L. chilense (cont.)</u>			
LA 2404	Arica-Ticnamar	Tarapacá	Chile
LA 2405	Ticnamar	Tarapacá	Chile
LA 2406	Arica-Putre	Tarapacá	Chile
<u>L. chmielewskii</u>			
LA 1028	Casinchihua	Apurimac	Perú
LA 1306	Tambo	Ayacucho	Perú
LA 1316	Ocros	Ayacucho	Perú
LA 1317	Hda. Pajonal	Ayacucho	Perú
LA 1318	Auquibamba	Apurimac	Perú
LA 1325	Puente Cunyac	Apurimac	Perú
LA 1327	Soracata	Apurimac	Perú
LA 1330	Hda. Francisco	Apurimac	Perú
<u>L. esculentum v. cerasiforme</u>			
LA 292	Sta. Cruz	Galápagos	Ecuador
LA 1025	Wahiawa	Hawaii	USA
LA 1203	Cuidad Vieja		Guatemala
LA 1204	Quetzaltenango		Guatemala
LA 1205	Copan		Honduras
LA 1206	Copan		Honduras
LA 1207			Mexico
LA 1208	Sierra Nevada		Colombia
LA 1209			Colombia
LA 1226	Sucua	Morona-Santiago	Ecuador
LA 1227	Sucua		Ecuador
LA 1228	Macas, S. Juan de los Monos	Morona-Santiago	Ecuador
LA 1229	Macas Plaza	Morona-Santiago	Ecuador
LA 1230	Macas	Morona-Santiago	Ecuador
LA 1231	Tena	Pastaza	Ecuador
LA 1247	La Vega	Loja	Ecuador
LA 1268	Chaclacayo	Lima	Perú
LA 1286	S. Martín de Pangoa	Junín	Perú
LA 1287	S. Martín de Pangoa	Junín	Perú
LA 1289	S. Martín de Pangoa	Junín	Perú
LA 1290	Mazamari	Junín	Perú
LA 1291	Satipo Granja	Junín	Perú
LA 1307	Hotel Oasis, San Francisco	Ayacucho	Perú
LA 1308	San Francisco	Ayacucho	Perú
LA 1310	Hda. Santa Rosa	Ayacucho	Perú
LA 1311	Santa Rosa Puebla	Ayacucho	Perú
LA 1312	Paisanato	Cuzco	Perú
LA 1314	Granja Pichari	Cuzco	Perú
LA 1320	Hda. Carmen	Apurimac	Perú
LA 1323	Pfacchayoc	Apurimac	Perú
LA 1324	Hda. Potrero	Apurimac	Perú
LA 1328	Rio Pachachaca	Apurimac	Perú

Acc. No.	Site	Prov. or Dept.	Country
<u>L. esculentum v. cerasiforme (cont.)</u>			
LA 1334	Pescaderos	Arequipa	Perú
LA 1338	Puyo	Pastaza	Ecuador
LA 1372	Sta. Eulalia	Lima	Perú
LA 1385	Quincemil	Cuzco	Perú
LA 1386	Balsas, Rio Marañon	Amazonas	Perú
LA 1387	Quincemil	Cuzco	Perú
LA 1388	San Ramon	Junín	Perú
LA 1420	Lago Agrio	Napo	Ecuador
LA 1421	Sta. Cecilia	Napo	Ecuador
LA 1423	INIAP-Station Domingo	Pichincha	Ecuador
LA 1425	Villa Hermosa	Cauca	Colombia
LA 1426	Cali	Cauca	Colombia
LA 1428	La Estancilla	Manabi	Ecuador
LA 1429	La Estancilla	Manabi	Ecuador
LA 1453	Kauai-Paipu	Hawaii	USA
LA 1454	?		Mexico
LA 1455	Gral Teran	Nuevo Leon	Mexico
LA 1456	Papantla	Vera Cruz	Mexico
LA 1458	Huachinango	Pueblo	Mexico
LA 1461	U. Philippines, Los Baños		Philippines
LA 1464	El Progr.-Yoro		Honduras
LA 1465	Taladro, Comayagua		Honduras
LA 1467	Cali	Cauca	Colombia
LA 1468	Cali Fté. Casa		Colombia
LA 1479	Sucua	Morona-Santiago	Ecuador
LA 1480	Sucua	Morona-Santiago	Ecuador
LA 1481	Sucua	Morona-Santiago	Ecuador
LA 1482	Ham. Segamat		Malaysia
LA 1483	Ham.-Trujillo		Saipan
LA 1509	Tawan		Borneo
LA 1510			Mexico
LA 1511	Sete Lagoas		Brazil
LA 1512	Lago Llopango		San Salvador
LA 1540	Cali-Popayán	Cauca	Colombia
LA 1542	Turrialba		Costa Rica
LA 1543	Upper Paraná		Brazil
LA 1545	Becán Ruins	Campeche	Mexico
LA 1546	Papantla	Vera Cruz	Mexico
LA 1548	Fundo Iliana, San Martín de Pangoa	Junín	Perú
LA 1549	Chontabamba, Oxapampa	Junín	Perú
LA 1569	Jalapa		Mexico
LA 1574	Naña	Lima	Perú
LA 1619	Pichanaki	Junín	Perú
LA 1620	Castro Alves	Bahia	Brazil
LA 1621	Rio Venados-Hidalgo		Mexico
LA 1622	Lusaka		Zambia
LA 1623	Muna	Yucatan	Mexico
LA 1632	Moche-S. Fernando	La Libertad	Perú
LA 1654	Tarapoto	San Martín	Perú
LA 1655	Tarapoto	San Martín	Perú

Acc. No.	Site	Prov. or Dept.	Country
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L. esculentum v. cerasiforme (cont.)

LA 1662	El Ejido		Venezuela
LA 1667	Cali	Cauca	Colombia
LA 1668	Acapulco		Mexico
LA 1669	Jahuay	Ica	Perú
LA 1673	Naña	Lima	Perú
LA 1709	Desvio Yojoa		Honduras
LA 1710	Cariare		Costa Rica
LA 1711	Zamorano		Honduras
LA 1712	Pejibaye		Costa Rica
LA 1713	CATIE, Turrialba		Costa Rica
LA 1909	Quillabamba	Cuzco	Perú
LA 1953	La Curva	Arequipa	Perú
LA 2076			Bolivia
LA 2077			Bolivia
LA 2078	Mostardas	Rio Grande de Sol	Brazil
LA 2080	Kihei, Maui	Hawaii	USA
LA 2081	Kihei, Maui	Hawaii	USA
LA 2082	Arenal Valley		Honduras
LA 2085	Kemptom Park		S. Africa
LA 2095	La Cidra	Loja	Ecuador
LA 2121	Yacuambi-Guadalupe	Zamora-Chinchipe	Ecuador
LA 2135	Limon	Santiago-Morona	Ecuador
LA 2136	Bella Union	Santiago-Morona	Ecuador
LA 2137	Tayusa	Santiago-Morona	Ecuador
LA 2138	Chinimpini	Santiago-Morona	Ecuador
LA 2139	Logroño	Santiago-Morona	Ecuador
LA 2140	Huambi	Santiago-Morona	Ecuador
LA 2141	Río Blanco	Santiago-Morona	Ecuador
LA 2142	Cambanaca	Santiago-Morona	Ecuador
LA 2143	Nuevo Rosario	Santiago-Morona	Ecuador
LA 2205A	Sta. Rosa de Mir.	San Martín	Perú
LA 2205B	Sta. Rosa de Mir.	San Martín	Perú
LA 2308	San Francisco	San Martín	Perú
LA 2312	Jumbilla #1	Amazonas	Perú
LA 2313	Jumbilla #2	Amazonas	Perú
LA 2392	Jakarta		Indonesia
LA 2393	Canton Hoja Ancha	Guanacaste	Costa Rica
LA 2394	San Rafael de Hoja Ancha	Guanacaste	Costa Rica
LA 2402	Florianopolis	Sta. Catarina	Brazil

