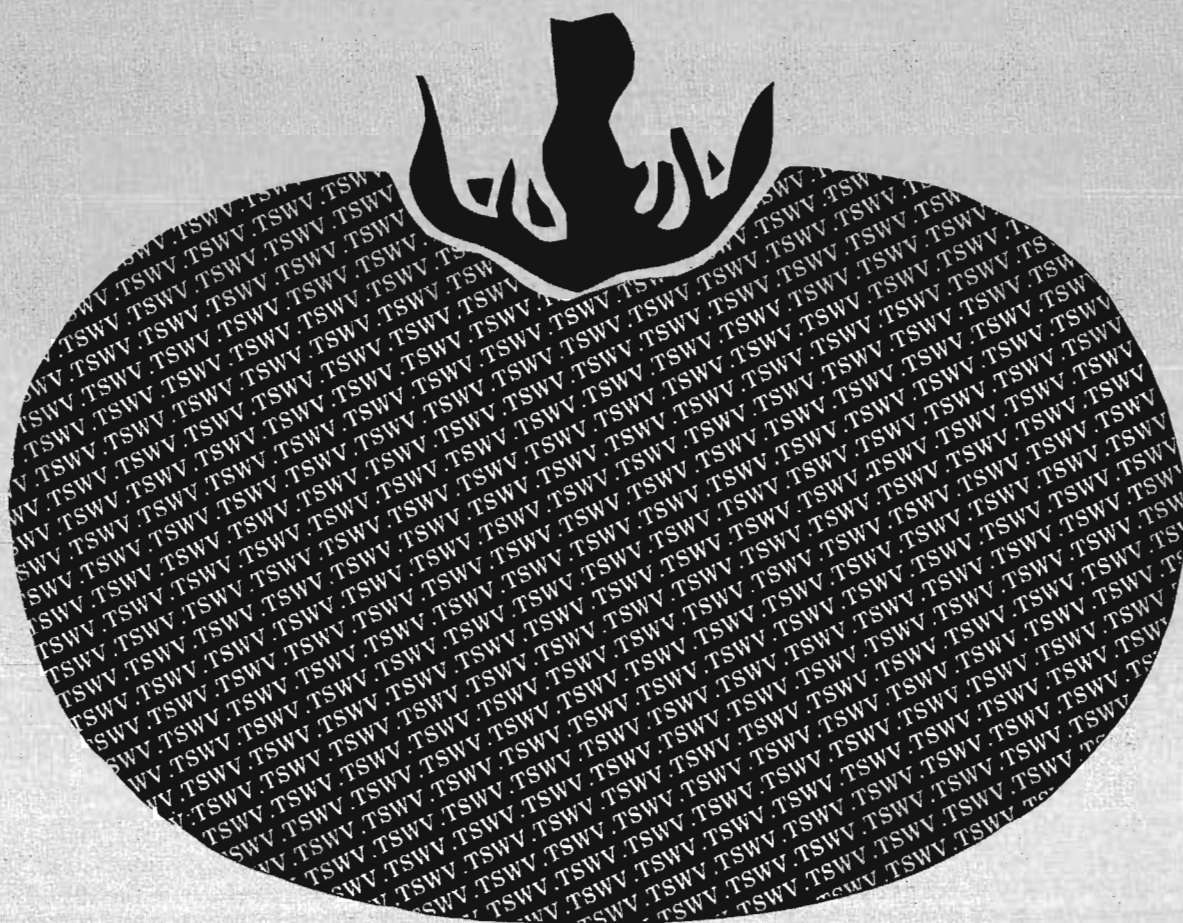


HOST LIST OF PLANTS SUSCEPTIBLE TO TOMATO SPOTTED WILT VIRUS (TSWV)

J. J. Cho, R. F. L. Mau, W. C. Mitchell, D. Gonsalves, and L. S. Yudin

HITAHR · COLLEGE OF TROPICAL AGRICULTURE AND HUMAN RESOURCES · UNIVERSITY OF HAWAII



The Library of Congress has catalogued this serial publication as follows:

Research extension series / Hawaii Institute of Tropical Agriculture and Human Resources.—[Honolulu, Hawaii]:

The Institute, [1980–
v. : ill. ; 22 cm.

Irregular.

Title from cover.

Separately catalogued and classified in LC before and including no. 044.

ISSN 0271-9916 = Research extension series - Hawaii Institute of Tropical Agriculture and Human Resources.

1. Agriculture—Hawaii—Collected works. 2. Agriculture—Research—Hawaii—Collected works. I. Hawaii Institute of Tropical Agriculture and Human Resources.

