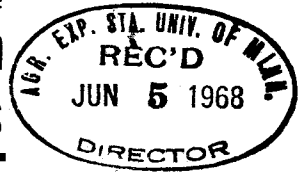


**Resistance to Myzus persicae (Sulzer), Macrosiphum euphorbiae (Thomas), and Empoasca fabae (Harris) in the Wild Tuber-bearing Solanum (Tourn.) L. Species**



UNIVERSITY OF MINNESOTA • AGRICULTURAL EXPERIMENT STATION



E. B. Radcliffe and F. I. Lauer

# Resistance to *Myzus persicae* (Sulzer), *Macrosiphum euphorbiae* (Thomas), and *Empoasca fabae* (Harris) in the Wild Tuber-bearing *Solanum* (Tourn.) L. Species

E. B. Radcliffe and F. I. Lauer\*

The literature on insect resistance in potato is extensive, but these studies have largely dealt with differences in insect reaction to different varieties or clones of the cultivated potato, *Solanum tuberosum* subspecies *tuberosum* (L.) Hawkes.<sup>1</sup> Relatively little has been published on possible sources of insect resistance in the more than 150 wild *Solanum* species present in South and Central America.

Resistance to the Colorado potato beetle, *Leptinotarsa decemlineata* Say, has been intensively studied by European workers who found *S. demissum* Lindl. and *S. chacoense* Bitt. the most promising sources of resistance. Leaves of *S. demissum* are refused by larvae although adult beetles will feed on them (5).<sup>2</sup> The resistance of *S. demissum* to Colorado potato beetle is thought to be polygenic and recessive (6). Resistance from *S. demissum* has always been lost before breeders attained selections of varietal quality (11). *S. chacoense* is resistant to both larvae and adults of the Colorado potato beetle. F<sub>1</sub> populations are susceptible, but resistance is recovered in some F<sub>2</sub> plants (16). Back-crossing to *S. tuberosum* has rarely been successful since quality and resistance are negatively correlated (16). The advent of DDT (11) and the extreme *Phytophthora*-susceptibility of *S. chacoense* (16) combined to lessen interest in this work. However, by 1966, Ross (11) was able to report that Colorado potato beetle resistant lines were perhaps a single hybridization from variety quality. These lines have potential commercial value in countries where the use of insecticides is limited.

In North America the potato leafhopper, *Empoasca fabae* (Harris), has been the prime target in in-

vestigations on possible sources of insect resistance in the wild *Solanum* species. Sleesman (14) found *S. polyadenium* Greenm. to be virtually immune to potato leafhopper attack. Three closely related species, *S. chacoense*, *S. commersonii* Dun., and *S. caldasii* Dun. (= *S. chacoense*), were also highly resistant (14). *S. polyadenium* was also reported immune to potato flea beetle, *Epitrix cucumeris* (Harris).

During the past few years, Sleesman has evaluated many of the IR-1 materials and found potato leafhopper resistance in introductions of more than 20 *Solanum* species including *S. chacoense*, *S. demissum*, *S. pinnatisectum* Dun., and *S. stoloniferum* Schlecht. and Bché. (12). Radcliffe and Lauer (10) also surveyed several hundred IR-1 introductions in field trials. They rated as highly resistant the following species: *S. columbianum* Dun., *S. guerreroense* Corr., *S. kurtzianum* Bitt. et Wittm., *S. medians* Bitt., *S. moscopanum* Hawkes, *S. oxycarpum* Schiede, *S. pinnatisectum*, *S. polyadenium*, *S. polytrichon* Rydb., *S. x sambucinum* Rydb. (= *cardiophyllum* x *pinnatisectum*), *S. spegazzinii* Bitt., and *S. x vallis-mexici* Juz. (= *stoloniferum* x *verrucosum*).

Little information has been available on possible sources of aphid resistance in the wild *Solanums*. Adams (1) reported a detailed study of the reaction of green peach aphid, *Myzus persicae* (Sulzer), to over 100 *S. tuberosum* cultivars and 10 wild *Solanum* species. She found considerable variation in the resistance of the different cultivars and concluded that these differences were relatively consistent from year to year. *S. polyadenium* proved immune to green peach aphid the 3 years it was tested. Aphids confined on *S. polyadenium* seedlings died within 3

\* E. B. Radcliffe is an assistant professor, Department of Entomology, Fisheries, and Wildlife. F. I. Lauer is a professor, Department of Horticultural Science.

<sup>1</sup> Throughout the text of this manuscript the authors have followed the conspectus of species names, synonymy, and taxonomic authorship given by J. G. Hawkes, in *A Revision of the Tuber-Bearing Solanums (Second Edition)* Scottish Plant Breeding Station Record, 1963.

<sup>2</sup> Numbers in parentheses refer to the literature citations on page 27.

days. Several other species including *S. chacoense* and *S. commersonii* proved equally resistant to the least susceptible cultivars such as Houma, Epicure, and Up-To-Date.

Adams (1) noted the observation of Cockerham that *S. polyadenium* is susceptible to virus Y which is believed to be vectored by the green peach aphid (4). Dionne (2) reported that under certain field conditions *S. polyadenium* was highly susceptible to attack by green peach aphid. In the Minnesota experiments (9, 10), *S. polyadenium* was one of the most susceptible species to both green peach aphid and potato aphid, *Macrosiphum euphorbiae* (Thomas).

Radcliffe and Lauer (9) found the greatest aphid resistance in some of the species native to Mexico. The greatest green peach aphid resistance was found in *S. stenophyllidium* (Bitt.) Rydb. and *S. trifidum* Corr. (= *S. michoacanum*) of the series Pinnatissecta Rydb. The greatest potato aphid resistance was found in *S. hjertingii* Hawkes, *S. polytrichon*, and *S. stoloniferum*, of the series Longipedicellata Buk. Most introductions of *S. bulbocastanum* of the series Bulbocastana Rydb., were found to possess appreciable resistance to both aphid species. In the series Pinnatissecta, resistance appeared specific for green peach aphid; in the series Longipedicellata, resistance appeared specific for potato aphid.

Of the 66 species tested, the following were rated highly resistant to green peach aphid: *S. brachistotrichum* (Bitt.) Rydb., *S. chiquidenum* Ochoa, *S. etuberosum* Lindl., *S. gourlayi* Hawkes, *S. huanca-bambense* Ochoa, *S. michoacanum* (Bitt.) Rydb., *S. santae-rosae* Hawkes, and *S. stenophyllidium*. Rated resistant to potato aphid were: *S. andreanum* Baker, *S. chiquidenum*, *S. gourlayi*, *S. hjertingii*, *S. infundibuliforme* Phil., *S. multidissectum* Hawkes, *S. polytrichon*, and *S. x vallis-mexici*.

In addition to the insects mentioned in the preceding review, plant resistance to various other potato insect pests has been reported (6). However, in few if any of these studies were any wild *Solanums* tested.

## Materials and Methods

In 1966, 381 entries<sup>3</sup> were tested for resistance to green peach aphid and potato leafhopper. Of these, 248 entries were selected in 1965 (9) as possible sources of aphid resistance. Any introductions in 1965 differing significantly from immunity to either aphid species were discarded from the trials. The majority of the entries added in 1966 were introduc-

tions of either *S. tuberosum* subspecies *tuberosum* or *S. tuberosum* subspecies *andigena* (L.) Hawkes. A few additional introductions of some of the more aphid-resistant species were also obtained.

In 1967, 284 entries<sup>3</sup> were tested for resistance to potato aphid. As a result of the 2 years of prior selection, most of the 1967 entries were known to possess appreciable resistance to green peach aphid. However, there was little progress in identifying potato aphid resistance in 1966 due to very low populations of that aphid. The few new entries included in the 1967 trials were mostly hybrids incorporating species known to possess green peach aphid resistance.

The experimental procedures followed in both 1966 and 1967 were similar to those described previously (9) except for the following modifications in 1967: (a) a larger peat pot, 2¼-inch (5.6-cm) instead of 1½-inch (4.4-cm) square, was used to start the seedlings in the greenhouse; (b) seeding was 4 weeks earlier, April 13 compared to May 9, to permit slow growing entries more growth prior to transplanting; (c) the more vigorous and rapidly growing seedlings were clipped to approximately 6 inches (15 cm) in height 3 weeks before transplanting to facilitate handling; (d) an "inoculator" 'Red Pontiac' plant, on which both green peach aphids and potato aphids had been colonized, was planted in every eighth space in the field to provide initial infestation; (e) a herbicide, Dymid<sup>®</sup>, was applied immediately after transplanting at 6 pounds active ingredient per acre (6.7 kg/hectare); (f) an insecticide, Sevin<sup>®</sup>, was applied three times, July 13, 21, and August 9, at 1 pound active ingredient per acre (1.1 kg/hectare) to enhance aphid populations by elimination of their natural enemies (8); (g) a fungicide, Difolatan<sup>®</sup>, was applied August 4 at 2 pounds active ingredient per acre (2.2 kg/hectare), possibly arresting an epizootic of an entomogenous fungus in the potato aphid population.

Timed-sampling, essentially as described by Radcliffe and Lauer (9), was used to evaluate the entries. In 1966<sup>4</sup> each plant was examined for 30 seconds. When stands permitted, four plants per entry were sampled from each replicate. An average of 11.3 plants per entry were sampled. In 1967 the sampling time was increased to 40 seconds, and when stands permitted, five plants per entry were sampled from each replicate. An average of 16.2 plants were sampled. The 1967 evaluations were made August 5-13. In both years, only apterous forms were counted since the mobility of winged insects would confound the data obtained for highly resistant entries.

<sup>3</sup> True seed for these entries was furnished by R. W. Rowe, IR-1 Potato Introduction Project, Sturgeon Bay, Wisconsin. All IR-1 materials mentioned in this manuscript are identified in accord with the *Inventory of tuber-bearing Solanum species*. Wis. Agr. Exp. Sta. Bull. 533.

<sup>4</sup> The authors acknowledge the assistance of Philip Clausen and Epreval Law, graduate assistants, Department of Entomology, Fisheries, and Wildlife, in collecting data in 1966 and 1967, respectively.

The sampling intervals used permitted only partial examination of the foliage of most plants. The data therefore were probably not significantly affected by differences in plant size. However, several possible sources of sampling error are recognized. Most of these errors are inherent to a timed-sampling technique. When more than one insect species is sampled, an abundance of one species probably results in undersampling of other species. When the insect sampled is abundant it is possible to accurately rank the more resistant varieties by timed-counts, but for the more susceptible entries these counts will be too low and may not reflect the relative resistance of these entries. Also, in 1966, substantial hopperburn to some of the more leafhopper-intolerant entries may have adversely affected insect counts on these plants.

## Statistical Methods

Replicate means were calculated for all entries. Entries represented in four replicates were used in calculation of analysis of variance using real values, square root transformation, and  $\log_{10}$  transformation. The  $\log_{10}$  transformation was judged the most appropriate for each set of data. The data are therefore presented in this form (tables 1-3). Because zero values occurred in the green peach aphid and potato leafhopper data, 0.01 was added to each mean before the transformation was applied.

## Results and Discussion

Counts of apterous green peach aphids and of potato leafhopper nymphs were obtained in 1966 on 381 *Solanum* entries (tables 1 and 2). Data on apterous potato aphids were obtained in 1967 on 284 *Solanum* entries (table 3). For each insect species, the various entries evaluated are ranked from most susceptible to most resistant. The values presented in tables 1-3 are the average of transformed replicate means.

In this text the results are discussed in terms of actual mean numbers of insects per plant rather than in terms of  $\log_{10}$  transformations. Changes in rank between the real data and transformed data occurred where component values contributing to an entry mean are unusually variable.

### Green peach aphids

In the 1966 experiments (table 1), the 15 *S. tuberosum* subspecies *tuberosum* check clones averaged 7.9 apterous aphids per plant. The check clones are advanced selections in the breeding program or cultivars used commercially. The most susceptible check was the cultivar, Norland, with 15.7 aphids per plant; the most resistant, Minn. code 101, with 2.4 aphids per plant.

The 31 wild *S. tuberosum* subspecies *andigena* entries averaged 3.4 green peach aphids per plant. The means for the *andigena* entries ranged from 7.5, PI 209415, to 0.4, PI 184903, aphids per plant.

The 114 wild *S. tuberosum* subspecies *tuberosum* entries averaged 4.4 green peach aphids per plant. The means for the *tuberosum* entries ranged from 15.2, PI 225633, to 0.2, PI 280909 and PI 243387, aphids per plant.

None of the *andigena* and only eight of the *tuberosum* entries had more aphids than the average number on the *tuberosum* check clones. The comparative susceptibility of the cultivated varieties or their offspring is not surprising. Potato breeders invariably control aphids chemically in their breeding programs. The data suggest that appreciable green peach aphid resistance is available, and could be selected for, within *S. tuberosum*. Similar observations were made earlier by Adams (1).

However, greater levels of resistance are available in certain of the wild species (table 1). No green peach aphids were found on 10 introductions from Mexico. These included *S. bulbocastanum*, PI 243507, PI 243512, PI 275186, and PI 275188; *S. cardiophyllum* subspecies *ehrenbergii* Bitt. (= *S. ehrenbergii*), PI 255520; *S. michoacanum*, PI 255539 and PI 255540; *S. stenophyllidium*, PI 255529; and *S. stoloniferum*, PI 275252. No green peach aphids were found on hybrid USW 4384, but it was represented by only three plants in these trials.

Of the 381 entries tested in 1966, 277 differed significantly from immunity to green peach aphid. The 104 entries not differing from immunity include representatives of 26 different species, both subspecies *andigena* (four entries) and *tuberosum* (16 entries) of *S. tuberosum* and hybrid USW 4384. Of the following seven species, no entries screened differed significantly from immunity: *S. bulbocastanum* with 13 entries; *S. michoacanum* with six entries; *S. brachistotrichum* and *S. stenophyllidium* with two entries each; and *S. gourlayi*, *S. infundibuliforme*, and *S. marinasense* Vargas with one entry each.

Appreciable resistance was also noted in most entries of *S. cardiophyllum* subspecies *ehrenbergii*, *S. multidissectum*, and *S. stoloniferum*. Of the 33 entries within these three species tested in 1966, 24 did not differ significantly from immunity.

Only 21 entries representing 11 different species and one species hybrid, USW 4384, were found to be more resistant to green peach aphid than the most resistant *S. tuberosum* entry, PI 280909. Six of these entries were *S. bulbocastanum* and three each of *S. michoacanum* and *S. stoloniferum*. Other species represented in this group were *S. cardiophyllum* subspecies *ehrenbergii* with two entries, and *S. bukavicii* Juz., *S. fendleri* A. Gray, *S. infundibuliforme*,

*S. megistacrolobum* Bitt., *S. stenophyllidium*, and *S. verrucosum* Schlecht. with one entry each.

The most resistant species appears to be *S. stenophyllidium*. No green peach aphids were found on any plant of the entry, PI 255529, in either 1965 (9) or 1966.