L. hirsutum

LA 94	Canta-Yangas	Lima	Perú
LA 386	Cajamarca	Cajamarca	Perú
LA 387	Sta. Apolonia	Cajamarca	Perú
LA 399	Abra Porcullo	Piura	Perú
LA 407	Mirador	Guayaquil	Ecuador
LA 1033	Hda. Taulis	Lambayeque	Perú
LA 1223	Alausí	Chimborazo	Ecuador
LA 1252	Loja	Loja	Ecuador
LA 1253	Puebla Nuevo-Loja	Loja	Ecuador

Acc. No.	Site	Prov. or Dept.	Country
<u>L. hirsutum</u> (cont.)			
LA 1255	Pedistal	Loja	Ecuador
LA 1264	Bucay	Chimborazo	Ecuador
LA 1265	Rio Chimbo	Chimborazo	Ecuador
LA 1266	Pallatanga	Chimborazo	Ecuador
LA 1295	Surco	Lima	Perú
LA 1298	Yaso	Lima	Perú
LA 1347	Empalme Otusco	La Libertad	Perú
LA 1352	Rope	Cajamarca	Perú
LA 1353	Contumazá	Cajamarca	Perú
LA 1354	Contumazá-Cascas	Cajamarca	Perú
LA 1361	Pariacoto	Ancash	Perú
LA 1362	Chacchán	Ancash	Perú
LA 1363	Alta Fortaleza	Ancash	Perú
LA 1366	Cajacay	Ancash	Perú
LA 1391	Bagua-Olmos	Amazonas	Perú
LA 1392	Huaraz-Casma	Ancash	Perú
LA 1393	Huaraz-Casma	Ancash	Perú
LA 1557	E. of Huaral	Lima	Perú
LA 1559	Huamantanza	Lima	Perú
LA 1560	Matucana	Lima	Perú
LA 1624	Jipijapa	Manabí	Ecuador
LA 1625	S. Jipijapa	Manabí	Ecuador
LA 1648	5 km above Yaso	Lima	Perú
LA 1681	Mushka, Cañete	Lima	Perú
LA 1691	Yauyos, Rio Cañete, Cañete	Lima	Perú
LA 1695	Cacachhuasan, Cañete	Lima	Perú
LA 1696	Cam. Huanchuy-Cacra, Cañete	Lima	Perú
LA 1721	Ticrapo Viejo	Huancavelica	Perú
LA 1731	Rio San Juan, km 86	Huancavelica	Perú
LA 1736	Pucutay	Piura	Perú
LA 1737	Cashacoto	Piura	Perú
LA 1738	Desfiladero	Piura	Perú
(PI 390658) LA 1739	W. of Canchaque	Piura	Perú
(PI 390659) LA 1740	W. of Huancabamba	Piura	Perú
(PI 390661) LA 1741	Sondorillo	Piura	Perú
LA 1753	Surco	Lima	Perú
LA 1764	W. of Canta	Lima	Perú
LA 1772	W. of Canta	Lima	Perú
LA 1775	R. Casma, 71 km from Panam.	Ancash	Perú
LA 1777	R. Casma, 97 km from Panam.	Ancash	Perú
LA 1778	R. Casma, 92 km from Panam.	Ancash	Perú
LA 1918	Llauta	Ayacucho	Perú
LA 1927	Ocobamba	Ica	Perú
LA 1978	Colca, R. Fortaleza	Ancash	Perú
LA 2092	Chiñuko	Chimborazo	Ecuador
LA 2098	Sabianga	Loja	Ecuador
LA 2099	Sabianga-Sozorango	Loja	Ecuador
LA 2100	Sozorango	Loja	Ecuador
LA 2101	Cariamanga	Loja	Ecuador
LA 2107	Los Lirios	Loja	Ecuador
LA 2108	Anganumo	Loja	Ecuador

Acc. No.	Site	Prov. or Dept.	Country
<u>L. hirsutum (cont.)</u>			
LA 2109	Yangana #1	Loja	Ecuador
LA 2110	Yangana #2	Loja	Ecuador
LA 2114	San Juan	Loja	Ecuador
LA 2115	Pucala	Loja	Ecuador
LA 2116	La Juntas	Loja	Ecuador
LA 2119	Saraguro	Loja	Ecuador
LA 2124	Cumbaratza	Zamora-Chinchipa	Ecuador
LA 2128	Zumbi	Zamora-Chinchipa	Ecuador
LA 2144	Chanchán	Chimborazo	Ecuador
LA 2155	Maydasbamba	Cajamarca	Perú
LA 2156	Ingenio Montán	Cajamarca	Perú
LA 2171	El Molino	Piura	Perú
LA 2174	Río Chinchipe	Cajamarca	Perú
LA 2175	Timbaruca	Cajamarca	Perú
LA 2196	Cáclic	Amazonas	Perú
LA 2204	Balsapata	Amazonas	Perú
LA 2321	Chirico	Amazonas	Perú
LA 2324	Leimebamba	Amazonas	Perú
LA 2329	Aricapampa	La Libertad	Perú
LA 2409	Miraflores (Yauyos)	Lima	Perú
<u>L. parviflorum</u>			
LA 247	Chavinillo	Huánuco	Perú
LA 735	Huánuco Cerro de Pasco	Huánuco	Perú
LA 1319	Abancay	Apurímac	Perú
LA 1321	Curuhuasi	Apurímac	Perú
LA 1322	Limatambo	Cuzco	Perú
LA 1326	Pachachaca	Apurímac	Perú
LA 1329	Yaca	Apurímac	Perú
LA 1626A	Mouth of Río Rupac	Ancash	Perú
LA 1716	Huancabamba	Piura	Perú
LA 2072	Huánuco	Huánuco	Perú
LA 2073	Huánuco	Huánuco	Perú
LA 2074	Huánuco	Huánuco	Peru
LA 2075	Huánuco	Huánuco	Perú
LA 2113	Above La Toma	Loja	Ecuador
LA 2133	Oña	Azuay	Ecuador
LA 2190	Tialango	Amazonas	Perú
LA 2191	Campamiento Ingenio	Amazonas	Perú
LA 2192	Pedro Ruíz	Amazonas	Perú
LA 2193	Churuja	Amazonas	Perú
LA 2194	Chachapoyas W.	Amazonas	Perú
LA 2195	Cáclic	Amazonas	Perú
LA 2197	Luya	Amazonas	Perú
LA 2198	Chachapoyas E.	Amazonas	Perú
LA 2200	Choipiaco	Amazonas	Perú
LA 2201	Pípas	Amazonas	Perú
LA 2202	Tingobamba	Amazonas	Perú
LA 2315	Sargento	Amazonas	Perú