II. Title: Research extension series - Hawaii Institute of Tropical Agriculture and Human Resources

S52.5.R47 630'.5—dc19 85-645281

AACR 2 MARC-S

Library of Congress [8506]

ACKNOWLEDGMENTS

We wish to thank M. Barut, H. Bridgman, J. Lee, S. Matsubara, and J. Palos for their able assistance. Investigations were supported in part by the USDA/CSRS Special Grants Program in Tropical and Subtropical Agriculture No. 58-9AHZ-0-546 and Grant 84-1 from the State of Hawaii Governor's Agricultural Coordinating Committee.

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HOST LIST OF PLANTS SUSCEPTIBLE TO TOMATO SPOTTED WILT VIRUS (TSWV)

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INTRODUCTION

Spotted wilt of tomato was first described by Brittlebank (1919) in Australia. Samuel et al. (1930) characterized the pathogenic agent as a virus and named it tomato spotted wilt virus (TSWV). Since then the disease has been reported in several tropical and temperate regions and is considered worldwide in distribution.

TSWV is unique because it is one of only two plant viruses known to be transmitted by thrips. Pittman (1927) was the first to establish that TSWV could be transmitted by the onion thrips. Six thrips species are known TSWV vectors:

- 1) the western flower thrips, *Frankliniella occidentalis* (Pergande) (Gardner et al., 1935);
- 2) the common blossom thrips, *Frankliniella schultzei* (Trybom) (Samuel et al., 1930);
- 3) the onion thrips, *Thrips tabaci* Lindeman;
- 4) the tobacco thrips, *Frankliniella fusca* (Hinds) (Sakimura, 1963);
- 5) *Scirtothrips dorsalis* Hood (Amin et al., 1981); and
- 6) *Thrips setosus* Moulton (Kobatake, 1984).

Only the first three species are known to occur in Hawaii. Of these, the western flower thrips is the most common vector (Yudin et al., 1986, 1987). TSWV can be acquired from diseased plants only by larval thrips; after a latent period of three to 12 days it can be transmitted by both larval and adult stages.

TSWV produces a variety of disease symptoms including a range of chlorotic, necrotic, stunting, and enation symptoms in all parts of the plant (Ie, 1970). TSWV symptoms on lettuce generally start as necrotic brown leaf spots on one side of the plant, becoming systemic and extending to the heart leaves. This results in a cessation of development, causing the plant to twist to one side. The outer leaves wilt and eventually the whole head collapses. On tomatoes, symptoms are characterized by initial chlorosis of leaves and terminal shoots, developing into bronzing and necrosis. Symptoms on mature fruits are blotchiness of color and rugosity of the fruit surface.

In Hawaii, TSWV has seriously affected production of lettuce, tomato, and bell pepper in the major vegetable-production areas of the state. These areas include the Lalamilo and

Pukapu areas on the island of Hawaii, the Kula area on Maui, and the Waianae area on Oahu. This disease has been quite devastating in recent years, when losses of 50 to 90 percent have been observed in lettuce and tomato production, particularly during the warm, dry summer months.

Development of feasible control procedures has been difficult because TSWV has an extensive plant host range. Best (1968) lists 157 dicotyledonous plant species in 29 families, and six monocotyledonous species in five families, as hosts. Francki and Hatta (1981) added 11 additional host species. Several of these susceptible hosts are commonly found growing along field borders and among crops of Hawaii's major vegetable-growing regions.

TSWV-infected plant hosts in vegetable-growing regions play an important role in the epidemiology of the disease. Forty-four plant species representing 16 plant families have been found to be naturally infected with TSWV. Twenty-six plant species are considered important reservoirs of TSWV (see Table 1). These plant sources perpetuate TSWV, are important habitats for thrips vectors, and serve as foci for subsequent movement and infection of susceptible crop plants. *Ipomoea congesta* (blue morning glory) and *Tropaeolum majus* (nasturtium) are present throughout the year on the islands of Hawaii and Maui. On Oahu, *Amaranthus spinosus* (spiny amaranth) is commonly found. A high percentage of those plants found on farmland harbor the virus and were associated with abundant vector thrips. Elimination of these and other important TSWV reservoirs should be helpful in reducing disease losses.

Several additional new plant hosts have been identified since 1981, and this paper presents an up-to-date listing of TSWV-susceptible plant species. Several references listed in the table cite original articles demonstrating TSWV susceptibility of plant species or host lists of TSWV-susceptible plants.