For the 187 entries common to the trials in 1965 (9, 10) and 1966, a significant correlation of 0.59 was obtained for counts of green peach aphids. When correlations within years were tested, counts of green peach aphid and of potato aphid were highly significant both in 1965 and 1966 (10). The "r" values calculated for 1965 and 1966 were 0.33 and 0.21, respectively. While resistance to the two aphid species was generally correlated, several species were observed to possess resistance to only one aphid. Certain green peach aphid-resistant species were relatively susceptible to potato aphid, for example, *S. michoacanum*. Examples of the converse reaction were less striking but have also been observed, for example, *S. fendleri* (9). Evidently, several different mechanisms of aphid resistance occur.

Crosses have been made by personnel at the Inter-Regional Potato Introduction Station with various introductions that Radcliffe and Lauer (9) found to possess resistance to green peach aphid. Among the species introductions which produced seed when crossed with a 2x *phureja-tuberosum* hybrid were the following: *S. brachistrotrichum*, PI 283095 and WRF 1271; *S. bulbocastanum*, PI 275193; *S. cardiophyllum* subsp. *ehrenbergii*, PI 275214; *S. multidissectum*, PI 210051 and PI 275152; *S. stenophyllidium*, PI 255529 and PI 255530; and *S. michoacanum*, PI 255536.

#### Potato leafhopper

Data on potato leafhopper resistance obtained in the 1966 experiments are given in table 2. The 15 *S. tuberosum* subspecies *tuberosum* check clones supported average populations of 10.2 potato leafhopper nymphs per plant. The most susceptible check was 'Red Pontiac,' 21.5 leafhoppers per plant; the most resistant, Minn. code 212, 4.9 leafhoppers per plant.

The 31 wild *S. tuberosum* subspecies *andigena* entries averaged 6.0 potato leafhopper nymphs per plant. The entry means for *andigena* introductions ranged from 13.8, PI 233997, to 1.5 PI 186177, nymphs per plant.

The 114 wild *S. tuberosum* subspecies *tuberosum* introductions averaged 4.8 potato leafhopper nymphs per plant. The entry means of the wild *tuberosum* introductions ranged from 13.8, PI 233947, to 0.7, PI 281092, nymphs per plant.

The wild *S. tuberosum* entries were more resistant than the *S. tuberosum* check clones. Of 143 wild *S. tuberosum* entries, only three *andigena* and six *tuberosum* entries supported an average number of leafhoppers greater than on the check clones.

From this data and the previous investigations of other workers such as Slesman (13) and Gardener et al (3), it has been established that appreciable leafhopper resistance can be found within *S. tuberosum*. Despite this fact, only one supposedly leafhopper resistant cultivar, Sequoia, has been developed (3). 'Sequoia' is susceptible to attack by potato leafhopper but displays appreciable tolerance to hopperburn (7).

No potato leafhopper nymphs were found on five of the following IR-1 introductions: *S. x berthaultii*, Hawkes (= *tarijense* x *sparsipilum*), PI 265858; *S. demissum*, PI 201850; *S. kurtzianum*, PI 230584.4; *S. pinnatisectum*, PI 275235; and *S. polytrichon*, PI 255526. All entries of 16 species did not differ significantly from immunity. The species in this group were, however, all represented in this trial by less than three entries. The following species were included in this group: *S. chacoense* and *S. pinnatisectum* with three entries each; *S. berthaultii*, *S. brachistotrichum*, *S. polyadenium*, and *S. spagazinii* with two entries each; and *S. agrimonifolium* Rydb., *S. brachycarpum* Correll, *S. chomatophilum* Bitt., *S. gourlayi*, and *S. x sambucinum* with one entry each.

As given in table 2, 314 of the 381 entries differed significantly from immunity. The 67 entries not differing significantly from immunity included representatives of 35 species and two species hybrids, USW 973 and USW 3685. The species most frequently represented in the 67 most resistant progenies were *S. bulbocastanum*, *S. polytrichon*, and *S. demissum* with seven, six, and five entries, respectively. A highly significant correlation of 0.65 was obtained for leafhopper infestation on 187 entries common to the 1965 (unpublished data) and 1966 trials. In 1965, a significant correlation between potato leafhopper resistance and resistance to both green peach and potato aphids was observed (10). In 1966, no significant correlation was found between counts of potato leafhopper nymphs and either aphid species.

#### Potato aphids

Data on potato aphid resistance in the wild *Solanums* obtained in the 1967 experiments are given in table 3. The nine *S. tuberosum* subspecies *tuberosum* check clones averaged 66.0 apterous potato aphids per plant. The most susceptible check was Minn. code 98, 81.7 aphids per plant; the most resistant, 'Russet Burbank,' 38.8 aphids per plant.

The 14 wild *S. tuberosum* subspecies *andigena* entries averaged 42.1 potato aphids per plant. The *andigena* entry means ranged from 67.9, PI 230496, to 23.7, PI 232839, potato aphids per plant.

The 28 wild *S. tuberosum* subspecies *tuberosum* entries averaged 39.4 potato aphids per plant. Means obtained for *S. tuberosum* entries ranged from 59.3, PI 280908, to 20.0, PI 234000. Of the wild *S. tuberosum*

introductions, eight subspecies *andigena* and eight subspecies *tuberosum* were significantly more susceptible to potato aphid attack than the most resistant *tuberosum* introduction, PI 234000. Only PI 230496 of the 39 wild *S. tuberosum* entries supported more potato aphids than the average number found on the check clones.

In 1967, all of the *S. tuberosums* tested were significantly more susceptible than the most resistant entry, *S. stoloniferum*, PI 160226. All the check clones except 'Russet Burbank' were more susceptible than the most resistant wild *S. tuberosum* entry.

None of the entries tested in 1967 was entirely free of potato aphids. The greatest resistance was found in several entries of *S. stoloniferum*. Most resistant of these was PI 160226, 4.2 potato aphids per plant. Similarly, of the 401 entries evaluated in 1965 (9), PI 160226 was the most resistant entry. Two other *S. stoloniferum* introductions, PI 186563 and PI 275246, were the only entries not significantly more susceptible than PI 160226. However, not all of the 20 *S. stoloniferum* entries tested were resistant. The average potato aphid counts per plant on entries of *S. stoloniferum* ranged from 45.5, PI 275252, to 4.2, PI 160226. The species mean was 22.5.

Only five entries of *S. hjertingii* were tested, but this species also appears to have considerable resistance to potato aphids. Two of these entries ranked fourth and fifth most resistant in the 1967 trials. As in *S. stoloniferum*, considerable variation in resistance was observed in *S. hjertingii*. The average potato aphid counts ranged from 31.1, PI 251067, to 9.0, PI 186560, aphids per plant.

Thirty entries representing 10 different species were found to be more resistant to potato aphid attack than the most resistant *S. tuberosum* entry, PI 234000. Ten of these entries are of the species *S. stoloniferum*; three entries each of *S. bulbocastanum*, *S. hjertingii*, *S. polytrichon*, and *S. verrucosum*; two entries of *S. multidissectum*; and one entry each of *S. bukasovii*, *S. chomatophilum*, *S. hougasii* Corr., and *S. medians*.

Although resistance to potato aphid occurs within many different species, the greatest levels of resistance occur in species indigenous to central Mexico. Twenty of the 21 most resistant entries were of Mexican origin.

Potato aphids were much more abundant in 1967 than in the previous 2 years. The average counts on check clones in the 1967 and 1965 trials were 66.0 and 2.9 potato aphids per plant, respectively. Nevertheless, a highly significant correlation of 0.47 was obtained for the 203 entries common to both trials. Thus, selection for resistance to potato aphid appears feasible even under low infestation levels.

Personnel at the Inter-Regional Potato Introduction Station have crossed some entries Radcliffe and Lauer (9) found to possess resistance to potato aphid. *S. polytrichon*, PI 184770 and PI 184773; and *S. stoloniferum*, PI 160226 and PI 275246, were crossed with 4x *phureja-tuberosum* hybrids. *S. hjertingii*, PI 186559 and PI 186560; *S. polytrichon*, PI 184770 and PI 184773; and *S. stoloniferum*, PI 275246, have also been crossed with either Katahdin or Merrimack cultivars.

## Summary

This study as well as those reported earlier (9, 10) contribute knowledge about the potential value of the wild tuber-bearing species as possible sources of insect resistance in the potato. Various wild species have been shown to possess high resistance to one or more of the following insects: green peach aphid, potato aphid, and potato leafhopper. More than one base of insect resistance occurs in the *Solanums*. Possibly there may be several mechanisms of resistance within the available *Solanum* germ plasm to any one insect species. Appreciable resistance to leafhoppers and green peach aphids appears in noncultivated *S. tuberosum* introductions as well. If these characteristics can be incorporated in cultivated *S. tuberosum* parental stock, development of a commercial potato resistant to each of these major pests may be possible.

Since the preparation of this manuscript, additional information has been obtained from the Potato Introduction Station, Sturgeon Bay, Wisconsin on certain of the *Solanum* materials listed in this report. Most important, nearly all of the introductions designated as *S. tuberosum* subspecies *tuberosum* are, except for a few introductions from Chile and Argentina, actually subspecies *andigena*. PI 209771, PI 245317, PI 245820, PI 245841, PI 245933, and WRF 1306 are *S. tuberosum* subspecies *tuberosum*. In addition, PI 230517 and PI

208562 have been identified to species. PI 230517 is *S. moscopanum* Hawkes and PI 208562 is *S. spegazzinii*. Most of the *S. bulbocastanum* introductions evaluated have been identified as subspecies *bulbocastanum*. PI 255516 is subspecies *dolichophyllum*.

Information on the parentage of the WRF and some USW numbered materials was received too late for incorporation in this report. This information may be obtained by writing either the authors or the Potato Introduction Station.

Table 1. Relative resistance of tuber-bearing Solanum introductions to green peach aphid.

Rank	IR-1 no.	Species, variety or hybrid	Country of origin	Mean no. aphids per plant $\log_{10}(x+.01)$	Not significantly different <sup>a</sup> through $\log_{10}(x+.01)$
1	PI 283069	<u>berthaultii</u>	Bolivia	1.296	-0.256
2	PI 230584.4	<u>kurtzianum</u>	Argentina	1.183	-0.349
3	USW 584	<u>Kennebec x chacoense</u>		1.159	-0.390
4	PI 208563	<u>maglia</u>	Argentina	1.128	-0.422
5		<u>tuberosum</u> subsp. <u>tuberosum</u> , Minn. code 98		1.121	-0.431
6	PI 230465.6	<u>sucrense</u>	Bolivia	1.104	-0.441
7	PI 230582	<u>chacoense</u>		1.102	-0.441
8	PI 218224	<u>simplicifolium</u>	Argentina	1.065	-0.480
9	PI 243349	<u>agrimonifolium</u>	Guatemala	1.016	
10		<u>tuberosum</u> subsp. <u>tuberosum</u> , Norland		1.005	-0.545
11		<u>tuberosum</u> subsp. <u>tuberosum</u> , Minn. code 212		0.974	-0.555
12	PI 225620	<u>acaule</u>		0.969	-0.555
13	PI 255501	<u>acaule</u>	Argentina	0.947	-0.599
14	PI 243379	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.929	-0.620
15	WRF 306	<u>chacoense</u>		0.914	-0.642
16	PI 230470	<u>tuberosum</u> subsp. <u>tuberosum</u>	Ecuador	0.907	-0.647
17	PI 161167	<u>demissum</u>	Mexico	0.891	-0.647
18	PI 243371	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.886	-0.647
19	PI 233981	<u>tuberosum</u> subsp. <u>tuberosum</u>	Bolivia	0.872	-0.674
20	PI 161730	<u>guerreroense</u>	Mexico	0.868	-0.674
21	WRF 1283	<u>simplicifolium</u>		0.863	-0.694
22	PI 280874	<u>tuberosum</u> subsp. <u>tuberosum</u>	Argentina	0.860	-0.694
23	PI 258909	<u>stenotomum</u>	Bolivia	0.842	-0.705
24		<u>tuberosum</u> subsp. <u>tuberosum</u> , Minn. code 151		0.838	-0.717
25	PI 218226	<u>simplicifolium</u>		0.829	-0.717
26		<u>tuberosum</u> subsp. <u>tuberosum</u> , Red Warba		0.825	-0.730
27	PI 230495	<u>acrosopicum</u>	Peru	0.805	-0.730
28	PI 275278.2	<u>sucrense</u>	Bolivia	0.799	
29	PI 175396	<u>acaule</u>		0.790	-0.730
30	PI 232041	<u>tuberosum</u> subsp. <u>tuberosum</u> , Peru		0.776	-0.769
31	USW 973	AG-231 x <u>megistacrolobum</u>		0.775	-0.769
32	PI 283081	<u>medians</u>		0.774	
33	PI 280910	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.773	-0.769
34	PI 275129	<u>acaule</u>	Peru	0.772	-0.769
35	PI 275161	<u>fendleri</u>	United States	0.771	-0.769
36	PI 214436	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.765	-0.791
37	PI 275275	<u>pampasense</u>	Peru	0.762	
38	PI 233982	<u>tuberosum</u> subsp. <u>tuberosum</u>	Bolivia	0.762	-0.791
39	PI 225649	<u>curtilobum</u>	Colombia	0.749	-0.791
40	PI 280891	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.739	-0.791
41	PI 275132	<u>acaule</u>	Argentina	0.736	
42	PI 243373	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.730	-0.824
43	PI 280889	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.729	-0.824
44	PI 232045	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.723	-0.831
45	PI 218047	<u>demissum</u>		0.722	-0.831
46	PI 225627	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.717	-0.831
47	PI 243394	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.712	-0.831
48		<u>tuberosum</u> subsp. <u>tuberosum</u> , Minn. code 154		0.711	-0.831
49	PI 243368	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.710	-0.831
50	PI 243396	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.709	-0.831
51	PI 225630	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.704	-0.848
52	PI 230472	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.703	-0.848
53	PI 275239	<u>polyadenium</u>	Mexico	0.699	
54	PI 275126	<u>acaule</u>	Argentina	0.696	-0.848
55	WRF 1292	<u>tuberosum</u> subsp. <u>andigena</u>		0.688	-0.848

Table 1 (continued). Relative resistance of tuber-bearing Solanum introductions to green peach aphid.