Acc. No.	Site	Prov. or Dept.	Country
<u>L. parviflorum</u> (cont.)			
LA 2317	Zuta	Amazonas	Perú
LA 2318	Tambo	Amazonas	Perú
LA 2319	Chirico	Amazonas	Perú
LA 2325	Above Balsas	Amazonas	Perú
<u>L. pennellii</u>			
LA 716	Atico	Arequipa	Perú
LA 750	Ica-Nazca	Ica	Perú
LA 751	Sisicaya	Lima	Perú
LA 1272	Pisaquera arriba	Lima	Perú
LA 1273	Cayán	Lima	Perú
LA 1275	Quilca road jct.	Lima	Perú
LA 1277	Trapiche	Lima	Perú
LA 1282	Sisacaya	Lima	Perú
LA 1297	Pucará	Lima	Perú
LA 1299	Santa Rosa de Quives	Lima	Perú
LA 1302	Quita Sol	Ica	Perú
LA 1303	Pampano	Huancavelica	Perú
LA 1340	Capillucas	Lima	Perú
LA 1356	Moro	Lima	Perú
LA 1367	Santa Eulalia	Lima	Perú
LA 1376	Sayán	Lima	Perú
LA 1515	Huaura-Churín	Lima	Perú
LA 1522	Huaura-Sayán	Lima	Perú
LA 1649	Molina (Ingenio)	Ica	Perú
LA 1656	Marca-Chinca	Ica	Perú
LA 1657	Buena Vista-Yaután	Ancash	Perú
LA 1674	Toparilla Canyon	Lima	Perú
LA 1693	Queb. Machuranga (Zuñiga)	Lima	Perú
LA 1724	La Quinga (R. Pisco)	Ica	Perú
LA 1732	R. San Juan, km 44	Huancavelica	Perú
LA 1733	R. Cañete, km 75	Lima	Perú
LA 1734	R. Cañete, km 85	Lima	Perú
LA 1735	R. Cañete, km 87	Lima	Perú
LA 1809	El Horador	Piura	Perú
LA 1911	Locarí (R. Santa Cruz)	Ica	Perú
LA 1912	Cerro Locarí (R. Santa Cruz)	Ica	Perú
LA 1920	Chachiruma (R. Grande)	Ayacucho	Perú
LA 1926	Agua Perdida (R. Ingenio)	Ica	Perú
LA 1940	Río Atico, km 26	Arequipa	Perú
LA 1941	Río Atico, km 41	Arequipa	Perú
LA 1942	Río Atico, km 54	Arequipa	Perú
LA 1943	Río Atico, km 61	Arequipa	Perú
LA 1946	Caravelí	Arequipa	Perú
<u>L. peruvianum</u>			
LA 98	Chilca	Lima	Perú
LA 103	Cajamarquilla	Lima	Perú
LA 107	Hda. San Isidro	Lima	Perú
LA 110	Cajacay	Ancash	Perú

Acc. No.	Site	Prov. or Dept.	Country
<u>L. peruvianum</u> (cont.)			
LA 111	Supe	Lima	Perú
LA 364	Canta	Lima	Perú
LA 366	Canta	Lima	Perú
LA 370	Huampaní	Lima	Perú
LA 371	Supe	Lima	Perú
LA 372	Culebras	Ancash	Perú
LA 374	Culebras	Ancash	Perú
LA 378	Cascas	Cajamarca	Perú
LA 385	San Juan	Cajamarca	Perú
LA 389	Abra Gavilán	Cajamarca	Perú
LA 392	Llallán	Cajamarca	Perú
LA 441	Cerro Campana	La Libertad	Perú
LA 444	Chincha	Ica	Perú
LA 445	Chincha	Ica	Perú
LA 446	Atiquipa	Arequipa	Perú
LA 451	Arequipa	Arequipa	Perú
LA 452	Yura	Arequipa	Perú
LA 453	Yura	Arequipa	Perú
LA 454	Tambo	Arequipa	Perú
LA 455	Tambo	Arequipa	Perú
LA 462	Azapa	Arica	Chile
LA 464	Hda. Rosario	Arica	Chile
LA 465	Lluta	Arica	Chile
LA 752	Sisacaya	Lima	Perú
LA 1133	Huachipa	Lima	Perú
LA 1270	Pisiquillo	Lima	Perú
LA 1271	Horcon	Lima	Perú
LA 1274	Pacaibamba	Lima	Perú
LA 1278	Trapiche	Lima	Perú
LA 1281	Sisicaya	Lima	Perú
LA 1283	Santa Cruz de Laya	Lima	Perú
LA 1284	Espiritu Santo	Lima	Perú
LA 1292	San Mateo	Lima	Perú
LA 1293	Matucana	Lima	Perú
LA 1294	Surco	Lima	Perú
LA 1296	Tornamesa	Lima	Perú
LA 1300	Santa Rose de Quives	Lima	Perú
LA 1304	Pámpano	Huancavelica	Perú
LA 1305	Ticrapo	Huancavelica	Perú
LA 1331	Nazca	Ica	Perú
LA 1333	Loma Camaná	Arequipa	Perú
LA 1336	Atico	Arequipa	Perú
LA 1337	Atiquipa	Arequipa	Perú
LA 1339	Capillucas	Lima	Perú
LA 1346	Casmiche	La Libertad	Perú
LA 1350	Chauna	La Libertad	Perú
LA 1351	Rope	Cajamarca	Perú
LA 1358	Yaután	Ancash	Perú
LA 1360	Pariacoto	Ancash	Perú
LA 1364	Alta Fortaleza	Ancash	Perú
LA 1365	Caranquillóc	Ancash	Perú

Acc. No.	Site	Prov. or Dept.	Country
<u>L. peruvianum</u> (cont.)			
LA 1368	San Jose de Palla	Lima	Perú
LA 1369	San Geronimo	Lima	Perú
LA 1373	Asia	Lima	Perú
LA 1377	Nayán	Lima	Perú
LA 1379	Caujul	Lima	Perú
LA 1473	Callahuanca, St. Eu.	Lima	Perú
LA 1474	Loma de Camaná	Arequipa	Perú
LA 1475	Los Anitos, Barranca	Lima	Perú
LA 1513	Atiquipa	Arequipa	Perú
LA 1517	13 km Sta. Rosa	Lima	Perú
LA 1537	prob. Perú	Lima	Perú
LA 1551	Rimac Valley, 71 km from Lima	Lima	Perú
LA 1552	Rimac Valley, 93 km from Lima	Lima	Perú
LA 1554	Río Huaura, 85 km from Huaral	Lima	Perú
LA 1556	Rimac Valley, Hda. Higuereto, R. Surco	Lima	Perú
LA 1609	Asia	Lima	Perú
LA 1616	La Molina	Lima	Perú
LA 1626	Mouth of Río Rupac	Ancash	Perú
LA 1646	3 km above Yaso	Lima	Perú
LA 1647	Huadquina, Topara	Lima	Perú
LA 1653	Uchumayo-Arequipa	Arequipa	Perú
LA 1675	Toparilla Canyon	Lima	Perú
LA 1677	Topara-Huadquina	Lima	Perú
LA 1692	Putinza, R. Cañete	Lima	Perú
LA 1694	Cacachuhuasin Cañete	Lima	Perú
LA 1722	Ticrapo Viejo	Huancavelica	Perú
LA 1723	La Quinga	Ica	Perú
LA 1744	Putinza, R. Cañete	Lima	Perú
LA 1910	Tambillo, Río Ica	Huancavelica	Perú
LA 1913	Tinguiyog R. Sta Cruz	Ica	Perú
LA 1917	Llauta, R. Palpa	Ica	Perú
LA 1929	La Yapana	Ingenio	Perú
LA 1935	Lomas de Atiquipa	Arequipa	Perú
LA 1937	Quebr. Torrecillas, R. Cháparra	Arequipa	Perú
LA 1944	R. Atico, 61 km from Panam.	Arequipa	Perú
LA 1945	Caravelí	Arequipa	Perú
LA 1947	Pto Atico, R. Atico	Arequipa	Perú
LA 1949	Los Calavaritos	Arequipa	Perú
LA 1951	Ocoña, Río Ocoña	Arequipa	Perú
LA 1954	Mollendo	Arequipa	Perú
LA 1955	Matarani	Arequipa	Perú
LA 1973	Yura	Arequipa	Perú
LA 1975	Desv. S. Domingo, R. Rimac	Lima	Perú
LA 1977	Orcocoto	Lima	Perú
LA 1981	Vocatoma, R. Santa	Ancash	Perú
LA 1982	Huallanca	Ancash	Perú
LA 1983	R. Manta, R. Santa	Ancash	Perú
LA 1984	Otuzco, R. Moche	La Libertad	Perú
LA 1985	Casmiche, R. Moche	La Libertad	Perú

	Acc. No.	Site	Prov. or Dept.	Country
	<u>L. peruvianum</u> (cont.)			
	LA 2067	Lomas de Atacongo	Lima	Perú
	LA 2068	Chasquitambo	Ancash	Perú
var. <u>humifusum</u>	LA 2150	Pte Muyuna	Cajamarca	Perú
var. <u>humifusum</u>	LA 2151	Morochupa	Cajamarca	Perú
var. <u>humifusum</u>	LA 2152	San Juan #1	Cajamarca	Perú
var. <u>humifusum</u>	LA 2153	San Juan #2	Cajamarca	Perú
	LA 2157	Tunel Chotano	Cajamarca	Perú
	LA 2163	Cochabamba-Yamalúc	Cajamarca	Perú
	LA 2164	Yamalúc	Cajamarca	Perú
	LA 2172	Cuvita	Cajamarca	Perú
	LA 2185	Pongo de Rentema	Amazonas	Perú
	LA 2326	Above Balsas	Amazonas	Perú
	LA 2327	Aguas Calientes	Cajamarca	Perú
	LA 2328	Aricapampa	La Libertad	Perú
	LA 2330	Chagual	La Libertad	Perú
	LA 2331	Agallpampa	La Libertad	Perú
	LA 2333	Casmiche	La Libertad	Perú
var. <u>humifusum</u>	LA 2334	San Juan	Cajamarca	Perú
	LA 2388	Cochabamba-Huambos	Cajamarca	Perú

L. pimpinellifolium

	LA 100	La Cantuta	Lima	Perú
	LA 114	Pacasmayo	La Libertad	Perú
	LA 121	Trujillo	La Libertad	Perú
	LA 122	Poroto	La Libertad	Perú
	LA 369	La Cantuta	Lima	Perú
	LA 373	Culebras	Ancash	Perú
	LA 375	Culebras	Ancash	Perú
	LA 376	Chiclín	La Libertad	Perú
	LA 381	Pongo	La Libertad	Perú
	LA 384	Chilete	Cajamarca	Perú
	LA 391	Magdalena	Cajamarca	Perú
	LA 397	Hda. Tumán	Lambayeque	Perú
	LA 398	Hda. Carrizal	Piura	Perú
	LA 411	Pichilingue	Los Ríos	Ecuador
	LA 412	Pichilingue	Los Ríos	Ecuador
	LA 413	Cerecita	Guayas	Ecuador
	LA 417	Puná	Guayas	Ecuador
	LA 418	Daule	Guayas	Ecuador
	LA 420	El Empalme	Guayas	Ecuador
	LA 442	Sechín	Achash	Perú
	LA 443	Pichilingue	Los Ríos	Ecuador
	LA 480	Hda. Sta. Inez	Lima	Perú
	LA 722	Trujillo	La Libertad	Perú
	LA 753	Lurín	Lima	Perú
	LA 1236	Santo Domingo	Tinelandia	Ecuador
	LA 1237	Atacames	Esmeraldas	Ecuador
	LA 1242	Los Sapos	Guayas	Ecuador
	LA 1243	Hda. Carmela	Guayas	Ecuador
	LA 1245	Santa Rosa	El Oro	Ecuador

Acc. No.	Site	Prov. or Dept.	Country
<i>L. pimpinellifolium</i> (cont.)			
LA 1246	La Toma	Loja	Ecuador
LA 1248	Hda. Monterrey	Loja	Ecuador
LA 1256	Naranjal	Guayas	Ecuador
LA 1257	Las Mercedes	Guayas	Ecuador
LA 1258	Voluntario de Dios	Guayas	Ecuador
LA 1259	Catarama	Los Ríos	Ecuador
LA 1260	Pueblo Viejo	Los Ríos	Ecuador
LA 1261	Babahoyo	Los Ríos	Ecuador
LA 1262	Milagro jct on rt 33	Los Ríos	Ecuador
LA 1263	Barranco Chico	Guayas	Ecuador
LA 1269	Pisiquillo	Lima	Perú
LA 1279	Cienguilla	Lima	Perú
LA 1280	Chantay	Lima	Perú
LA 1301	Hda. San Ignacio	Ica	Perú
LA 1332	Nazca	Ica	Perú
LA 1335	Pescaderos	Arequipa	Perú
LA 1341	Huampaní	Lima	Perú
LA 1342	Casma	Ancash	Perú
LA 1343	Puente, Chao	La Libertad	Perú
LA 1344	Laredo	La Libertad	Perú
LA 1345	Samne	La Libertad	Perú
LA 1348	7 mi. E., Pacasmayo	La Libertad	Perú
LA 1349	Cuculí	Lambayeque	Perú
LA 1355	Nepeña	Ancash	Perú
LA 1357	Jimbe	Ancash	Perú
LA 1359	La Crau	Ancash	Perú
LA 1370	San Jose de Palla	Lima	Perú
LA 1371	Santa Eulalia	Lima	Perú
LA 1374	Ingenio	Ica	Perú
LA 1375	San Vicente de Cañete	Lima	Perú
LA 1380	Chanchape	Piura	Perú
LA 1381	Naupe	Tambayeque	Perú
LA 1382	Chachapoyas-Balsas	Amazonas	Perú
LA 1383	Chachapoyas-Bagua	Amazonas	Perú
LA 1384	Quebrada Parca (Chilca)	Lima	Perú
LA 1416	Las Delicias	Pichincha	Ecuador
LA 1466	Chongoyape	Lambayeque	Perú
LA 1469	El Pilar, Olmos	Lambayeque	Perú
LA 1470	Motupe-Olmos	Lambayeque	Perú
LA 1471	Motupe-Jayanca	Lambayeque	Perú
LA 1472	Qbrda. Topará	Lima	Perú
LA 1478	Sto. Tomé	Piura	Perú
LA 1514	60 km Huáura-Chur.	Lima	Perú
LA 1519	Vitarte	Lima	Perú
LA 1520	Huáura-Sáyan	Lima	Perú
LA 1521	El Piñón, Asia	Lima	Perú
LA 1561	Huáura: Sta. Eusebia	Lima	Perú
LA 1562	Santa Eusebia	Lima	Perú
LA 1571	S. Juan de Palla	Lima	Perú
LF 1572	Huampani	Lima	Perú
LA 1573	Naña	Lima	Perú