Rank	IR-1 no.	Species variety or hybrid	Country of origin	Mean no. aphids per plant $\log_{10}(x+.01)$	Not significantly different <sup>a</sup> through $\log_{10}(x+.01)$
56	PI 275133	<u>acaule</u>	Argentina	0.686	-0.848
57		<u>tuberosum</u> subsp. <u>tuberosum</u> , Minn. code 148		0.685	-0.848
58	PI 186561	<u>demissum</u>	Mexico	0.683	-0.848
59	PI 275183	<u>brachycarpum</u>	Mexico	0.674	-0.879
60	PI 186176	<u>acaule</u>	Peru	0.673	-0.879
61	PI 186181	<u>curtilobum</u>		0.667	-0.889
62	PI 243388	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.667	-0.889
63		<u>tuberosum</u> subsp. <u>tuberosum</u> , Minn. code 49		0.654	-0.889
64	PI 281025	<u>tuberosum</u> subsp. <u>tuberosum</u>	Bolivia	0.652	-0.906
65	PI 186179	<u>tuberosum</u> subsp. <u>andigena</u>	Peru	0.649	-0.906
66	PI 275147	<u>megistacrolobum</u>	Argentina	0.646	-0.910
67	PI 161719	<u>demissum</u>	Mexico	0.644	-0.910
68	PI 255490	<u>ajanhuiri</u>	Bolivia	0.633	-0.920
69	PI 243370	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.626	-0.920
70	PI 275260	<u>verrucosum</u>	Mexico	0.618	-0.920
71	PI 281035	<u>tuberosum</u> subsp. <u>tuberosum</u>	Mexico	0.617	-0.920
72	PI 258910	<u>stenotomum</u>	Bolivia	0.613	-0.943
73	PI 245820	<u>tuberosum</u> subsp. <u>tuberosum</u>	Chile	0.613	-0.943
74	PI 233983	<u>tuberosum</u> subsp. <u>tuberosum</u>	Bolivia	0.607	-0.943
75	PI 214443	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.597	-0.943
76	PI 275234	<u>pinnatisectum</u>	Mexico	0.596	-0.943
77	USW 2638	AG-231 x <u>multidissectum</u>		0.594	-0.943
78	PI 160229	<u>demissum</u>	Mexico	0.586	-0.966
79	PI 275251	<u>stoloniferum</u>	Mexico	0.578	-0.974
80	PI 201850	<u>demissum</u>		0.577	-0.974
81	PI 275255	<u>verrucosum</u>	Mexico	0.574	-0.974
82		<u>tuberosum</u> subsp. <u>tuberosum</u> , Minn. code 43		0.563	-0.974
83	PI 275235	<u>pinnatisectum</u>	Mexico	0.558	-0.998
84	PI 265575	<u>simplicifolium</u>	Argentina	0.551	-0.998
85	PI 232046	<u>tuberosum</u> subsp. <u>andigena</u>	Peru	0.550	-0.998
86	PI 245842	<u>tuberosum</u> subsp. <u>tuberosum</u>	Chile	0.538	-1.017
87	PI 243374	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.535	-1.017
88	PI 265578	<u>megistacrolobum</u>	Bolivia	0.532	-1.025
89	PI 161164	<u>demissum</u>	Mexico	0.530	-1.025
90	PI 230589	<u>demissum</u>	Mexico	0.528	-1.025
91	PI 280915	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.527	-1.025
92	PI 275242.3	<u>sambucinum</u>	Mexico	0.521	-1.025
93	PI 251741	<u>papita</u>	Mexico	0.520	-1.025
94	WRF 305	<u>chacoense</u>		0.518	-1.025
95	PI 280897	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.514	-1.041
96	PI 225694	<u>phureja</u>	Colombia	0.512	-1.041
97	PI 280863	<u>tuberosum</u>	Argentina	0.502	-1.041
98		<u>tuberosum</u> subsp. <u>tuberosum</u> , Red Pontiac		0.500	-1.041
99	PI 186180	<u>tuberosum</u> subsp. <u>andigena</u>	Peru	0.498	-1.041
100	PI 214430	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.497	-1.041
101	PI 210048	<u>raphanifolium</u>	Peru	0.496	-1.041
102	PI 225677	<u>phureja</u>	Colombia	0.492	-1.041
103	PI 195211	<u>tuberosum</u> subsp. <u>andigena</u>		0.491	-1.041
104	PI 214434	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.489	-1.041
105	PI 205623	<u>tuberosum</u> subsp. <u>andigena</u>		0.488	-1.041
106	PI 225628	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.488	-1.041
107	PI 230457	<u>tuberosum</u> subsp. <u>andigena</u>		0.485	-1.072
108	PI 225688	<u>phureja</u>	Colombia	0.484	-1.072
109	PI 234012	<u>stenotomum</u>	Bolivia	0.478	-1.072
110	PI 209426	<u>tuberosum</u> subsp. <u>tuberosum</u>	Argentina	0.477	-1.072



Table 1 (continued). Relative resistance of tuber-bearing Solanum introductions to green peach aphid.

Rank	IR-1 no.	Species variety or hybrid	Country of origin	Mean no. aphids per plant $\log_{10}(x+.01)$	Not significantly different <sup>a</sup> through $\log_{10}(x+.01)$
111	PI 243361	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.476	-1.072
112	PI 275157	<u>fendleri</u>	United States	0.474	-1.072
113	PI 232839	<u>tuberosum</u> subsp. <u>andigena</u>	Peru	0.474	-1.072
114	PI 217450	<u>acaule</u>	Argentina	0.470	
115	PI 230562	<u>vernei</u>	Argentina	0.467	-1.072
116	PI 275228	<u>papita</u>	Mexico	0.461	-1.072
117	PI 233997	<u>tuberosum</u> subsp. <u>andigena</u>	Bolivia	0.456	-1.072
118	PI 210029	<u>acaule</u>	Bolivia	0.446	-1.103
119	PI 243377	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.439	-1.115
120	PI 245933	<u>tuberosum</u> subsp. <u>tuberosum</u>	Chile	0.437	-1.115
121	PI 225681	<u>phureja</u>	Colombia	0.434	-1.115
122	PI 280875	<u>tuberosum</u> subsp. <u>tuberosum</u>	Argentina	0.429	-1.115
123	PI 210034	<u>megistacrolobum</u>	Bolivia	0.427	-1.115
124	PI 232842	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.418	-1.115
125	PI 234002	<u>tuberosum</u> subsp. <u>tuberosum</u>	Bolivia	0.415	-1.115
126	PI 232054	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.411	-1.146
127	PI 225629	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.404	-1.146
128	PI 280868	<u>tuberosum</u> subsp. <u>tuberosum</u>	Argentina	0.393	-1.146
129	PI 233985	<u>tuberosum</u> subsp. <u>tuberosum</u>	Bolivia	0.392	-1.146
130	PI 225633	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.383	-1.146
131	PI 243384	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.383	-1.146
132	PI 209417	<u>tuberosum</u> subsp. <u>andigena</u>	Argentina	0.380	-1.146
133	PI 243365	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.369	-1.188
134	PI 255526	<u>polytrichon</u>	Mexico	0.364	
135	PI 243360	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.364	-1.188
136	PI 243503	<u>commersonii</u>	Argentina	0.355	-1.188
137	PI 214426	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.353	-1.188
138	PI 233994	<u>tuberosum</u> subsp. <u>andigena</u>	Bolivia	0.351	-1.188
139	PI 214442	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.348	-1.188
140	PI 234000	<u>tuberosum</u> subsp. <u>tuberosum</u>	Bolivia	0.348	-1.188
141	PI 280883	<u>tuberosum</u> subsp. <u>tuberosum</u>	Argentina	0.347	-1.188
142	PI 280896	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.340	-1.188
143		<u>tuberosum</u> subsp. <u>tuberosum</u> ,	Minn. code 87	0.335	-1.219
144	PI 225632	<u>tuberosum</u>	Colombia	0.334	-1.219
145	PI 275139	<u>chacoense</u>	Argentina	0.332	-1.219
146	PI 255547	<u>polytrichon</u>	Mexico	0.331	-1.219
147	PI 197933	<u>tuberosum</u> subsp. <u>andigena</u>	Colombia	0.331	-1.219
148	PI 275231	<u>pinnatisectum</u>	Mexico	0.330	-1.219
149	PI 245933.1	<u>tuberosum</u> subsp. <u>tuberosum</u>	Chile	0.321	-1.219
150	PI 280877	<u>tuberosum</u> subsp. <u>tuberosum</u>	Argentina	0.318	-1.219
151	PI 265861	<u>boliviense</u>	Bolivia	0.313	-1.219
152	PI 275143	<u>spgazzinii</u>	Argentina	0.311	-1.219
153	PI 230506	<u>bukasovii</u>	Peru	0.285	-1.219
154	PI 195172	<u>verrucosum</u>	Mexico	0.283	-1.219
155	PI 283091	<u>sucrense</u>	Bolivia	0.278	-1.219
156	PI 243395	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.273	-1.219
157	PI 281033	<u>tuberosum</u> subsp. <u>tuberosum</u>	Mexico	0.273	-1.219
158	PI 225637	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.261	
159	PI 225651	<u>curtilobum</u>	Colombia	0.259	-1.219
160	PI 265874	<u>megistacrolobum</u>	Bolivia	0.259	-1.219
161	PI 280914	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.259	-1.219
162	PI 243393	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.249	-1.305
163	PI 243385	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.246	-1.305
164	PI 275227	<u>papita</u>	Mexico	0.241	-1.305
165	PI 214425	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.241	-1.305

Table 1 (continued). Relative resistance of tuber-bearing Solanum introductions to green peach aphid.

Rank	IR-1 no.	Species variety or hybrid	Country of origin	Mean no. aphids per plant $\log_{10}(x+.01)$	Not significantly different <sup>a</sup> through $\log_{10}(x+.01)$
166	PI 209419	<u>tuberosum</u> subsp. <u>andigena</u>	Argentina	0.233	-1.305
167	PI 230475	<u>tuberosum</u> subsp. <u>tuberosum</u>	Costa Rica	0.228	-1.305
168	PI 281003	<u>tuberosum</u> subsp. <u>tuberosum</u>	Bolivia	0.217	-1.336
169	PI 265858	<u>berthaultii</u>	Bolivia	0.212	-1.336
170	PI 255534	<u>stoloniferum</u>	Mexico	0.212	-1.336
171	PI 280871	<u>tuberosum</u> subsp. <u>tuberosum</u>	Argentina	0.196	-1.336
172	PI 280958	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.185	-1.336
173	PI 234011	<u>stenotomum</u>	Bolivia	0.178	-1.336
174	75	<u>michoacanum</u> x <u>pinnatisectum</u>		0.176	-1.380
175	WRF 1282	<u>polytrichon</u>		0.167	-1.380
176	PI 283082	<u>megistacrolobum</u>	Bolivia	0.166	-1.380
177	PI 266385	<u>canasense</u>	Peru	0.159	-1.380
178	PI 275240	<u>polytrichon</u>	Mexico	0.159	-1.380
179	PI 233998	<u>tuberosum</u> subsp. <u>andigena</u>	Bolivia	0.151	-1.380
180	PI 214422	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.147	-1.380
181	PI 161174	<u>hougasii</u>	Mexico	0.145	-1.380
182	WRF 1277	<u>ehrenbergii</u>		0.138	
183	PI 233992	<u>tuberosum</u> subsp. <u>andigena</u>	Bolivia	0.135	-1.380
184	PI 233987	<u>tuberosum</u> subsp. <u>tuberosum</u>	Bolivia	0.132	-1.380
185	PI 280890	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.122	-1.380
186	PI 230496	<u>tuberosum</u> subsp. <u>andigena</u>	Peru	0.109	-1.380
187	PI 283106	<u>polytrichon</u>	Mexico	0.108	-1.380
188	PI 243366	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.105	-1.380
189	PI 184770	<u>polytrichon</u>	Mexico	0.092	-1.380
190	PI 210055	<u>multidissectum</u>	Peru	0.085	-1.380
191	WRF 1284	<u>stenotomum</u>		0.079	-1.380
192	PI 232841	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.067	-1.380
193	PI 209415	<u>tuberosum</u> subsp. <u>andigena</u>	Argentina	0.065	-1.380
194	USW 380	Merrimack x <u>stenotomum</u>		0.064	
195	WRF 1270	<u>ajanhui</u>		0.054	-1.499
196	PI 283105	<u>papita</u>	Mexico	0.054	-1.499
197	PI 161155	<u>demissum</u>	Mexico	0.037	-1.499
198	PI 234585	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.035	-1.499
199	PI 265873	<u>megistacrolobum</u>	Bolivia	0.032	-1.499
200	WRF 1290	<u>tuberosum</u> subsp. <u>andigena</u>		0.032	-1.499
201	PI 205624	<u>tuberosum</u> subsp. <u>andigena</u>		0.028	-1.499
202	PI 225673	<u>phureja</u>	Colombia	0.021	-1.530
203	WRF 1293	<u>tuberosum</u> subsp. <u>andigena</u>		0.017	-1.530
204		<u>tuberosum</u> subsp. <u>tuberosum</u>	Chisago	0.016	-1.542
205	PI 161178	<u>stoloniferum</u>	Mexico	0.007	-1.542
206	PI 280905	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	-0.010	-1.542
207	PI 189473	<u>tuberosum</u> subsp. <u>andigena</u>	Mexico	-0.022	-1.573
208	PI 265872	<u>medians</u>	Peru	-0.024	-1.573
209	PI 225667	<u>phureja</u>	Colombia	-0.039	-1.573
210	PI 186560	<u>hjertingii</u>	Mexico	-0.040	-1.573
211	PI 210049	<u>raphanifolium</u>	Peru	-0.040	-1.573
212	PI 243380	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	-0.056	
213	PI 275266	<u>jamesii</u>	United States	-0.064	-1.617
214	PI 186178	<u>tuberosum</u> subsp. <u>andigena</u>	Peru	-0.067	-1.617
215	PI 225675	<u>phureja</u>	Colombia	-0.067	-1.617
216	PI 275245	<u>stoloniferum</u>	Mexico	-0.076	-1.617
217	PI 275164	<u>fendleri</u>	United States	-0.079	-1.617
218	PI 218220	<u>venturii</u>	Argentina	-0.086	-1.617
219	PI 225650	<u>curtilobum</u>	Colombia	-0.088	-1.617
220	PI 255543	<u>verrucosum</u>	Mexico	-0.089	-1.646

Table 1 (continued). Relative resistance of tuber-bearing Solanum introductions to green peach aphid.

Rank	IR-1 no.	Species variety or hybrid	Country of origin	Mean no. aphids per plant $\log_{10}(x+.01)$	Not significantly different <sup>a</sup> through $\log_{10}(x+.01)$
221		<u>tuberosum</u> subsp. <u>tuberosum</u>	Minn. code 101	-0.092	-1.646
222	PI 258855	<u>phureja</u>	Bolivia	-0.100	-1.646
223	PI 230500	<u>tuberosum</u> subsp. <u>andigena</u>	Peru	-0.111	-1.646
224	PI 230513	<u>stenotomum</u>	Peru	-0.112	-1.646
225		<u>tuberosum</u> subsp. <u>tuberosum</u>	Russet Burbank	-0.113	-1.646
226	PI 186549	<u>ehrenbergii</u>	Mexico	-0.124	-1.646
227	PI 275156	<u>fendleri</u>	United States	-0.125	-1.646
228	PI 280902	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	-0.129	-1.646
229	PI 197757	<u>tuberosum</u> subsp. <u>andigena</u>	Bolivia	-0.138	-1.646
230	PI 280866	<u>tuberosum</u> subsp. <u>tuberosum</u>	Argentina	-0.138	-1.646
231	PI 230499	<u>tuberosum</u> subsp. <u>andigena</u>	Peru	-0.139	-1.646
232	PI 243386	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	-0.146	-1.646
233	PI 209433	<u>tuberosum</u> subsp. <u>tuberosum</u>	Argentina	-0.154	-1.646
234	PI 280888	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	-0.154	-1.646
235	PI 265878	<u>raphanifolium</u>	Peru	-0.158	-1.646
236	PI 230474	<u>tuberosum</u> subsp. <u>andigena</u>	Peru	-0.161	-1.646
237	PI 246488	<u>raphanifolium</u>	Peru	-0.163	-1.646
238	PI 275212	<u>ehrenbergii</u>	Mexico	-0.172	-1.646
239	PI 280901	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	-0.173	-1.646
240	PI 234007	<u>stenotomum</u>	Bolivia	-0.175	-1.646
241	PI 175444	<u>polyadenium</u>	Mexico	-0.194	-1.646
242	PI 275244	<u>stoloniferum</u>	Mexico	-0.205	-1.646
243	PI 265869	<u>sparsipilum</u>	Bolivia	-0.207	-1.646
244	PI 283116	<u>phureja</u>	Colombia	-0.217	-1.646
245	PI 280903	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	-0.217	-1.646
246	USW 3685	Merrimac x <u>stenotomum</u>		-0.225	-1.646
247	PI 283062	<u>cardiophyllum</u>		-0.234	-1.646
248	PI 197932	<u>tuberosum</u> subsp. <u>andigena</u>	Colombia	-0.251	-1.646
249	PI 275247	<u>stoloniferum</u>	Mexico	-0.255	-1.646
250	PI 186559	<u>hjertingii</u>	Mexico	-0.256	-1.646
251	PI 280884	<u>tuberosum</u> subsp. <u>tuberosum</u>	Argentina	-0.261	-1.646
252	PI 243397	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	-0.273	-1.646
253	PI 214423	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	-0.279	-1.646
254	PI 243392	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	-0.283	-1.646
255	PI 243382	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	-0.292	-1.646
256	PI 281059	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	-0.292	-1.646
257	PI 275241	<u>polytrichon</u>	Mexico	-0.296	-1.646
258	PI 275274.4	<u>pampasense</u>	Peru	-0.303	-1.646
259	PI 218218	<u>spgazzinii</u>	Argentina	-0.306	-1.646
260	PI 280907	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	-0.332	-1.646
261	PI 280997	<u>tuberosum</u> subsp. <u>tuberosum</u>	Bolivia	-0.338	-1.646
262	PI 195214	<u>stenotomum</u>	Peru	-0.340	-1.646
263	PI 225672	<u>phureja</u>	Colombia	-0.346	-1.646
264	PI 265876	<u>bukasovii</u>	Peru	-0.347	-1.646
265	PI 225682	<u>phureja</u>	Colombia	-0.347	-1.646
266	PI 230498	<u>tuberosum</u> subsp. <u>andigena</u>	Peru	-0.349	-1.646
267	PI 205622	<u>tuberosum</u> subsp. <u>andigena</u>		-0.385	-1.646
268	PI 251067	<u>hjertingii</u>	Mexico	-0.390	-1.646
269	PI 243390	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	-0.390	-1.646
270	USW 3068	Merrimac x <u>stenotomum</u>		-0.405	-1.646
271	PI 225635	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	-0.405	-1.646
272	PI 243460	<u>phureja</u>	Colombia	-0.407	-1.646
273	PI 243343	<u>tuberosum</u> subsp. <u>tuberosum</u>	Mexico	-0.409	-1.646
274	PI 275152	<u>sanctae-rosae</u>	Argentina	-0.421	-1.646
275	PI 195162	<u>tuberosum</u> subsp. <u>andigena</u>		-0.422	-1.646

Table 1 (continued). Relative resistance of tuber-bearing Solanum introductions to green peach aphid.

Rank	IR-1 no.	Species variety or hybrid	Country of origin	Mean no. aphids per plant $\log_{10}(x+.01)$	Not significantly different through $\log_{10}(x+.01)$
276	PI 255548	<u>stoloniferum</u>	Mexico	-0.431	-1.646
277	PI 214435	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	-0.441	-1.646
278	PI 210052	<u>multidissectum</u>	Peru	-0.464	-2.000
279	PI 233961	<u>brevicaule</u>	Bolivia	-0.468	
280	PI 275250	<u>stoloniferum</u>	Mexico	-0.478	
281	PI 243462	<u>phureja</u>	Colombia	-0.480	-2.000
282	PI 217450	<u>acaule</u>	Argentina	-0.495	-2.000
283	PI 275174	<u>hjertingii</u>	Mexico	-0.502	-2.000
284	PI 237208	<u>tuberosum</u> subsp. <u>tuberosum</u>	Ecuador	-0.504	-2.000
285	WRF 1285	<u>stenotomum</u>		-0.525	-2.000
286	PI 283074	<u>canasense</u>	Peru	-0.527	-2.000
287	PI 243381	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	-0.527	-2.000
288	PI 186177	<u>tuberosum</u> subsp. <u>andigena</u>	Peru	-0.545	-2.000
289	PI 281119	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	-0.555	-2.000
290	PI 275185	<u>bulbocastanum</u>	Mexico	-0.573	
291	PI 281021	<u>tuberosum</u> subsp. <u>tuberosum</u>	Bolivia	-0.599	-2.000
292	PI 184773	<u>polytrichon</u>	Mexico	-0.620	-2.000
293	PI 255535	<u>stoloniferum</u>	Mexico	-0.620	-2.000
294	PI 280887	<u>tuberosum</u> subsp. <u>tuberosum</u>	Argentina	-0.642	-2.000
295	PI 225679	<u>phureja</u>	Colombia	-0.647	-2.000
296	PI 275262	<u>jamesii</u>	United States	-0.674	-2.000
297	PI 214424	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	-0.694	-2.000
298	PI 210044	<u>multidissectum</u>	Peru	-0.694	-2.000
299	PI 232840	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	-0.705	-2.000
300	PI 265863	<u>canasense</u>	Peru	-0.717	-2.000
301	PI 184765.4	<u>cardiophyllum</u>	Mexico	-0.730	-2.000
302	PI 280908	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	-0.769	-2.000
303	WRF 547	<u>polytrichon</u>		-0.791	-2.000
304	PI 251724	<u>stoloniferum</u>	Mexico	-0.819	-2.000
305	PI 275198	<u>bulbocastanum</u>	Mexico	-0.824	-2.000
306	PI 186563	<u>stoloniferum</u>	Mexico	-0.831	-2.000
307	PI 275193	<u>bulbocastanum</u>	Mexico	-0.836	
308	PI 281014	<u>tuberosum</u> subsp. <u>tuberosum</u>	Bolivia	-0.848	-2.000
309	PI 262895	<u>fendleri</u>	Mexico	-0.879	-2.000
310	PI 225683	<u>phureja</u>	Colombia	-0.879	-2.000
311	PI 243378	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	-0.879	-2.000
312	PI 275246	<u>stoloniferum</u>	Mexico	-0.889	-2.000
313	PI 266387	<u>chomatophilum</u>	Peru	-0.906	-2.000
314	PI 205397	<u>sanctae-rosae</u>	Argentina	-0.910	-2.000
315	PI 233988	<u>tuberosum</u> subsp. <u>tuberosum</u>	Bolivia	-0.920	-2.000
316	PI 160224	<u>stoloniferum</u>	Mexico	-0.940	
317	PI 280869	<u>tuberosum</u> subsp. <u>tuberosum</u>	Argentina	-0.942	-2.000
318	PI 275187	<u>bulbocastanum</u>	Mexico	-0.943	-2.000
319	PI 218221	<u>sanctae-rosae</u>	Argentina	-0.966	-2.000
320	WRF 276	<u>ehrenbergii</u>		-0.974	-2.000
321	PI 186548	<u>ehrenbergii</u>	Mexico	-0.997	-2.000
322	PI 245317	<u>tuberosum</u> subsp. <u>tuberosum</u>	Chile	-0.997	-2.000
323	PI 161173	<u>verrucosum</u>	Mexico	-0.998	-2.000
324	PI 265879	<u>megistacrolobum</u>	Argentina	-1.017	-2.000
325	PI 233984	<u>tuberosum</u> subsp. <u>tuberosum</u>	Bolivia	-1.025	-2.000
326	WRF 1271	<u>brachistotrichum</u>		-1.041	-2.000
327	PI 225668	<u>phureja</u>	Colombia	-1.052	
328	PI 243505	<u>bulbocastanum</u>	Mexico	-1.072	-2.000
329	PI 205522	<u>stoloniferum</u>	Mexico	-1.072	-2.000
330	PI 283095	<u>brachistotrichum</u>	Mexico	-1.099	

Table 1 (continued). Relative resistance of tuber-bearing Solanum introductions to green peach aphid.

Rank	IR-1 no.	Species variety or hybrid	Country of origin	Mean no. aphids per plant $\log_{10}(x+.01)$	Not significantly different through $\log_{10}(x+.01)$
331	PI 265875	<u>canasense</u>	Peru	-1.099	
332	PI 230464	<u>sanctae-rosae</u>	Argentina	-1.101	-2.000
333	PI 283102	<u>fendleri</u>	Mexico	-1.103	-2.000
334	PI 184903	<u>tuberosum</u> subsp. <u>andigena</u>	Guatemala	-1.114	-2.000
335	PI 255527	<u>stenophyllidium</u>	Mexico	-1.115	-2.000
336	PI 275214	<u>ehrenbergii</u>	Mexico	-1.145	-2.000
337	WRF 1276	<u>ehrenbergii</u>		-1.146	-2.000
338	PI 210038	<u>gourlayi</u>	Argentina	-1.188	-2.000
339	PI 243387	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	-1.188	-2.000
340	PI 265875	<u>canasense</u>	Peru	-1.199	
341	PI 283089	<u>sanctae-rosae</u>	Argentina	-1.219	-2.000
342	PI 255520.1	<u>ehrenbergii</u>	Mexico	-1.231	
343	PI 210043	<u>multidissectum</u>	Peru	-1.269	
344	PI 275256	<u>verrucosum</u>	Mexico	-1.272	
345	PI 283064	<u>michoacanum</u>	Mexico	-1.274	
346	PI 275248	<u>stoloniferum</u>	Mexico	-1.289	
347	PI 210051	<u>multidissectum</u>	Peru	-1.290	
348	PI 243508	<u>bulbocastanum</u>	Mexico	-1.305	-2.000
349	PI 225693	<u>phureja</u>	Colombia	-1.330	
350	PI 281092	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	-1.330	
351	PI 275257	<u>verrucosum</u>	Mexico	-1.331	-2.000
352	PI 275158	<u>fendleri</u>	United States	-1.336	-2.000
353	PI 255538	<u>michoacanum</u>	Mexico	-1.380	-2.000
354	PI 275189	<u>bulbocastanum</u>	Mexico	-1.499	-2.000
355	PI 251063	<u>hjertingii</u>	Mexico	-1.499	-2.000
356	PI 195190	<u>jamesii</u>		-1.499	-2.000
357	PI 210040	<u>marinasense</u>	Peru	-1.499	-2.000
358	PI 210042	<u>multidissectum</u>	Peru	-1.499	-2.000
359	PI 160226	<u>stoloniferum</u>	Mexico	-1.499	-2.000
360	PI 280909	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	-1.530	-2.000
361	PI 275254	<u>verrucosum</u>	Mexico	-1.542	-2.000
362	PI 275271	<u>bukasovii</u>	Peru	-1.573	-2.000
363	PI 255532	<u>stoloniferum</u>	Mexico	-1.617	-2.000
364	PI 275249	<u>stoloniferum</u>	Mexico	-1.646	-2.000
365	PI 275149	<u>megistacrolobum</u>	Argentina	-1.682	
366	PI 275195	<u>bulbocastanum</u>	Mexico	-1.802	
367	PI 275216	<u>ehrenbergii</u>	Mexico	-1.803	
368	PI 275199	<u>bulbocastanum</u>	Mexico	-1.900	
369	PI 251062	<u>fendleri</u>	Mexico	-1.900	
370	PI 255537	<u>michoacanum</u>	Mexico	-1.900	
371	PI 265579	<u>infundibuliforme</u>	Argentina	-1.942	
372	PI 243507	<u>bulbocastanum</u>	Mexico	-2.000	-2.000
373	PI 243512	<u>bulbocastanum</u>	Mexico	-2.000	
374	PI 275186	<u>bulbocastanum</u>	Mexico	-2.000	-2.000
375	PI 275188	<u>bulbocastanum</u>	Mexico	-2.000	-2.000
376	PI 255520	<u>ehrenbergii</u>	Mexico	-2.000	
377	PI 255539	<u>michoacanum</u>	Mexico	-2.000	
378	PI 255540	<u>michoacanum</u>	Mexico	-2.000	
379	PI 255529	<u>stenophyllidium</u>	Mexico	-2.000	-2.000
380	PI 275252	<u>stoloniferum</u>	Mexico	-2.000	-2.000
381	USW 4384	B3556-12 x <u>stenotomum</u>		-2.000	

<sup>a</sup> Duncan's New Multiple Range Test applied at 5% level of significance. Significant ranges given only for entries with 4 replicates. Standard error of mean is 0.417.

Table 2. Relative resistance of tuber-bearing Solanum introductions to potato leafhopper.