Acc. No.	Site	Prov. or Dept.	Country
L. <u>pimpinellifolium</u> (cont.)			
LA 1575	Huaycán	Lima	Perú
LA 1576	Manchay Alta	Lima	Perú
LA 1577	Cartavio	La Libertad	Perú
LA 1578	Jequetepeque	La Libertad	Perú
LA 1579	Col. Pto. Cuatro #1	Lambayeque	Perú
LA 1580	Col. Pto. Cuatro #2	Lambayeque	Perú
LA 1581	Punto Cuatro	Lambayeque	Perú
LA 1582	Motupe	Lambayeque	Perú
LA 1583	Tierra de la Vieja	Lambayeque	Perú
LA 1584	Jayanca-La Viña	Lambayeque	Perú
LA 1585	Cuculí	Lambayeque	Perú
LA 1586	Zaña-San Nicolás	La Libertad	Perú
LA 1587	San Pedro de Lloc	La Libertad	Perú
LA 1588	Laredo-Barraza	La Libertad	Perú
LA 1589	Virú-Calunga	La Libertad	Perú
LA 1590	Virú-Tomaval	La Libertad	Perú
LA 1591	Ascope	La Libertad	Perú
LA 1592	Moche	La Libertad	Perú
LA 1593	Puente Chao	La Libertad	Perú
LA 1594	Cerro Sechín	Ancash	Perú
LA 1595	Nepeña-Samanco	Ancash	Perú
LA 1596	Santa-La Rinconada	Ancash	Perú
LA 1597	Río Casma	Ancash	Perú
LA 1598	Culebras-La Victoria	Ancash	Perú
LA 1599	Huarmey	Ancash	Perú
LA 1600	Las Zorras	Ancash	Perú
LA 1601	Río Pativilca-La Providencia	Ancash	Perú
LA 1602	Río Chillón-Punchauca	Lima	Perú
LA 1603	Quilca	Lima	Perú
LA 1604	Horcón	Lima	Perú
LA 1605	Cañete-San Antonio	Lima	Perú
LA 1606	Tambo de Mora	Ica	Perú
LA 1607	Cañete-La Victoria	Lima	Perú
LA 1608	Cañete-San Luis	Lima	Perú
LA 1610	Asia-El Piñon	Lima	Perú
LA 1611	Río Mala	Lima	Perú
LA 1612	Río Chilca	Lima	Perú
LA 1613	Río Huaura-Santa Eusebia	Lima	Perú
LA 1614	Río Huaura-Pampa Chumbes	Lima	Perú
LA 1615	Piura-Simbalá	Piura	Perú
LA 1617	Tumbes South	Tumbes	Perú
LA 1618	Tumbes North	Tumbes	Perú
LA 1628	Huanchaco-Libertad	La Libertad	Perú
LA 1629	Miraflores-Costa Verde	Lima	Perú
LA 1630	Chincha-Fundo La Palma	Ica	Perú
LA 1631	Moche S. Fernando	La Libertad	Perú
LA 1633	Chincha: coop. Huayna Capac	Ica	Perú
LA 1634	El Ingenio: Fundo Bogotalla	Ica	Perú
LA 1635	El Ingenio: Fundo Bogotalla #2	Ica	Perú
LA 1636	Chincha: Larán	Ica	Perú
LA 1637	Chincha: La Calera	Ica	Perú

Acc. No.	Site	Prov. or Dept.	Country
L. <u>pimpinellifolium</u> (cont.)			
LA 1638	Huachipa: Fundo El Portillo	Lima	Perú
LA 1645	Miraflores-Armendariz	Lima	Perú
LA 1651	La Molina	Lima	Perú
LA 1652	Girasol-Cienguilla	Lima	Perú
LA 1659	4 km E. of Pariacoto	Ancash	Perú
LA 1660	Yaután-Pariacoto	Ancash	Perú
LA 1661	Esquina de Asia	Lima	Perú
LA 1670	Rio Sama	Tacna	Perú
LA 1676	Fundo Huadquina-Topará	Ica	Perú
LA 1678	San Juan Lucomo de Topará	Ica	Perú
LA 1679	Tambo de Mora	Ica	Perú
LA 1680	Cañete-La Encañada	Lima	Perú
LA 1682	Cañete-Montalbán	Lima	Perú
LA 1683	R. Chira-Miramár	Piura	Perú
LA 1684	Chulucanas	Piura	Perú
LA 1685	Marcavelica	Piura	Perú
LA 1687	Valle Hermoso #2	Piura	Perú
LA 1689	Piura-Castilla #1	Piura	Perú
LA 1690	Piura-Castilla #2	Piura	Perú
LA 1697	Hda. Santa Anita, R. Huaura	Lima	Perú
LA 1719	E. of Arenillas	El Oro	Ecuador
LA 1720	Yautan	Ancash	Perú
LA 1742	Olmos-Marquina	Lambayeque	Perú
LA 1781	Bahia de Caraquéz	Manabí	Ecuador
LA 1921	Majareña	Ica	Perú
LA 1923	Cabildo	Ica	Perú
LA 1924	Piedras Gordas	Ica	Perú
LA 1925	Pangaraví	Ica	Perú
LA 1933	Jaquí	Arequipa	Perú
LA 1936	Huancalpa, R. Cháparra	Arequipa	Perú
LA 1950	Pescadores, R. Caravelí	Arequipa	Perú
LA 1987	Virú-Fundo Luis Enrique	La Libertad	Perú
LA 1992	Pishicato, R. Lurin	Lima	Perú
LA 1993	Chicama Valley (?)	Lima	Perú
LA 2093	La Union	El Oro	Ecuador
LA 2096	Playa	Loja	Ecuador
LA 2097	Macará	Loja	Ecuador
LA 2102	El Lucero	Loja	Ecuador
LA 2112	Above Hda. Monterrey	Loja	Ecuador
LA 2145	Juan Montalvo	Los Ríos	Ecuador
LA 2146	Limoncarro	Lambayeque	Perú
LA 2147	Yube	Lambayeque	Perú
LA 2149	Pte. Muyuna	Cajamarca	Perú
LA 2170	Pai Pai	Lambayeque	Perú
LA 2173	Cruz de Huaquillo	Cajamarca	Perú
LA 2176	Timbaruca	Cajamarca	Perú
LA 2178	Tororume	Cajamarca	Perú
LA 2179	Tamboripa-La Manga	Cajamarca	Perú
LA 2180	La Coipa	Cajamarca	Perú
LA 2181	Balsa-huaico	Cajamarca	Perú

Acc. No.	Site	Prov. or Dept.	Country
<u>L. pimpinellifolium</u> (cont.)			
LA 2182	Cumba	Amazonas	Perú
LA 2183	Corral Guemada	Amazonas	Perú
LA 2184	Bagua (Casual)	Amazonas	Perú
LA 2186	El Salao	Amazonas	Perú
LA 2187	La Caldera	Amazonas	Perú
LA 2188	Machugal #1	Amazonas	Perú
LA 2189	Machugal #2	Amazonas	Perú
LA 2335	4 N		
LA 2336	r, 4 N		
LA 2345	Auto 2 N ex 13 chrom. haploid		
LA 2346	Auto 2 N ex 12 chrom. haploid		
LA 2347	Auto 2 N ex 12 chrom. haploid		
LA 2348	1, x		
LA 2389	Tembladera	Cajamarca	Perú
LA 2390	Chungal	Cajamarca	Perú
LA 2391	Between Chungal & Monte Grande	Cajamarca	Perú
LA 2401	Moxeque, Casma	Ancash	Perú

Solanum lycopersicoides

LA 1964	Chupaplica	Tacna	Perú
LA 1990	Palca	Tacna	Perú
LA 1991	Causiri	Tacna	Perú
LA 2407	Arica-Putre	Tarapacá	Chile
LA 2408	Above Putre	Tarapacá	Chile

S. rickii

LA 1974	Chuquicamata	Antafagasta	Chile
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- Michigan State Univ., Library, East Lansing, MI 48824-1048
- Minnesota, Univ. of, St. Paul Campus Library, St. Paul, MN 55108
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- National Research Council, Library, Prairie Regional Lab, 110 Gymnasium Rd., Saskatoon, Sas., Canada S7N 0W9
- National Science Foundation, Program Director for Genetic Biology, Washington, DC 20550
- New Hampshire, Univ. of, Library-Serials Dept., Durham, NH 03824

- New South Wales, Univ. of, Biomedical Library, LK 5276 Serials, Kensington, NSW, Australia 2033
- New York State Agric. Exp. Sta., Library, Geneva, NY 14456
- Ng, Timothy, Univ. of Maryland, Dept. of Horticulture, College Park, MD 20742
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- Tsentr. N. Sel'skokhoz Biblioteka, Otd. Mez. Knigo-obemena, Orlikov Per., 3, Moscow, I-139, USSR
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- U.S.D.A. Library, Ralph R. Shaw, Librarian, Washington, DC 20250
- U.S.D.A. Nat'l Agric. Library, Proc. Sec./Current Ser. Rec., Beltsville, MD 20705
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PART IVFINANCIAL STATEMENT

February 1, 1982 - April 1, 1983

		<u>Total</u>
<u>Balance from 1982</u>		\$2,057.73
 <u>Receipts</u>		
Membership Assessments	615.00	
Sale of Back Issues	156.07	
Bank Interest	38.11	
		<u>809.18</u>
		2,866.91
 <u>Expenditures</u>		
Printing Report #32	665.32	
Mailing and Postage	314.57	
Envelopes and Stamps	17.00	
Membership List Preparation	139.21	
		<u>1,136.10</u>
 <u>Balance (April 1, 1983)</u>		 \$1,730.81

MEMBERSHIP STATUS

(April 1, 1983)

Dues paid for 1982	80
1983	184
1984	76
1985	17
1986	7
Past 1987	<u>16</u>
Total	380

## APPENDIX A

Interim Report of the Committee on Varietal Pedigrees 1982.

Listing of previous report: TGC 9:1959 - an attached supplement between pages 36 and 37. TGC 11:36-51, 1961.  
 TGC 16:53-67, 1966. TGC 18:64-71, 1968. TGC 19:39-45, 1969.  
 TGC 20:79-86, 1970. TGC 21:61-64, 1971. TGC 22:47-52, 1972.  
 TGC 23:49-56, 1973. TGC 24:46-52, 1974. TGC 25:36-41, 1975.  
 TGC 26:33-38, 1976. TGC 27:59-68, 1977. TGC 28:42-48, 1978.  
 TGC 29:58-62, 1979. TGC 31:40-47, 1981. TGC 32:53-59, 1982.

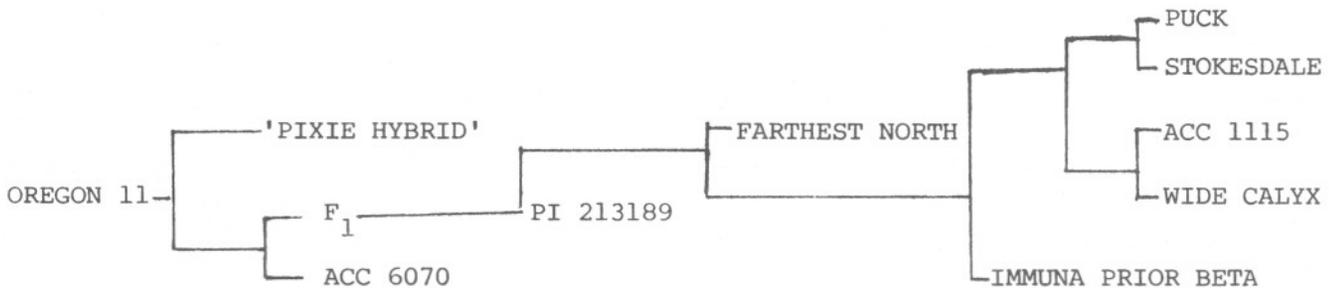
COMMITTEE ON VARIETAL PEDIGREES

Alexander, L. J.	Groszmann, H. (Australia)
Andrasfalvy, András (Hungary)	Hernandez, T. P.
Angell, F. F.	Honma, Shigemi
Báldy, B. (Hungary)	John, C. A.
Cirulli, M. (Italy)	Kooistra, E. (Holland)
Crill, J. P.	Lambeth, V. N. (Chairman)
Darby, L. A. (England)	Leeper, Paul
Daskaloff, C. (Bulgaria)	Pecaut, M. (France)
Frankel, Rafael (Israel)	Robinson, R. W.
Frazier, W. A.	Sumeghy, J. B. (Australia)
Gabelman, W. H.	Tomes, M. L.
Gilbert, J. C.	
Graham, T. O.	

Baggett, J. R., 1982. Oregon 11 tomato breeding line. Oregon Agric. Expt. Sta. release notice dated 4/19/82.

OREGON 11

Pedigree:



Characteristics:

Fruit: Red, 31 g., globe, often parthenocarpic, solid and fleshy with tough skins that sometime crack. Flavor good, with slight sweetness and moderate acidity.

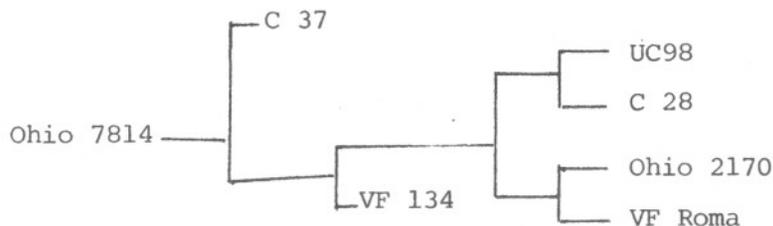
Plants: sp, commonly 1 m. (3 ft.) across, spreading, prostrate and open. Complex, branching inflorescence, clusters have 4-7 fruit. Fruiting branches large and open.

Maturity: Early (60 days at Corvallis, Oregon); earlier than 'Early subarctic', 'Immuna Prior Beta' and 'Presto Hybrid'. Fruit maturation somewhat more concentrated seasonally than most early varieties.

Berry, S. Z. and W. A. Gould. 1982. Release of machine harvestable processing tomato Ohio 7814. Ohio Agric. Res. and Dev. Center release notice dated 11/24/82.

OHIO 7814

Pedigree:



Characteristics:

Fruit: Red, 2½ oz., plum, u, j<sub>2</sub>. Resistant to radial and concentric fruit cracking, good vine storage.

Plants: Medium sp, adapted to high population direct-seed or transplant culture and machine harvest. Vines become uniformly semi-prostrate at maturity. Resistant F (I).

Machine harvestable processing tomato with early season maturity. Solids, acid, color and vitamin C equal to or better than standards. Suitable for juice, sauce, catsup and whole-pack.

Gardner, R. G. 1982. NC50-7 Breeding Line, 'Cherokee', and 'Mountain Pride' Tomato. HortScience 17 (1): 92-93.