Rank	IR-1 no.	Species variety or hybrid	Country of origin	Mean no. leafhoppers per plant $\log_{10}(x+.01)$	Not significantly different <sup>a</sup> through $\log_{10}(x+.01)$
1		<u>tuberosum</u> subsp. <u>tuberosum</u> ,	Red Pontiac	1.319	0.027
2		<u>tuberosum</u> subsp. <u>tuberosum</u> ,	Minn. code 101	1.276	-0.015
3		<u>tuberosum</u> subsp. <u>tuberosum</u> ,	Chisago	1.145	-0.143
4	PI 243462	<u>phureja</u>	Colombia	1.116	-0.166
5	WRF 1284	<u>stenotomum</u>		1.084	-0.200
6		<u>tuberosum</u> subsp. <u>tuberosum</u> ,	Minn. code 49	1.054	-0.228
7		<u>tuberosum</u> subsp. <u>tuberosum</u> ,	Red Warba	1.048	-0.228
8	PI 209426	<u>tuberosum</u> subsp. <u>tuberosum</u>	Argentina	1.017	-0.274
9	PI 280868	<u>tuberosum</u> subsp. <u>tuberosum</u>	Argentina	1.013	-0.274
10	PI 280901	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	1.006	
11	PI 280883	<u>tuberosum</u> subsp. <u>tuberosum</u>	Argentina	1.000	-0.289
12	PI 233997	<u>tuberosum</u> subsp. <u>andigena</u>	Bolivia	0.998	-0.289
13	PI 233988	<u>tuberosum</u> subsp. <u>tuberosum</u>	Bolivia	0.995	-0.289
14		<u>tuberosum</u> subsp. <u>tuberosum</u> ,	Minn. code 87	0.992	-0.289
15	PI 209415	<u>tuberosum</u> subsp. <u>andigena</u>	Argentina	0.986	-0.303
16	PI 280863	<u>tuberosum</u> subsp. <u>tuberosum</u>	Argentina	0.973	-0.303
17		<u>tuberosum</u> subsp. <u>tuberosum</u> ,	Minn. code 148	0.972	-0.303
18	WRF 1290	<u>tuberosum</u> subsp. <u>andigena</u>		0.970	-0.303
19	PI 205624	<u>tuberosum</u> subsp. <u>andigena</u>		0.961	-0.331
20	PI 233998	<u>tuberosum</u> subsp. <u>andigena</u>	Bolivia	0.959	-0.331
21	PI 280890	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.954	-0.336
22	PI 214436	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.950	-0.336
23	PI 209419	<u>tuberosum</u> subsp. <u>andigena</u>	Argentina	0.943	-0.346
24	PI 234002	<u>tuberosum</u> subsp. <u>tuberosum</u>	Bolivia	0.936	-0.356
25	PI 233994	<u>tuberosum</u> subsp. <u>andigena</u>	Bolivia	0.932	-0.361
26	75	<u>michoacanum</u> x <u>pinnatisectum</u>		0.931	-0.361
27	PI 275156	<u>fendleri</u>	United States	0.930	-0.361
28		<u>tuberosum</u> subsp. <u>tuberosum</u> ,	Russet Burbank	0.926	-0.364
29	PI 232054	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.924	-0.364
30	PI 233987	<u>tuberosum</u> subsp. <u>tuberosum</u>	Bolivia	0.912	-0.380
31	WRF 1292	<u>tuberosum</u> subsp. <u>andigena</u>		0.907	-0.380
32		<u>tuberosum</u> subsp. <u>tuberosum</u> ,	Minn. code 151	0.904	-0.380
33	PI 243394	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.882	-0.405
34	WRF 1270	<u>ajanhuiri</u>		0.879	-0.405
35	PI 233984	<u>tuberosum</u> subsp. <u>tuberosum</u>	Bolivia	0.875	-0.405
36	PI 280915	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.869	-0.421
37	PI 233981	<u>tuberosum</u> subsp. <u>tuberosum</u>	Bolivia	0.868	-0.421
38		<u>tuberosum</u> subsp. <u>tuberosum</u> ,	Minn code 154	0.865	-0.421
39	PI 280889	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.863	-0.421
40	WRF 1293	<u>tuberosum</u> subsp. <u>andigena</u>		0.858	-0.421
41	PI 245933	<u>tuberosum</u> subsp. <u>tuberosum</u>	Chile	0.857	-0.421
42	PI 186178	<u>tuberosum</u> subsp. <u>andigena</u>	Peru	0.853	-0.421
43	PI 225672	<u>phureja</u>	Colombia	0.848	-0.442
44	PI 225667	<u>phureja</u>	Colombia	0.830	-0.460
45	PI 225681	<u>phureja</u>	Colombia	0.828	-0.465
46	PI 280897	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.828	-0.465
47	PI 195211	<u>tuberosum</u> subsp. <u>andigena</u>		0.821	-0.465
48	WRF 1285	<u>stenotomum</u>		0.805	-0.465
49	PI 275133	<u>acaule</u>	Argentina	0.804	-0.465
50	PI 225650	<u>curtilobum</u>	Colombia	0.804	-0.465
51	PI 280902	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.801	-0.465
52	PI 225628	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.790	-0.465
53	PI 243370	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.789	-0.465
54	PI 280874	<u>tuberosum</u> subsp. <u>tuberosum</u>	Argentina	0.781	-0.465
55	PI 243396	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.772	-0.465

Table 2 (continued). Relative resistance of tuber-bearing Solanum introductions to potato leafhopper.

Rank	IR-1 no.	Species variety or hybrid	Country of origin	Mean no. leafhoppers per plant $\log_{10}(x+.01)$	Not significantly different <sup>a</sup> through $\log_{10}(x+.01)$
56	PI 218224	<u>simplicifolium</u>	Argentina	0.769	-0.465
57	WRF 1283	<u>simplicifolium</u>		0.769	-0.465
58	PI 209417	<u>tuberosum</u> subsp. <u>andigena</u>	Argentina	0.769	-0.465
59	PI 281033	<u>tuberosum</u> subsp. <u>tuberosum</u>	Mexico	0.768	-0.465
60	PI 186179	<u>tuberosum</u> subsp. <u>andigena</u>	Peru	0.761	-0.528
61	PI 214423	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.757	-0.528
62		<u>tuberosum</u> subsp. <u>tuberosum</u>	Norland	0.752	-0.540
63	PI 197757	<u>tuberosum</u> subsp. <u>andigena</u>	Bolivia	0.751	-0.540
64	PI 230513	<u>stenotomum</u>	Peru	0.741	-0.547
65	PI 275245	<u>stoloniferum</u>	Mexico	0.737	-0.547
66	PI 205623	<u>tuberosum</u> subsp. <u>andigena</u>		0.733	-0.547
67	PI 225673	<u>phureja</u>	Colombia	0.720	-0.568
68	PI 225693	<u>phureja</u>	Colombia	0.718	
69	PI 209433	<u>tuberosum</u> subsp. <u>tuberosum</u>	Argentina	0.715	-0.568
70	PI 233982	<u>tuberosum</u> subsp. <u>tuberosum</u>	Bolivia	0.713	-0.568
71	PI 230562	<u>vernei</u>	Argentina	0.713	-0.568
72	PI 280958	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.710	-0.584
73	PI 225683	<u>phureja</u>	Colombia	0.702	-0.584
74		<u>tuberosum</u> subsp. <u>tuberosum</u>	Minn. code 43	0.701	-0.584
75	PI 232841	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.697	-0.584
76	PI 214426	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.696	-0.584
77	PI 243366	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.695	-0.584
78	PI 225682	<u>phureja</u>	Colombia	0.694	-0.686
79	PI 280891	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.693	-0.686
80	PI 275248	<u>stoloniferum</u>	Mexico	0.692	
81	PI 280871	<u>tuberosum</u> subsp. <u>tuberosum</u>	Argentina	0.692	-0.686
82	PI 233992	<u>tuberosum</u> subsp. <u>andigena</u>	Bolivia	0.689	-0.686
83	PI 232045	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.684	-0.686
84	PI 230499	<u>tuberosum</u> subsp. <u>andigena</u>	Peru	0.682	-0.686
85	PI 243371	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.674	-0.686
86	PI 225679	<u>phureja</u>	Colombia	0.669	-0.686
87	PI 281003	<u>tuberosum</u> subsp. <u>tuberosum</u>	Bolivia	0.667	-0.686
88	PI 281119	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.657	-0.686
89	PI 275149	<u>megistacrolobum</u>	Argentina	0.652	
90	PI 243365	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.646	-0.686
91	PI 233985	<u>tuberosum</u> subsp. <u>tuberosum</u>	Bolivia	0.645	-0.686
92	PI 243373	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.643	-0.686
93		<u>tuberosum</u> subsp. <u>tuberosum</u>	Minn. code 212	0.641	-0.686
94	PI 280910	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.638	-0.732
95	PI 245933.1	<u>tuberosum</u> subsp. <u>tuberosum</u>	Chile	0.632	-0.732
96	PI 275193	<u>bulbocastanum</u>	Mexico	0.629	
97	PI 225651	<u>curtilobum</u>	Colombia	0.627	-0.732
98	PI 197932	<u>tuberosum</u> subsp. <u>andigena</u>	Colombia	0.626	-0.732
99	PI 243385	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.625	-0.732
100	PI 280877	<u>tuberosum</u> subsp. <u>tuberosum</u>	Argentina	0.622	-0.732
101	PI 230464	<u>sanctae-rosae</u>	Argentina	0.620	-0.732
102	PI 161178	<u>stoloniferum</u>	Mexico	0.613	-0.732
103	PI 275228	<u>papita</u>	Mexico	0.611	-0.732
104	PI 225677	<u>phureja</u>	Colombia	0.610	-0.732
105	PI 218220	<u>venturii</u>	Argentina	0.610	-0.732
106	PI 232842	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.604	-0.584
107	PI 243392	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.603	-0.584
108	PI 275246	<u>stoloniferum</u>	Mexico	0.594	-0.584
109	PI 237208	<u>tuberosum</u> subsp. <u>tuberosum</u>	Ecuador	0.588	-0.584
110	PI 243361	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.587	-0.584

Table 2 (continued). Relative resistance of tuber-bearing Solanum introductions to potato leafhopper.

Rank	IR-1 no.	Species variety or hybrid	Country of origin	Mean no. leafhoppers per plant $\log_{10}(x+.01)$	Not significantly different <sup>a</sup> through $\log_{10}(x+.01)$
111	PI 243387	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.585	-0.584
112	PI 280887	<u>tuberosum</u> subsp. <u>tuberosum</u>	Argentina	0.584	-0.584
113	PI 230500	<u>tuberosum</u> subsp. <u>andigena</u>	Peru	0.580	-0.584
114	PI 225649	<u>curtilobum</u>	Colombia	0.579	-0.584
115	PI 232046	<u>tuberosum</u> subsp. <u>andigena</u>	Peru	0.577	-0.629
116	PI 214425	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.566	-0.629
117	PI 243388	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.566	-0.629
118	PI 280875	<u>tuberosum</u> subsp. <u>tuberosum</u>	Argentina	0.565	-0.629
119	PI 225694	<u>phureja</u>	Colombia	0.563	-0.651
120	PI 214443	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.562	-0.651
121	PI 214442	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.559	-0.661
122	PI 205622	<u>tuberosum</u> subsp. <u>andigena</u>		0.555	-0.661
123	PI 234585	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.546	-0.661
124	PI 230472	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.540	-0.661
125	PI 275260	<u>verrucosum</u>	Mexico	0.539	-0.661
126	PI 205397	<u>sanctae-rosae</u>	Argentina	0.538	-0.661
127	PI 275188	<u>bulbocastanum</u>	Mexico	0.535	-0.674
128	PI 251063	<u>hjertingii</u>	Mexico	0.535	-0.674
129	PI 280905	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.533	-0.674
130	PI 283091	<u>sucrense</u>	Bolivia	0.532	-0.674
131		<u>tuberosum</u> subsp. <u>tuberosum</u>	Minn. code 98	0.529	-0.732
132	PI 225632	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.528	-0.732
133	PI 265575	<u>simplicifolium</u>	Argentina	0.527	-0.732
134	PI 283116	<u>phureja</u>	Colombia	0.526	-0.732
135	PI 255490	<u>ajanhuiri</u>	Bolivia	0.521	-0.732
136	PI 218221	<u>sanctae-rosae</u>	Argentina	0.521	-0.732
137	PI 214422	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.521	-0.732
138	PI 243381	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.521	-0.732
139	PI 275139	<u>chacoense</u>	Argentina	0.519	-0.732
140	PI 262895	<u>fendleri</u>	Mexico	0.518	-0.732
141	PI 280909	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.507	-0.732
142	PI 265861	<u>boliviense</u>	Bolivia	0.500	-0.793
143	PI 275187	<u>bulbocastanum</u>	Mexico	0.497	-0.793
144	PI 218226	<u>simplicifolium</u>		0.493	-0.793
145	PI 255543	<u>verrucosum</u>	Mexico	0.493	-0.793
146	PI 225637	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.479	
147	PI 186559	<u>hjertingii</u>	Mexico	0.475	-0.817
148	PI 161167	<u>demissum</u>	Mexico	0.470	-0.817
149	PI 243377	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.470	-0.824
150	PI 195162	<u>tuberosum</u> subsp. <u>andigena</u>		0.464	-0.824
151	PI 275247	<u>stoloniferum</u>	Mexico	0.462	-0.824
152	PI 280903	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.453	-0.824
153	PI 280896	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.451	-0.824
154	PI 255536	<u>michoacanum</u>	Mexico	0.441	
155	PI 265869	<u>sparsipilum</u>	Bolivia	0.441	
156	PI 243360	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.441	-0.848
157	PI 214434	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.437	-0.855
158	PI 225629	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.434	-0.855
159	PI 234000	<u>tuberosum</u> subsp. <u>tuberosum</u>	Bolivia	0.432	-0.855
160	PI 210048	<u>raphanifolium</u>	Peru	0.428	-0.855
161	PI 281014	<u>tuberosum</u> subsp. <u>tuberosum</u>	Bolivia	0.426	-0.855
162	PI 217450	<u>acaule</u>	Argentina	0.424	-0.855
163	PI 214430	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.424	-0.855
164	PI 243343	<u>tuberosum</u> subsp. <u>tuberosum</u>	Mexico	0.420	-0.855
165	PI 225688	<u>phureja</u>	Colombia	0.415	-0.855



Table 2 (continued). Relative resistance of tuber-bearing Solanum introductions to potato leafhopper.