#### NC50-7 BREEDING LINE

##### Pedigree:

F<sub>6</sub> sel. of ['Blazer' F<sub>1</sub> x ('Walter' x 'Flora Dade') F<sub>1</sub>]

##### Characteristics:

Fruit: Red, 200g., globe, u, smooth, very glossy, firm, resistant to radial and concentric cracking and epidermal cracking.

Plants: sp, dark green foliage, resistant F(I), Ve.  
Breeding line for firmness and crack resistance.

#### CHEROKEE (NC BC<sub>1</sub> -32)

##### Pedigree:

F<sub>7</sub> selection [('Walter' x 'Ace 55VF')F<sub>2</sub> x 'Walter'].

##### Characteristics:

Fruit: Red, 200 + g., globe, smooth, firmness adequate, good resistance to radial and concentric cracking.

Plants: sp, foliage less dense and lighter than 'Flora-Dade' resistant to F(I, 1-2 genes) and Ve.

Maturity slightly later than 'Walter' and 'Flora-Dade'.  
Vine-ripe harvest for local market and shipping.

#### MOUNTAIN PRIDE (NC7984)

##### Pedigree:

F<sub>1</sub> ('Cherokee' x NC 50-7)

##### Characteristics:

Fruit: Red, 200+g., globe, u, very glossy, firm, good shelf life, good resistance to all types of fruit cracking.

Plants: sp, good foliage cover; resistant F(I, 1-2) and Ve.  
Maturity slightly earlier than parents.

Vine-ripe, fresh-market production in disease problem areas.

Kerr, E. A. and F. I. Cook. 1981. Veepick Tomato. Can. J. Plant Sci. 61:769-770.

VEEPICK (V716)

Pedigree:

H1350/3/V641//V641/3/Morden Yellow/Roma VF  
V641=Campbell K<sub>c</sub>109/genetic line br sp f wt j nt//  
Potentate 73/sel 6-02-M6 (Andrus, USDA).

Characteristics:

Fruit: Red, long oval, 9lg., u, exterior color pale and dull but internal color excellent, fairly firm and resilient. Suitable processing quality.

Plants: sp, prostrate growth habit, good foliage cover resistant to F(I) and Ve.

Mid-season maturity between Heinz 1706 and Roma VF.

Suitable for paste but not for whole-pack.

Kerr, E. A. and F. I. Cook. 1981. Veebrite Tomato. Can. J. Plant Sci. 61:771-772.

VEEBRITE (V686E)

Pedigree:

Campbell 1402 // Coldset/Coldset // Heinz 1350.

Characteristics:

Fruit: Red, heart-shaped to oblate as season progresses, u, firm, smooth, crack-resistant, good vine storage and shelf life. Processing qualities good to excellent.

Plants: sp, vigorous somewhat open vines. Resistant to Ve and metribuzin herbicide.

Maturity between New Yorker and Campbell 28.

Processing except coreless pack.

Kerr, E. A. and F. I. Cook. 1981. Veeroma Tomato. Can. J. Plant Sci. 61:773-775.

VEEROMA (V727)

Pedigree:

Roma VF/Chico

Characteristics:

Fruit: Red, pear-shaped, 53g., u, internal color and flavor superior to Roma VF. Crack resistance, firmness and wall structure similar to Roma VF.

Plants: sp, upright growth habit, rugose foliage, good foliage cover but not as dense as Roma VF. Resistant to F(I) and Ve. Late maturity.

Used as pear-type whole pack and strained products as processed quality is good to excellent.

Kerr, E. A. and F. I. Cook. 1981. Veemore Tomato. Can. J. Plant Sci. 61:777-778.

VEEMORE (V712)

Pedigree:

Roma VF//Heinz 1350/3/High Crimson/Glamour//Early Baltimore/  
3/ Pritchard

Characteristics:

Fruit: Red, oblate and somewhat lobed, 96g., u, firm, crack-resistant, good vine storage. Acidity, pH and viscosity excellent, color acceptable.

Plants: sp, compact vine, curled leaves (wt), resistant to F(I) and Ve. Susceptible to TMV.

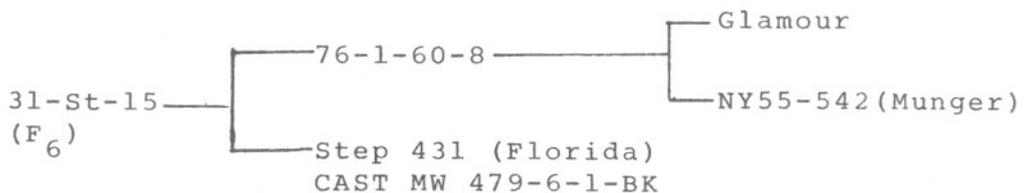
Very early maturity.

Hand pick tomato for juice or ketchup.

Lambeth, V. N. 1982. Origin and Release of Tomato Line 31-St-15 and 'Conquest' VFN.

31-St-15 BREEDING LINE

Pedigree:



Characteristics:

CONQUEST VFN (33-St-3, STEP 652)

Pedigree:

F<sub>1</sub> (31-St-15 x VFN 8)

Characteristics:

Fruit: Red, 6.5oz., globe, u, resistant to radial cracking.  
 Good color, firmness and flavor.  
 Plants: sp<sup>+</sup>, moderate foliage density, resistant to F (I),  
Ve and Mi.  
 Home and market garden use.

Metcalf, J. G. 1982. Bellestar Tomato. Smithfield Experimental Farm, Trenton, Ontario. Canada

Bellestar (ST-50)

Pedigree:

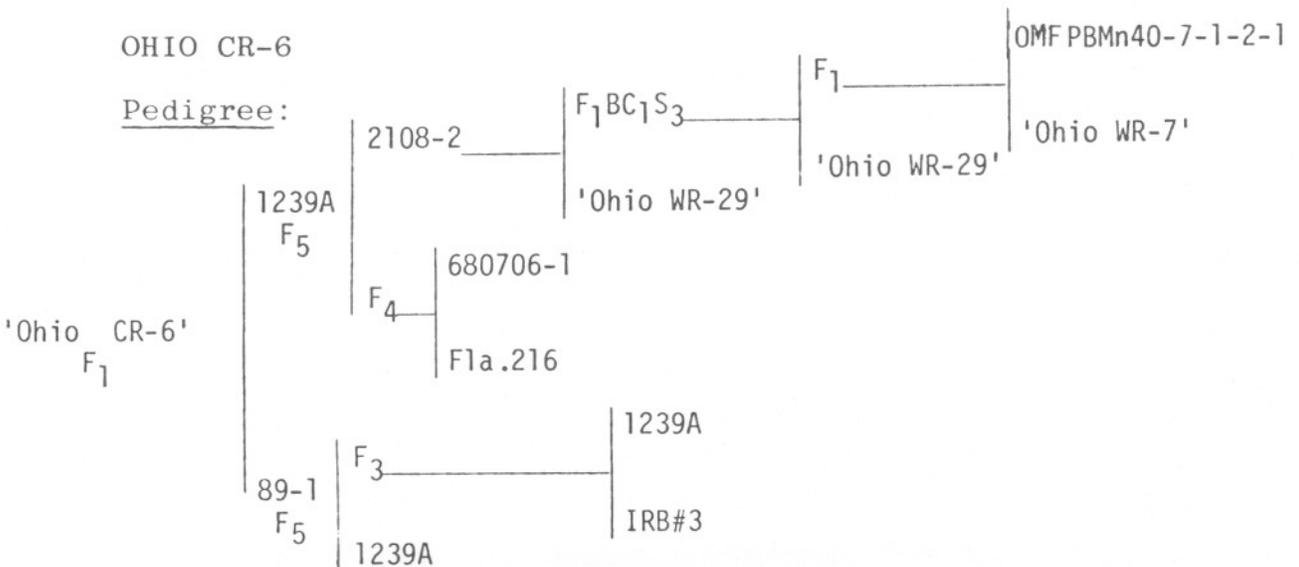


Characteristics: Crimson (og), jointless, 80 g fruit. Mid early with good concentration of ripening. Suitable for hand or machine harvest. Firm fruited with small core and medium stem scar. Compact vine. Suitable for whole pack with either hand or machine harvest. Released 1982.

Scott, J. W. and J. D. Farley. Ohio CR-6 Tomato. HortScience (In Press).

OHIO CR-6

Pedigree:





LINE A-33-129-93

Pedigree: (the same as Alfa)

Characteristics:

sp, u<sup>+</sup>; fruit round, small /20 - 40 g/, smooth or slightly deformed at the top of the fruit; ripens 35-45 days after planting in the field, 10-12 days earlier than Alfa; strong tendency to parthenocarpic fruit setting, especially at low temperatures; very weak growth, spread 25-40 cm, poor branching; first cluster below the fifth leaf.

LINE A-33-129-91

Pedigree: sister selection of the A-33-129-93 line

Characteristics:

sp, u<sup>+</sup>; fruit round, medium /30 - 60 g/, smooth or slightly deformed at the top of the fruit; ripens 40-50 days after planting in the field, 4-7 days earlier than Alfa; strong tendency to parthenocarpic setting of fruit, especially at low temperatures; compact habit spread 40-60 cm; strong branching between cotyledons and the first cluster; flower cluster below the sixth leaf.

Hanson, Maureen. Seed Availability from Tissue Culture-Derived Material

A small quantity of seed is available from plants regenerated from protoplasts of L. esculentum cv. "Red Cherry." This seed can be obtained, on a first-request basis while supplies last, by contact:

Dr. Maureen Hanson  
Dept. Biology  
Univ. of Virginia  
Gilmer Hall  
Charlottesville, VA 22903

The protoplast-regenerated plants from which seed was collected were generally of normal morphology. Protoplasts were regenerated by methods described in: Hanson, M.R. Cell and Tissue Culture of Lycopersicon. Plant Tissue Culture 1982. Proceedings of the 5th International Congress of Plant Tissue and Cell Culture. Japanese Association for Tissue Culture, Tokyo. This work was sponsored by the U.S.D.A. Competitive Grants Program.

Lobo, M. and J. Jaramillo. 'Licato' the first Colombian tomato variety.

The first Colombian tomato variety was released in 1979. It was obtained by stratified mass selection from the land material 'Chonto.' 'Licato' exhibits wide adaptation (from sea level up to 2000 meters above sea level); root-knot nematode tolerance and certain degree to TMV colombian strains. The plants is sp<sup>+</sup>, being the fruits of medium size (50-60 gr as average), round to round-square with 2-3 locules and u<sup>+</sup>. Seed samples are available under request.

Lobo, M., E. Girard and R. Navarro. Late blight horizontal resistance in tomato.

A program to look for Phytophthora infestans horizontal resistance was started in Colombia in 1981. The program is located at ICA's "La Selva" Experimental Station. This Station is located in a place with optimal environmental conditions for the development of late blight epidemics, as are: heavy rain, high relative humidity, mild temperature and cloudiness during the rainy season. Eleven lines out of 270 were selected in 1981. These materials exhibited a lower disease degree, measured as a parent infection rate. Similar results were obtained during the epidemics of 1982A (first calendar semester). Recurrent breeding schemes are developed with such materials in order to increase the resistance level.

Broome, C.R., E.E. Terrell and J.L. Reveal. Proposal to conserve Lycopersicon esculentum Miller as the scientific name of the tomato.

The correct Latin binomial for the tomato, depending on which authority one asks, is Solanum lycopersicon L., Lycopersicon esculentum Miller, or Lycopersicon lycopersicum (L.) Karsten (sometimes cited as Karsten ex Farwell). For those who prefer to include tomatoes and their near relatives within

Solanum there has never been a question about the name of the major cultivated species: it has been S. lycopersicum since Linnaeus' publication of Species Plantarum in 1753. However there is an unresolved controversy about just what to call it in the genus Lycopersicon.

Article 55 of the International Code of Botanical Nomenclature (ICBN) requires that, when a species is transferred to another genus, the specific epithet assigned under the old genus must be retained or if it has not been retained, must be reinstated. Miller in the 8th edition of his The Gardeners Dictionary (1768), instead of transferring the Linnaean epithet from Solanum to Lycopersicon, gave the species a new one, "esculentum," although he stated in an introduction that he generally followed the works of Linnaeus. The reason Miller did this was clearly to avoid creating a "tautonym," or a binomial in which the generic and specific names are the same. Tautonyms are expressly forbidden as species names by Art. 23 of the ICBN.

The combination Lycopersicon lycopersicum was validly published by Karsten in 1900, reinstating Linnaeus' earlier epithet. One will notice that the two words are not exactly alike but differ in the terminal letters (the generic name having been derived from the Greek, and the specific epithet from the Latin forms of the same pre-Linnaean name). Nomenclaturists who consider this a tautonym for all practical purposes are currently losing ground to a group who favors the most literal interpretation of the ICBN's wording. This latter group refers to Karsten's combination as a "para-tautonym" or an almost-tautonym which must nevertheless be applied, under Art. 55, to the tomato. Their arguments have persuaded the authors of Hortus Third and a few less influential publications to adopt the Karsten binomial. Also, in 1978 the nations of the European Economic Communities decreed that Lycopersicon esculentum Miller was to be replaced by L. lycopersicum Karsten in all EEC official publications. Most American workers, along with most in other non-EEC countries, continue to use the familiar L. esculentum.

In the interests of nomenclatural stability, especially as regards the names of species of great economic importance, a number of taxonomists are of the opinion that this name should continue to be used, especially since its rejection is based on a technicality in the ICBN that even we botanists fail to agree upon. Fortunately the Code has a new provision whereby species names in long and popular usage for important agricultural species may be "conserved" (retained by fiat) even though they have been found illegitimate under a strict application of rules of the ICBN. This must be done on a case-by-case basis through the publication of a written proposal which is reviewed by a committee and finally voted upon in a subsequent International Botanical Congress. We have taken advantage of this provision and have submitted a proposal (Terrell, E.E., C.R. Broome, and J.L. Reveal. Proposal to conserve the name of the tomato as Lycopersicon esculentum Miller. TAXON, in press) for consideration of the Nomenclature Committee and for a vote at the 1986 Congress to be held in Berlin. Whether the vote is with or against us, this should settle once and for all the matter of which name we must use for the tomato.

Tigchelaar, E.C. Clearing House for Isogenic Tomato Stocks.

Isogenic stocks of normal and variant tomato lines have proven valuable in physiological genetic studies. We propose that the Tomato Genetics Cooperative serve as a collection agency and clearing house for isogenic tomato stocks. If membership has spontaneous or derived isogenics which they are willing to share with co-workers, we will begin the process of collecting and maintaining this valuable material. Both normal and variant stocks should be sent to:

Tomato Genetics Cooperative  
c/o E. C. Tigchelaar  
Department of Horticulture  
Purdue University  
West Lafayette, IN 47907  
USA

Please identify whether the isogenics are spontaneous or derived and the number of backcrosses in the development of derived stocks. A listing of available isogenics will be published in TGC 34.