Rank	IR-1 no.	Species variety or hybrid	Country of origin	Mean no. leafhoppers per plant $\log_{10}(x+.01)$	Not significantly different <sup>a</sup> through $\log_{10}(x+.01)$
166	PI 243378	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.415	-0.855
167	PI 243382	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.409	-0.879
168	PI 281025	<u>tuberosum</u> subsp. <u>tuberosum</u>	Bolivia	0.409	-0.879
169	PI 184765.4	<u>cardiophyllum</u>	Mexico	0.408	-0.879
170	PI 214435	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.408	-0.879
171	PI 189473	<u>tuberosum</u> subsp. <u>andigena</u>	Mexico	0.404	-0.879
172	PI 214424	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.396	-0.879
173	PI 232839	<u>tuberosum</u> subsp. <u>andigena</u>	Peru	0.396	-0.879
174	PI 283102	<u>fendleri</u>	Mexico	0.389	-0.899
175	PI 281035	<u>tuberosum</u> subsp. <u>tuberosum</u>	Mexico	0.387	-0.899
176	PI 275157	<u>fendleri</u>	United States	0.386	-0.899
177	PI 255532	<u>stoloniferum</u>	Mexico	0.384	-0.910
178	PI 275244	<u>stoloniferum</u>	Mexico	0.383	-0.910
179	PI 280914	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.377	-0.910
180	PI 265878	<u>raphanifolium</u>	Peru	0.376	
181	PI 251741	<u>papita</u>	Mexico	0.368	-0.923
182	PI 275227	<u>papita</u>	Mexico	0.363	-0.923
183	PI 225635	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.361	
184	PI 258855	<u>phureja</u>	Bolivia	0.360	-0.923
185	PI 186563	<u>stoloniferum</u>	Mexico	0.356	-0.923
186	PI 197933	<u>tuberosum</u> subsp. <u>andigena</u>	Colombia	0.352	-0.923
187	PI 280866	<u>tuberosum</u> subsp. <u>tuberosum</u>	Argentina	0.351	-0.923
188	PI 243397	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.338	-0.954
189	PI 280869	<u>tuberosum</u> subsp. <u>tuberosum</u>	Argentina	0.336	-0.954
190	PI 195214	<u>stenotomum</u>	Peru	0.329	-0.954
191	USW 380	Merrimack x <u>stenotomum</u>		0.321	
192	PI 230496	<u>tuberosum</u> subsp. <u>andigena</u>	Peru	0.310	-0.954
193	PI 186548	<u>ehrenbergii</u>	Mexico	0.302	-0.954
194	PI 275251	<u>stoloniferum</u>	Mexico	0.295	-0.954
195	PI 283082	<u>megistacrolobum</u>	Bolivia	0.289	-0.954
196	PI 255501	<u>acaule</u>	Argentina	0.276	-0.954
197	PI 225630	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.272	-0.954
198	PI 245820	<u>tuberosum</u> subsp. <u>tuberosum</u>	Chile	0.269	-0.954
199	PI 265876	<u>bukasovii</u>	Peru	0.260	-1.029
200	PI 275214	<u>ehrenbergii</u>	Mexico	0.245	-1.029
201	PI 210029	<u>acaule</u>	Bolivia	0.229	-1.029
202	PI 233961	<u>brevicaule</u>	Bolivia	0.223	
203	PI 243503	<u>commersonii</u>	Argentina	0.220	-1.072
204	PI 275250	<u>stoloniferum</u>	Mexico	0.220	
205	PI 234012	<u>stenotomum</u>	Bolivia	0.209	-1.072
206	PI 243386	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.202	-1.072
207	PI 186181	<u>curtilobum</u>	Peru	0.200	-1.072
208	PI 243395	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.200	-1.072
209	PI 275129	<u>acaule</u>	Peru	0.191	-1.072
210	PI 243384	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.162	-1.103
211	PI 251062	<u>fendleri</u>	Mexico	0.161	
212	PI 243393	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.154	-1.103
213	PI 243460	<u>phureja</u>	Colombia	0.150	-1.103
214	USW 584	Kennebec x <u>chacoense</u>		0.135	-1.146
215	PI 232041	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.124	-1.146
216	PI 246488	<u>raphanifolium</u>	Peru	0.116	-1.176
217	PI 205522	<u>stoloniferum</u>	Mexico	0.114	-1.176
218	PI 283105	<u>papita</u>	Mexico	0.109	-1.176
219	PI 243390	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	0.108	-1.176
220	PI 255548	<u>stoloniferum</u>	Mexico	0.087	-1.190

Table 2 (continued). Relative resistance of tuber-bearing Solanum introductions to potato leafhopper.

Rank	IR-1 no.	Species variety or hybrid	Country of origin	Mean no. leafhoppers per plant $\log_{10}(x+.01)$	Not significantly different through $\log_{10}(x+.01)$
221	PI 232840	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	0.073	-1.190
222	PI 230457	<u>tuberosum</u> subsp. <u>andigena</u>		0.062	-1.190
223	PI 255534	<u>stoloniferum</u>	Mexico	0.042	-1.190
224	PI 161164	<u>demissum</u>	Mexico	0.036	-1.190
225	PI 195172	<u>verrucosum</u>	Mexico	0.027	-1.263
226	PI 251067	<u>hjertingii</u>	Mexico	0.005	-1.274
227	PI 275249	<u>stoloniferum</u>	Mexico	-0.001	-1.274
228	PI 258910	<u>stenotomum</u>	Bolivia	-0.013	-1.274
229	PI 186560	<u>hjertingii</u>	Mexico	-0.015	-1.274
230	PI 243368	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	-0.022	-1.274
231	PI 251724	<u>stoloniferum</u>	Mexico	-0.024	-1.274
232	PI 280888	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	-0.025	-1.274
233	PI 230495	<u>acrosopicum</u>	Peru	-0.025	-1.274
234	PI 230475	<u>tuberosum</u> subsp. <u>tuberosum</u>	Costa Rica	-0.037	-1.274
235	PI 225633	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	-0.043	-1.274
236	PI 265873	<u>megistacrolobum</u>	Bolivia	-0.045	-1.274
237	PI 281059	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	-0.047	-1.274
238	PI 283089	<u>sanctae-rosae</u>	Argentina	-0.055	-1.274
239	PI 210049	<u>raphanifolium</u>	Peru	-0.057	-1.274
240	PI 160226	<u>stoloniferum</u>	Mexico	-0.062	-1.274
241	PI 225675	<u>phureja</u>	Colombia	-0.063	-1.274
242	PI 186180	<u>tuberosum</u> subsp. <u>andigena</u>	Peru	-0.066	-1.274
243	PI 210052	<u>multidissectum</u>	Peru	-0.070	-1.274
244	PI 184903	<u>tuberosum</u> subsp. <u>andigena</u>	Guatemala	-0.084	-1.274
245	PI 234007	<u>stenotomum</u>	Bolivia	-0.091	-1.274
246	PI 275262	<u>jamesii</u>	United States	-0.101	-1.274
247	PI 255535	<u>stoloniferum</u>	Mexico	-0.106	-1.274
248	PI 280997	<u>tuberosum</u> subsp. <u>tuberosum</u>	Bolivia	-0.117	-1.400
249	PI 275126	<u>acaule</u>	Argentina	-0.120	-1.400
250	PI 243379	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	-0.120	-1.400
251	USW 2638	AG-231 x <u>multidissectum</u>		-0.125	
252	PI 160224	<u>stoloniferum</u>	Mexico	-0.132	
253	PI 243507	<u>bulbocastanum</u>	Mexico	-0.139	-1.400
254	WRF 276	<u>ehrenbergii</u>		-0.143	-1.424
255	PI 243374	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	-0.165	-1.424
256	PI 275158	<u>fendleri</u>	United States	-0.166	-1.424
257	PI 265879	<u>megistacrolobum</u>	Argentina	-0.188	-1.424
258	PI 265863	<u>canasense</u>	Peru	-0.192	-1.424
259	PI 275240	<u>polytrichon</u>	Mexico	-0.200	-1.424
260	PI 275164	<u>fendleri</u>	United States	-0.214	-1.424
261	PI 210034	<u>megistacrolobum</u>	Bolivia	-0.221	-1.499
262	PI 243380	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	-0.224	
263	PI 175396	<u>acaule</u>		-0.228	-1.499
264	PI 280907	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	-0.247	
265	PI 280884	<u>tuberosum</u> subsp. <u>tuberosum</u>	Argentina	-0.252	
266	PI 245842	<u>tuberosum</u> subsp. <u>tuberosum</u>	Chile	-0.260	-1.530
267	PI 225668	<u>phureja</u>	Colombia	-0.264	
268	PI 225627	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	-0.266	-1.530
269	PI 230474	<u>tuberosum</u> subsp. <u>andigena</u>	Peru	-0.273	-1.530
270	PI 186561	<u>demissum</u>	Mexico	-0.274	-1.530
271	PI 275257	<u>verrucosum</u>	Mexico	-0.289	-1.530
272	PI 255538	<u>michoacanum</u>	Mexico	-0.303	-1.573
273	PI 255529	<u>stenophyllidium</u>	Mexico	-0.303	-1.573
274	PI 265579	<u>infundibuliforme</u>	Argentina	-0.326	
275	PI 275254	<u>verrucosum</u>	Mexico	-0.331	-1.573

Table 2 (continued). Relative resistance of tuber-bearing Solanum introductions to potato leafhopper.

Rank	IR-1 no.	Species variety or hybrid	Country of origin	Mean no. leafhoppers per plant $\log_{10}(x+.01)$	Not significantly different <sup>a</sup> through $\log_{10}(1+.01)$
276	USW 3068	Merrimack x <u>stenotomum</u>		-0.332	
277	PI 186549	<u>ehrenbergii</u>	Mexico	-0.336	-1.573
278	PI 275271	<u>bukasovii</u>	Peru	-0.346	-1.617
279	PI 233983	<u>tuberosum</u> subsp. <u>tuberosum</u>	Bolivia	-0.349	
280	WRF 1277	<u>ehrenbergii</u>		-0.351	
281	PI 186177	<u>tuberosum</u> subsp. <u>andigena</u>	Peru	-0.356	-1.617
282	PI 275152	<u>sanctae-rosae</u>	Argentina	-0.361	-1.617
283	PI 283064	<u>michoacanum</u>	Mexico	-0.364	
284	WRF 1282	<u>polytrichon</u>		-0.364	-1.617
285	PI 275256	<u>verrucosum</u>	Mexico	-0.370	
286	PI 275252	<u>stoloniferum</u>	Mexico	-0.380	-1.646
287	PI 266385	<u>canasense</u>	Peru	-0.401	-1.646
288	PI 230498	<u>tuberosum</u> subsp. <u>andigena</u>	Peru	-0.405	-1.646
289	PI 281021	<u>tuberosum</u> subsp. <u>tuberosum</u>	Bolivia	-0.405	-1.646
290	PI 210051	<u>multidissectum</u>	Peru	-0.407	
291	PI 275132	<u>acaule</u>	Argentina	-0.417	
292	PI 243505	<u>bulbocastanum</u>	Mexico	-0.421	-1.646
293	PI 245317	<u>tuberosum</u> subsp. <u>tuberosum</u>	Chile	-0.421	-1.646
294	USW 4384	B3556-12 x <u>stenotomum</u>		-0.432	
295	PI 234011	<u>stenotomum</u>	Bolivia	-0.441	-1.646
296	PI 265578	<u>megistacrolobum</u>	Bolivia	-0.442	-1.646
297	WRF 1276	<u>ehrenbergii</u>		-0.453	-1.646
298	PI 210044	<u>multidissectum</u>	Peru	-0.460	-1.646
299	PI 275161	<u>fendleri</u>	United States	-0.465	-1.646
300	PI 275199	<u>bulbocastanum</u>	Mexico	-0.466	
301	PI 275255	<u>verrucosum</u>	Mexico	-0.528	-1.646
302	PI 210040	<u>marinasense</u>	Peru	-0.540	-1.646
303	PI 160229	<u>demissum</u>	Mexico	-0.547	-1.646
304	PI 275266	<u>jamesii</u>	United States	-0.547	-1.646
305	PI 255520.1	<u>ehrenbergii</u>	Mexico	-0.563	
306	PI 225620	<u>acaule</u>		-0.568	-1.646
307	PI 255539	<u>michoacanum</u>	Mexico	-0.583	
308	PI 255547	<u>polytrichon</u>	Mexico	-0.584	-1.646
309	PI 210055	<u>multidissectum</u>	Peru	-0.629	-1.646
310	PI 161173	<u>verrucosum</u>	Mexico	-0.651	-1.646
311	PI 280908	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	-0.661	-1.646
312	PI 255540	<u>michoacanum</u>	Mexico	-0.663	
313	PI 230470	<u>tuberosum</u> subsp. <u>tuberosum</u>	Ecuador	-0.674	-1.646
314	PI 283074	<u>canasense</u>	Peru	-0.686	-1.646
315	PI 275241	<u>polytrichon</u>	Mexico	-0.732	-2.000
316	PI 283106	<u>polytrichon</u>	Mexico	-0.791	-2.000
317	PI 275186	<u>bulbocastanum</u>	Mexico	-0.793	-2.000
318	PI 210038	<u>gourlayi</u>	Argentina	-0.817	-2.000
319	PI 275147	<u>megistacrolobum</u>	Argentina	-0.824	-2.000
320	PI 265874	<u>megistacrolobum</u>	Bolivia	-0.847	-2.000
321	PI 243508	<u>bulbocastanum</u>	Mexico	-0.848	-2.000
322	PI 195190	<u>jamesii</u>		-0.848	-2.000
323	PI 275198	<u>bulbocastanum</u>	Mexico	-0.855	-2.000
324	PI 275174	<u>hjertingii</u>	Mexico	-0.855	-2.000
325	PI 208563	<u>maglia</u>	Argentina	-0.879	-2.000
326	PI 275189	<u>bulbocastanum</u>	Mexico	-0.899	-2.000
327	PI 275231	<u>pinnatisectum</u>	Mexico	-0.910	-2.000
328	PI 255537	<u>michoacanum</u>	Mexico	-0.914	
329	PI 283069	<u>berthaultii</u>	Bolivia	-0.923	-2.000
330	PI 210042	<u>multidissectum</u>	Peru	-0.923	-2.000

Table 2 (continued). Relative resistance of tuber-bearing Solanum introductions to potato leafhopper.

Rank	IR-1 no.	Species variety or hybrid	Country of origin	Mean no. leafhoppers per plant $\log_{10}(x+.01)$	Not significantly different <sup>a</sup> through $\log_{10}(x+.01)$
331	PI 258909	<u>stenotomum</u>	Bolivia	-0.923	-2.000
332	WRF 1271	<u>brachistotrichum</u>		-0.954	-2.000
333	PI 275212	<u>ehrenbergii</u>	Mexico	-1.000	
334	PI 230511	<u>soukupii</u>	Peru	-1.001	
335	PI 275183	<u>brachycarpum</u>	Mexico	-1.029	-2.000
336	PI 275195	<u>bulbocastanum</u>	Mexico	-1.031	
337	USW 3685	Merrimack x <u>stenotomum</u>		-1.031	
338	PI 265872	<u>medians</u>	Peru	-1.072	-2.000
339	PI 283062	<u>cardiophyllum</u>		-1.072	-2.000
340	PI 210043	<u>multidissectum</u>	Peru	-1.096	
341	PI 283095	<u>brachistotrichum</u>	Mexico	-1.099	
342	PI 275185	<u>bulbocastanum</u>	Mexico	-1.101	
343	PI 275143	<u>spagazzinii</u>	Argentina	-1.103	-2.000
344	PI 275239	<u>polyadenium</u>	Mexico	-1.106	
345	PI 281092	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	-1.131	
346	PI 243512	<u>bulbocastanum</u>	Mexico	-1.143	
347	PI 265875	<u>canasense</u>	Peru	-1.143	
348	PI 161730	<u>guerreroense</u>	Mexico	-1.145	-2.000
349	PI 218218	<u>spagazzinii</u>	Argentina	-1.145	-2.000
350	PI 184773	<u>polytrichon</u>	Mexico	-1.146	-2.000
351	PI 275274.4	<u>pampasense</u>	Peru	-1.172	
352	PI 230582	<u>chacoense</u>		-1.176	-2.000
353	PI 218047	<u>demissum</u>		-1.190	-2.000
354	PI 275216	<u>ehrenbergii</u>	Mexico	-1.192	
355	PI 255520	<u>ehrenbergii</u>	Mexico	-1.231	
356	PI 275234	<u>pinnatisectum</u>	Mexico	-1.263	-2.000
357	WRF 547	<u>polytrichon</u>		-1.263	-2.000
358	PI 275275	<u>pampasense</u>	Peru	-1.272	
359	USW 973	AG-231 x <u>megistacrolobum</u>		-1.274	-2.000
360	PI 275278.2	<u>sucreense</u>	Bolivia	-1.330	
361	PI 255527	<u>stenophyllidium</u>	Mexico	-1.400	-2.000
362	PI 230465.6	<u>sucreense</u>	Bolivia	-1.400	-2.000
363	PI 230506	<u>bukasovii</u>		-1.424	-2.000
364	PI 175444	<u>polyadenium</u>	Mexico	-1.424	-2.000
365	PI 161174	<u>hougasii</u>	Mexico	-1.499	-2.000
366	PI 275242.3	<u>sambucinum</u>	Mexico	-1.499	-2.000
367	WRF 305	<u>chacoense</u>		-1.530	-2.000
368	PI 186176	<u>acaule</u>	Peru	-1.573	-2.000
369	WRF 306	<u>chacoense</u>		-1.573	-2.000
370	PI 266387	<u>chomatophilum</u>	Peru	-1.617	-2.000
371	PI 161155	<u>demissum</u>	Mexico	-1.646	-2.000
372	PI 161719	<u>demissum</u>	Mexico	-1.646	-2.000
373	PI 230589	<u>demissum</u>	Mexico	-1.646	-2.000
374	PI 184770	<u>polytrichon</u>	Mexico	-1.646	-2.000
375	PI 283081	<u>medians</u>		-1.738	
376	PI 243349	<u>agrifolium</u>	Guatemala	-1.835	
377	PI 265858	<u>berthaultii</u>	Bolivia	-2.000	-2.000
378	PI 201850	<u>demissum</u>		-2.000	-2.000
379	PI 230584.4	<u>kurtzianum</u>		-2.000	-2.000
380	PI 275235	<u>pinnatisectum</u>	Mexico	-2.000	-2.000
381	PI 255526	<u>polytrichon</u>	Mexico	-2.000	

<sup>a</sup> Duncan's New Multiple Range Test applied at 5% level of significance. Significant ranges given only for entries with 4 replicates. Standard error of mean is 0.347.

Table 3. Relative resistance of tuber-bearing Solanum introductions to potato aphid.

Rank	IR-1 no.	Species variety or hybrid	Country of origin	Mean no. aphids per plant $\log_{10} x$	Not significantly different <sup>a</sup> through $\log_{10} x$
1	WRF 1154	<u>tarijense</u>		1.918	1.542
2	PI 283090	<u>gourlayi</u>	Bolivia	1.907	1.529
3		<u>tuberosum</u> subsp. <u>tuberosum</u> ,	Red Warba	1.898	1.520
4	PI 218228	<u>brevidens</u>		1.890	1.513
5		<u>tuberosum</u> subsp. <u>tuberosum</u> ,	Minn. code 98	1.881	1.506
6	PI 275136	<u>chacoense</u>	Argentina	1.879	1.506
7		<u>tuberosum</u> subsp. <u>tuberosum</u> ,	Norland	1.871	
8		<u>tuberosum</u> subsp. <u>tuberosum</u> ,	Minn. code 154	1.862	1.489
9	PI 265869	<u>sparsipilum</u>	Bolivia	1.844	1.466
10	USW 5298.5	<u>stenotomum</u> x 1N Katahdin		1.840	1.466
11	PI 275143	<u>spgazzinii</u>	Argentina	1.832	1.453
12	PI 217453	<u>brevicaule</u>	Argentina	1.828	1.450
13		<u>tuberosum</u> subsp. <u>tuberosum</u> ,	Minn. code 157	1.827	1.450
14	PI 230496	<u>tuberosum</u> subsp. <u>andigena</u>	Peru	1.817	1.439
15	PI 275234	<u>pinnatisectum</u>	Mexico	1.805	1.430
16	PI 186548	<u>ehrenbergii</u>	Mexico	1.802	
17		<u>tuberosum</u> subsp. <u>tuberosum</u> ,	Red Pontiac	1.800	1.430
18	PI 275157	<u>fendleri</u>	United States	1.799	1.430
19	PI 283102	<u>fendleri</u>	Mexico	1.798	1.430
20		<u>tuberosum</u> subsp. <u>tuberosum</u> ,	Minn. code 148	1.798	
21	PI 275278.2	<u>sucrense</u>	Bolivia	1.797	1.419
22		<u>tuberosum</u> subsp. <u>tuberosum</u>		1.797	1.419
23	PI 275156	<u>fendleri</u>	United States	1.790	1.415
24	PI 283089	<u>sanctae-rosae</u>	Argentina	1.790	1.415
25	PI 265865	<u>gourlayi</u>	Argentina	1.784	1.408
26		<u>tuberosum</u> subsp. <u>tuberosum</u> ,	Minn. code 43	1.781	1.403
27	PI 243349	<u>agrimonifolium</u>	Guatemala	1.777	
28	PI 245764	<u>brevidens</u>	Chile	1.763	1.384
29	PI 275235	<u>pinnatisectum</u>	Mexico	1.761	1.384
30	PI 275228	<u>papita</u>	Mexico	1.759	1.384
31	PI 280908	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	1.759	1.384
32	PI 280909	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	1.759	1.384
33	PI 283062	<u>cardiophyllum</u>		1.749	1.371
34	PI 275242.3	<u>sambucinum</u>	Mexico	1.749	
35	PI 184765.4	<u>cardiophyllum</u>	Mexico	1.748	1.371
36	PI 283091	<u>sucrense</u>	Bolivia	1.742	1.367
37	PI 230517	unidentified	Ecuador	1.734	1.356
38	PI 233961	<u>brevicaule</u>	Bolivia	1.731	1.356
39	PI 280896	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	1.729	1.356
40	PI 275164	<u>fendleri</u>	United States	1.726	1.349
41	WRF 1270	<u>ajanhui</u>		1.721	1.342
42	PI 186549	<u>ehrenbergii</u>	Mexico	1.713	
43	PI 275139	<u>chacoense</u>	Argentina	1.711	1.342
44	PI 275216	<u>ehrenbergii</u>	Mexico	1.704	1.329
45	PI 265883	<u>gourlayi</u>	Bolivia	1.703	1.329
46	PI 275227	<u>papita</u>	Mexico	1.700	1.323
47	PI 230511	<u>soukupii</u>	Peru	1.700	1.323
48	PI 275239	<u>polyadenium</u>	Mexico	1.696	1.320
49	PI 234004	<u>chaucha</u>	Bolivia	1.695	
50	PI 255536	<u>michoacanum</u>	Mexico	1.692	1.317
51		<u>tuberosum</u> subsp. <u>tuberosum</u> ,	Chisago	1.689	1.317
52	PI 265861	<u>boliviense</u>	Bolivia	1.685	1.317
53	PI 283081	<u>medians</u>	Peru	1.685	1.317
54	PI 210034	<u>megistacrolobum</u>	Bolivia	1.682	
55	PI 184903	<u>tuberosum</u> subsp. <u>andigena</u>	Guatemala	1.681	1.317

Table 3 (continued). Relative resistance of tuber-bearing Solanum introductions to potato aphid.

Rank	IR-1 no.	Species variety or hybrid	Country of origin	Mean no. aphids per plant $\log_{10}x$	Not significantly different <sup>a</sup> through $\log_{10}x$
56	PI 243512	<u>bulbocastanum</u>	Mexico	1.678	1.317
57		<u>tuberosum</u> subsp. <u>tuberosum</u> ,	Minn. code 49	1.678	1.299
58	PI 275233.3	<u>pinnatisectum</u>	Mexico	1.676	1.299
59	PI 161728	<u>polyadenium</u>	Mexico	1.674	1.296
60	PI 225672	<u>phureja</u>	Colombia	1.673	1.296
61	PI 161173	<u>verrucosum</u>	Mexico	1.672	1.296
62	PI 255540	<u>michoacanum</u>	Mexico	1.667	1.289
63	PI 275275	<u>pampasense</u>	Peru	1.667	
64	PI 275163	<u>fendleri</u>	United States	1.665	1.289
65	PI 255490	<u>ajanhuiri</u>	Bolivia	1.664	1.289
66	PI 225649	<u>curtilobum</u>	Colombia	1.664	1.289
67	PI 243351	<u>agrimonifolium</u>	Guatemala	1.663	1.289
68	PI 175444	<u>polyadenium</u>	Mexico	1.660	1.289
69	PI 233992	<u>tuberosum</u> subsp. <u>andigena</u>	Bolivia	1.659	1.289
70	PI 243505	<u>bulbocastanum</u>	Mexico	1.659	1.289
71	PI 243506	<u>bulbocastanum</u>	Mexico	1.659	1.289
72	PI 255528	<u>stenophyllidium</u>	Mexico	1.658	
73	PI 265579	<u>infundibuliforme</u>	Argentina	1.657	1.289
74	PI 265860	<u>boliviense</u>	Bolivia	1.655	1.277
75	PI 243510	<u>bulbocastanum</u>	Mexico	1.655	1.277
76	PI 186178	<u>tuberosum</u> subsp. <u>andigena</u>	Peru	1.652	1.273
77	WRF 1285	<u>stenotomum</u>		1.652	1.273
78	PI 230463	<u>polyadenium</u>	Mexico	1.647	1.273
79	PI 234007	<u>stenotomum</u>	Bolivia	1.642	1.265
80	PI 275252	<u>stoloniferum</u>	Mexico	1.640	1.265
81	PI 281021	<u>tuberosum</u> subsp. <u>tuberosum</u>	Bolivia	1.638	1.265
82	PI 275232	<u>pinnatisectum</u>	Mexico	1.637	1.265
83	WRF 1277	<u>ehrenbergii</u>		1.636	1.265
84	PI 214422	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	1.636	1.265
85	PI 275147	<u>megistacrolobum</u>	Argentina	1.635	1.256
86	PI 245939	<u>etuberosum</u>	Chile	1.634	
87	PI 255539	<u>michoacanum</u>	Mexico	1.634	1.256
88	PI 243345	<u>bulbocastanum</u>	Mexico	1.632	1.256
89	PI 230500	<u>tuberosum</u> subsp. <u>andigena</u>	Peru	1.630	1.256
90	PI 262895	<u>fendleri</u>	Mexico	1.629	1.256
91	PI 230516.1	<u>huancabambense</u>	Peru	1.628	1.256
92	PI 280997	<u>tuberosum</u> subsp. <u>tuberosum</u>	Bolivia	1.628	1.256
93	PI 205395	<u>acaule</u>	Argentina	1.627	1.256
94	PI 275274.4	<u>pampasense</u>	Peru	1.622	1.246
95	PI 230562	<u>vernei</u>	Argentina	1.622	1.246
96	PI 243343	<u>tuberosum</u> subsp. <u>tuberosum</u>	Mexico	1.620	1.241
97	PI 243381	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	1.619	1.241
98	PI 225675	<u>phureja</u>	Colombia	1.618	1.241
99	PI 230470	<u>tuberosum</u> subsp. <u>tuberosum</u>	Ecuador	1.618	1.241
100	PI 225694	<u>phureja</u>	Colombia	1.616	1.241
101	PI 234012	<u>stenotomum</u>	Bolivia	1.616	1.241
102	PI 275148	<u>megistacrolobum</u>	Argentina	1.615	1.241
103	PI 258911	<u>stenotomum</u>	Bolivia	1.612	1.236
104	PI 230495	<u>acrosopicum</u>	Peru	1.611	1.236
105	PI 230499	<u>tuberosum</u> subsp. <u>andigena</u>	Peru	1.610	1.236
106	PI 243392	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	1.610	1.236
107	PI 266384	<u>canasense</u>	Peru	1.609	1.236
108	PI 275264	<u>jamesii</u>	United States	1.604	1.229
109	WRF 305	<u>chacoense</u>		1.603	
110	WRF 306	<u>chacoense</u>		1.603	1.229

Table 3 (continued). Relative resistance of tuber-bearing *Solanum* introductions to potato aphid.

Rank	IR-1 no.	Species variety or hybrid	Country of origin	Mean no. aphids per plant $\log_{10}^x$	Not significantly different <sup>a</sup> through $\log_{10}^x$
111	PI 233987	<u>tuberosum</u> subsp. <u>tuberosum</u>	Bolivia	1.603	1.229
112	PI 195198	<u>phureja</u>	Colombia	1.600	1.229
113	117	<u>spgazzinii</u> x <u>phureja</u>		1.599	1.229
114	PI 251741	<u>papita</u>	Mexico	1.595	1.229
115	PI 275169	<u>jamesii</u>	United States	1.594	1.229
116	PI 243393	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	1.594	
117	PI 230474	<u>tuberosum</u> subsp. <u>andigena</u>	Peru	1.592	1.229
118	PI 195214	<u>stenotomum</u>	Peru	1.592	1.229
119	PI 230457	<u>tuberosum</u> subsp. <u>andigena</u>		1.590	1.229
120	PI 195162	<u>tuberosum</u> subsp. <u>andigena</u>		1.588	
121	PI 275212	<u>ehrenbergii</u>	Mexico	1.588	1.229
122	WRF 276	<u>ehrenbergii</u>		1.586	1.229
123	PI 243503	<u>commersonii</u>	Argentina	1.585	1.229
124	PI 255538	<u>michoacanum</u>	Mexico	1.581	1.229
125	PI 255530	<u>stenophyllidium</u>	Mexico	1.576	1.229
126	PI 255548	<u>stoloniferum</u>	Mexico	1.576	1.229
127	PI 275185	<u>bulbocastanum</u>	Mexico	1.575	1.197
128	PI 265879	<u>megistacrolobum</u>	Argentina	1.575	1.197
129	WRF 1284	<u>stenotomum</u>		1.574	1.195
130	PI 186177	<u>tuberosum</u> subsp. <u>andigena</u>	Peru	1.573	1.195
131	PI 186561	<u>demissum</u>	Mexico	1.570	1.195
132	PI 186179	<u>tuberosum</u> subsp. <u>andigena</u>	Peru	1.566	1.189
133	PI 258855	<u>phureja</u>	Bolivia	1.566	1.189
134	WRF 1271	<u>brachistotrichum</u>		1.565	1.189
135	PI 243387	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	1.565	1.189
136	PI 210029	<u>acaule</u>	Bolivia	1.564	1.189
137	PI 275126	<u>acaule</u>	Argentina	1.564	1.185
138	PI 255529	<u>stenophyllidium</u>	Mexico	1.561	1.184
139	PI 255526	<u>polytrichon</u>	Mexico	1.560	1.184
140	PI 230561	<u>polyadenium</u>	Mexico	1.559	1.184
141	PI 275212	<u>ehrenbergii</u>	Mexico	1.558	
142	PI 205397	<u>sanctae-rosae</u>	Argentina	1.558	
143	PI 265873	<u>megistacrolobum</u>	Bolivia	1.554	1.184
144	PI 283105	<u>papita</u>	Mexico	1.553	1.174
145	PI 225677	<u>phureja</u>	Colombia	1.550	1.173
146	PI 246497.1	<u>tuberosum</u> subsp. <u>andigena</u>	Peru	1.546	
147	PI 275251	<u>stoloniferum</u>	Mexico	1.545	1.173
148	PI 265864	<u>canasense</u>	Peru	1.544	1.173
149	PI 275132	<u>acaule</u>	Argentina	1.543	1.173
150	PI 280869	<u>tuberosum</u> subsp. <u>tuberosum</u>	Argentina	1.543	1.173
151	PI 281014	<u>tuberosum</u> subsp. <u>tuberosum</u>	Bolivia	1.543	1.173
152		<u>tuberosum</u> subsp. <u>tuberosum</u> , Russet Burbank		1.543	1.173
153	PI 283082	<u>megistacrolobum</u>	Bolivia	1.542	1.173
154	PI 234011	<u>stenotomum</u>	Bolivia	1.539	1.173
155	PI 275256	<u>verrucosum</u>	Mexico	1.538	1.173
156	PI 275214	<u>ehrenbergii</u>	Mexico	1.535	1.157
157	PI 218047	<u>demissum</u>		1.529	1.150
158	PI 275167	<u>fendleri</u>	United States	1.528	1.150
159	PI 209433	<u>tuberosum</u> subsp. <u>tuberosum</u>	Argentina	1.528	1.150
160	PI 210040	<u>marinasense</u>	Peru	1.523	1.150
161	PI 234013	<u>stenotomum</u>	Bolivia	1.521	1.150
162	PI 275244	<u>stoloniferum</u>	Mexico	1.521	1.150
163	PI 201850	<u>demissum</u>		1.520	1.150
164	USW 5323.4	<u>phureja</u> x 1N M 20-20-34		1.520	
165	PI 275250	<u>stoloniferum</u>	Mexico	1.518	1.150

Table 3 (continued). Relative resistance of tuber-bearing Solanum introductions to potato aphid.

Rank	IR-1 no.	Species variety or hybrid	Country of origin	Mean no. aphids per plant $\log_{10}x$	Not significantly different <sup>a</sup> through $\log_{10}x$
166	PI 281059	<u>tuberosum</u> subsp. <u>tuberosum</u>	Peru	1.518	1.150
167	PI 255532	<u>stoloniferum</u>	Mexico	1.513	1.138
168	WRF 1282	<u>polytrichon</u>		1.510	1.138
169	PI 246488	<u>raphanifolium</u>	Peru	1.510	1.138
170	PI 243382	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	1.510	1.138
171	PI 184768	<u>polytrichon</u>	Mexico	1.507	1.138
172	PI 230462	<u>moscopanum</u>	Colombia	1.507	1.138
173	PI 161730	<u>guerreroense</u>	Mexico	1.506	1.138
174	PI 230464	<u>sanctae-rosae</u>	Argentina	1.506	1.138
175	PI 243377	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	1.506	1.138
176	PI 281035	<u>tuberosum</u> subsp. <u>tuberosum</u>	Mexico	1.506	1.138
177	PI 255520.1	<u>ehrenbergii</u>	Mexico	1.499	1.125
178	PI 243395	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	1.499	1.125
179	PI 275257	<u>verrucosum</u>	Mexico	1.499	1.125
180	PI 208780	<u>oxycarpum</u>	Costa Rica	1.498	1.125
181	PI 255541	<u>michoacanum</u>	Mexico	1.493	1.120
182	PI 283106	<u>polytrichon</u>	Mexico	1.493	1.120
183	PI 243385	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	1.492	1.120
184	PI 275152	<u>sanctae-rosae</u>	Argentina	1.489	1.120
185	PI 239423	<u>hougasii</u>	Mexico	1.485	1.120
186	PI 265858	<u>berthaultii</u>	Bolivia	1.483	1.108
187	PI 243384	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	1.482	1.108
188	PI 265875	<u>canasense</u>	Peru	1.481	1.108
189	PI 210049	<u>raphanifolium</u>	Peru	1.480	1.108
190	PI 243507	<u>bulbocastanum</u>	Mexico	1.479	1.108
191	56	<u>kurtzianum</u> x <u>multidissectum</u>		1.479	1.108
192	PI 275195	<u>bulbocastanum</u>	Mexico	1.476	1.108
193	PI 265874	<u>megistacrolobum</u>	Bolivia	1.473	1.100
194	PI 210052	<u>multidissectum</u>	Peru	1.473	1.100
195	PI 217450	<u>acaule</u>	Argentina	1.469	1.100
196	PI 218221	<u>sanctae-rosae</u>	Argentina	1.466	1.097
197	PI 205526	<u>stenotomum</u>	Peru	1.466	1.097
198	PI 161719	<u>demissum</u>	Mexico	1.460	1.097
199	PI 210038	<u>gourlayi</u>	Argentina	1.460	1.097
200	PI 245317	<u>tuberosum</u> subsp. <u>tuberosum</u>	Chile	1.460	1.097
201	PI 218218	<u>spgazzinii</u>	Argentina	1.459	1.097
202	PI 283095.3	<u>brachistotrichum</u>	Mexico	1.456	1.097
203	PI 255542	<u>michoacanum</u>	Mexico	1.455	1.097
204	PI 275184	<u>bulbocastanum</u>	Mexico	1.453	1.097
205	PI 251067	<u>hjertingii</u>	Mexico	1.453	1.097
206	PI 275129	<u>acaule</u>	Peru	1.450	1.078
207	PI 225668	<u>phureja</u>	Colombia	1.449	1.078
208	PI 225651	<u>curtilobum</u>	Colombia	1.447	1.078
209	PI 275255	<u>verrucosum</u>	Mexico	1.446	1.078
210	PI 275199	<u>bulbocastanum</u>	Mexico	1.443	1.070
211	PI 161155	<u>demissum</u>	Mexico	1.439	1.070
212	PI 243386	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	1.439	1.070
213	PI 243390	<u>tuberosum</u> subsp. <u>tuberosum</u>	Colombia	1.439	1.070
214	PI 243508	<u>bulbocastanum</u>	Mexico	1.437	1.070
215	PI 275224	<u>oxycarpum</u>	Mexico	1.434	1.070
216	PI 233994	<u>tuberosum</u> subsp. <u>andigena</u>	Bolivia	1.433	1.070
217	PI 251062	<u>fendleri</u>	Mexico	1.430	1.070
218	USW 5798.1	IN Katahdin x <u>phureja</u>		1.426	1.070
219	PI 275133	<u>acaule</u>	Argentina	1.419	1.070
220	PI 210048	<u>raphanifolium</u>	Peru	1.417	1.070



Table 3 (continued). Relative resistance of tuber-bearing Solanum introductions to potato aphid.

Rank	IR-1 no.	Species variety or hybrid	Country of origin	Mean no. aphids per plant $\log_{10}x$	Not significantly different <sup>a</sup> through $\log_{10}x$
221	WRF 1144	<u>andreaum</u>		1.415	1.070
222	PI 275240	<u>polytrichon</u>	Mexico	1.415	1.070
223	PI 265578	<u>megistacrolobum</u>	Bolivia	1.410	1.070
224	PI 265878	<u>raphanifolium</u>	Peru	1.408	1.070
225	PI 243340	<u>chomatophilum</u>	Peru	1.403	
226	PI 255534	<u>stoloniferum</u>	Mexico	1.403	1.070
227	PI 210042	<u>multidissectum</u>	Peru	1.393	1.070
228	PI 283064	<u>michoacanum</u>	Mexico	1.384	1.017
229	PI 275182	<u>brachycarpum</u>	Mexico	1.376	1.017
230	PI 246533	<u>canasense</u>	Peru	1.373	1.017
231	PI 232839	<u>tuberosum</u> subsp. <u>andigena</u>	Peru	1.371	1.017
232	PI 275127	<u>acaule</u>	Argentina	1.367	1.017
233	PI 210043	<u>multidissectum</u>	Peru	1.367	1.017
234	PI 265876	<u>bukasovii</u>	Peru	1.365	
235	PI 255543	<u>verrucosum</u>	Mexico	1.356	1.017
236	PI 161167	<u>demissum</u>	Mexico	1.349	1.017
237	PI 245933	<u>tuberosum</u> subsp. <u>tuberosum</u>	Chile	1.343	1.017
238	24	<u>chacoense</u> x <u>multidissectum</u>		1.342	1.017
239	PI 160228	<u>verrucosum</u>	Mexico	1.342	1.017
240	PI 275187	<u>bulbocastanum</u>	Mexico	1.329	0.975
241	PI 275193	<u>bulbocastanum</u>	Mexico	1.323	0.975
242	PI 251749	<u>polytrichon</u>	Mexico	1.320	0.975
243	PI 275247	<u>stoloniferum</u>	Mexico	1.320	0.975
244	PI 160229	<u>demissum</u>	Mexico	1.317	0.975
245	PI 210051	<u>multidissectum</u>	Peru	1.317	0.975
246	PI 265863	<u>canasense</u>	Peru	1.299	0.951
247	PI 275186	<u>bulbocastanum</u>	Mexico	1.296	0.951
248	PI 230506	<u>bukasovii</u>	Peru	1.293	0.951
249	PI 275241	<u>polytrichon</u>	Mexico	1.289	0.951
250	PI 243509	<u>bulbocastanum</u>	Mexico	1.277	0.951
251	PI 161164	<u>demissum</u>	Mexico	1.273	0.951
252	WRF 547	<u>polytrichon</u>		1.265	0.910
253	PI 186559	<u>hertingii</u>	Mexico	1.256	0.910
254	PI 255535	<u>stoloniferum</u>	Mexico	1.246	0.910
255	PI 234000	<u>tuberosum</u> subsp. <u>tuberosum</u>	Bolivia	1.246	0.910
256	PI 275174	<u>hertingii</u>	Mexico	1.241	0.910
257	PI 265872	<u>medians</u>	Peru	1.236	0.910
258	PI 266387	<u>chomatophilum</u>	Peru	1.229	0.910
259	PI 275260	<u>verrucosum</u>	Mexico	1.229	0.910
260	PI 210044	<u>multidissectum</u>	Peru	1.197	0.843
261	PI 275271	<u>bukasovii</u>	Peru	1.195	0.843
262	PI 275249	<u>stoloniferum</u>	Mexico	1.189	0.843
263	PI 243511	<u>bulbocastanum</u>	Mexico	1.185	0.843
264	PI 195172	<u>verrucosum</u>	Mexico	1.185	0.843
265	PI 205522	<u>stoloniferum</u>	Mexico	1.184	0.843
266	PI 251724	<u>stoloniferum</u>	Mexico	1.174	0.843
267	PI 160224	<u>stoloniferum</u>	Mexico	1.173	0.843
268	PI 184773	<u>polytrichon</u>	Mexico	1.157	0.843
269	PI 184770	<u>polytrichon</u>	Mexico	1.150	0.843
270	PI 210055	<u>multidissectum</u>	Peru	1.138	0.843
271	PI 161364	<u>stoloniferum</u>	Mexico	1.125	0.843
272	PI 275245	<u>stoloniferum</u>	Mexico	1.120	0.843
273	PI 255547	<u>polytrichon</u>	Mexico	1.108	0.843
274	PI 275188	<u>bulbocastanum</u>	Mexico	1.100	0.843
275	PI 275248	<u>stoloniferum</u>	Mexico	1.097	0.843

Table 3 (continued). Relative resistance of tuber-bearing Solanum introductions to potato aphid.

Rank	IR-1 no.	Species variety or hybrid	Country of origin	Mean no. aphids per plant $\log_{10}x$	Not significantly different <sup>a</sup> through $\log_{10}x$
276	PI 275254	<u>verrucosum</u>	Mexico	1.078	0.843
277	PI 161174	<u>hougasii</u>	Mexico	1.070	0.843
278	PI 161178	<u>stoloniferum</u>	Mexico	1.017	0.843
279	PI 275189	<u>bulbocastanum</u>	Mexico	0.975	0.696
280	PI 251063	<u>hjertingii</u>	Mexico	0.951	0.696
281	PI 186560	<u>hjertingii</u>	Mexico	0.910	0.696
282	PI 275246	<u>stoloniferum</u>	Mexico	0.843	0.580
283	PI 186563	<u>stoloniferum</u>	Mexico	0.696	0.580
284	PI 160226	<u>stoloniferum</u>	Mexico	0.580	0.580

<sup>a</sup> Duncan's New Multiple Range Test applied at 5% level of significance. Significant ranges given only for entries with 4 replicates. Standard error of mean is 0.101.

## Literature Cited

1. Adams, J. B. 1946. Aphid resistance in potatoes. *Amer. Potato J.* 23:1-21.
2. Dionne, L. A. 1948. Methods used in 1948 for testing aphid resistance in potatoes. 79th Ann. Rept. Ent. Soc. Ontario: 19-21.
3. Gardener, M. E., R. Schmidt, and F. J. Stevenson. 1945. The Sequoia potato: a recently introduced insect-resistant variety. *Amer. Potato J.* 22:97-103.
4. Kennedy, J. S., M. F. Day, and V. P. A. Eastop. 1962. *A conspectus of aphids as vectors of plant viruses*. London: Commonwealth Institute of Entomology.
5. Kuhn, R. and I. Löw. 1955. Resistance factors against *Leptinotarsa decemlineata* Say, isolated from the leaves of wild *Solanum* species. pp. 122-32. In: M. G. Sevag, R. D. Reid, and O. E. Reynolds. *Origins of resistance to toxic agents*. Academic Press, New York, N.Y.
6. Painter, R. H. 1951. *Insect resistance in crop plants*. The MacMillan Co., New York, N.Y.
7. Peterson, A. G. and A. A. Granovsky. 1950. Feeding effects of *Empoasca fabae* on a resistant and susceptible variety of potato. *Amer. Potato J.* 27:366-71.
8. Peterson, A. G. 1963. Increases of the green peach aphid following the use of some insecticides on potatoes. *Amer. Potato J.* 40:121-9.
9. Radcliffe, E. B. and F. I. Lauer. 1966. *A Survey of aphid resistance in the tuber-bearing Solanum (Tourn.) L. species*. Minn. Agr. Exp. Sta. Tech. Bull. 253.
10. Radcliffe, E. B. and F. I. Lauer. 1967. Insect resistance in the wild *Solanum* species. *Proc. N. C. Br. E.S.A.* 22:165-8.
11. Ross, H. 1966. The use of wild *Solanum* species in German potato breeding of the past and today. *Amer. Potato J.* 43:63-80.
12. Ross, R. W. and P. R. Rowe. 1965. *Inventory of tuber-bearing Solanum species*. Wis. Agr. Exp. Sta. Bull. 533.
13. Slesman, J. P. and John Bushnell. 1937. Variations in nymphal populations of the potato leafhopper on different varieties of potatoes. *Amer. Potato J.* 14:242-5.
14. Slesman, J. P. 1940. Resistance in wild potatoes to attack by the potato leafhopper and the potato flea beetle. *Amer. Potato J.* 17:9-12.
15. Slesman, J. P. and F. J. Stevenson. 1941. Breeding a potato resistant to the potato leafhopper. *Amer. Potato J.* 18:280-98.
16. Torcka, M. 1950. II. Breeding potatoes with resistance to Colorado beetle. *Amer. Potato J.* 27:263-71.