TABLE 1. HOSTS OF TOMATO SPOTTED WILT VIRUS

| Scientific name | Common name | Reference |
|--|----------------------|----------------------------|
| <i>Acanthospermum hispidium</i> DC. | --- | Greber and McCarthy, 1977 |
| <i>Ageratum houstonianum</i> Mill. | ageratum | Gumpf and Weathers, 1972 |
| <i>Amaranthus caudatus</i> L. | --- | Best, 1968 |
| <i>Amaranthus graecizans</i> L. | --- | Best, 1968 |
| <i>Amaranthus hybridus</i> L.* | green amaranth | Cho et al., 1986 |
| <i>Amaranthus retroflexus</i> L. | redroot pigweed | Milbrath, 1939 |
| <i>Amaranthus spinosus</i> L.* | spiny amaranth | Cho et al., 1986 |
| <i>Amaranthus viridis</i> L.* | slender amaranth | Cho et al., 1984, 1986 |
| <i>Amaryllis</i> sp. | Barbados lily | Gardner et al., 1935 |
| <i>Ananas comosus</i> (L.) Merr. | pineapple | Linford, 1932 |
| <i>Anemone</i> sp. | anemone | Smith, 1957 |
| <i>Antirrhinum</i> sp. | snapdragon | Smith, 1957 |
| <i>Apium graveolens</i> L.* | celery, celeriac | Best, 1968 |
| <i>Aquilegia vulgaris</i> L. | common columbine | Smith, 1957 |
| <i>Arachis hypogaea</i> L. | peanut | Costa, 1941 |
| <i>Arctium lappa</i> L.* | burdock | Cho et al., 1986 |
| <i>Arum palaestinum</i> Boiss | calla | Tompkins and Severin, 1950 |
| <i>Aster</i> sp. | aster | Smith, 1957 |
| <i>Atropa belladonna</i> L. | deadly nightshade | Smith, 1932 |
| <i>Begonia x hiemalis</i> Fotsch | begonia | Barnes and Halliwell, 1985 |
| <i>Begonia semperflorens</i> Link & Otto | begonia | Gardner et al., 1935 |
| <i>Begonia</i> sp. | begonia | Best, 1968 |
| <i>Belamcanda chinensis</i> (L.) DC. | blackberry lily | Yamamoto and Ohata, 1977 |
| <i>Bidens pilosa</i> L.* | Spanish needle | Greber and McCarthy, 1977 |
| <i>Bidens pilosa</i> var. <i>minor</i> (Bl.) Sherf* | Spanish needle | Cho et al., 1984, 1986 |
| <i>Brassica campestris</i> ssp. <i>chinensis</i> L. | white stem cabbage | Cho et al., 1986 |
| <i>Brassica oleracea</i> var. <i>botrytis</i> L. | cauliflower | Gardner et al., 1935 |
| <i>Browallia americana</i> L. | browallia | Gardner et al., 1935 |
| <i>Browallia speciosa</i> Hook. | --- | Smith, 1957 |
| <i>Calceolaria</i> sp. | slipperwort | Smith, 1957 |
| <i>Calendula officinalis</i> L. | calendula | Best, 1968 |
| <i>Callistephus chinensis</i> (L.) Nees | China aster | Best, 1968 |
| <i>Campanula americana</i> L. | bellflower | Gardner et al., 1935 |
| <i>Campanula pyramidalis</i> L. | chimney bellflower | Smith, 1957 |
| <i>Capsella bursa-pastoris</i> (L.) Medic.* | shepherd's purse | Best, 1968 |
| <i>Capsicum annuum</i> L. | bell pepper | Sakimura, 1940 |
| <i>Capsicum frutescens</i> L. | red pepper | Smith, 1932 |
| <i>Capsicum</i> sp. | pepper | Best, 1968 |
| <i>Carica papaya</i> L. | papaya | Cook, 1972 |
| <i>Cheiranthus</i> sp. | wall flower | Smith, 1957 |
| <i>Chenopodium album</i> L. | lamb's quarters | Paliwal, 1974 |
| <i>Chenopodium ambrosioides</i> L. | Mexican tea | Cho et al., 1986 |
| <i>Chenopodium murale</i> L. | nettleleaf goosefoot | Cho et al., 1986 |
| <i>Chenopodium quinoa</i> Willd. | --- | Paliwal, 1974 |
| <i>Chondrilla</i> sp. | --- | Best, 1968 |
| <i>Chrysanthemum morifolium</i> (Ram.) Hemsl. | chrysanthemum | Gardner and Whipple, 1934 |
| <i>Chrysanthemum</i> sp. | chrysanthemum | Smith, 1957 |
| <i>Cichorium endivia</i> L. | endive | Sakimura, 1940 |

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|--|------------------------|---------------------------|
| <i>Cichorium intybus</i> L. | chicory | Sakimura, 1940 |
| <i>Cineraria cruenta</i> Mass. | --- | Jones, 1944 |
| <i>Cirsium lanceolatum</i> Hill | bullthistle | Best, 1968 |
| <i>Convolvulus arvensis</i> L. | bindweed | Sherf, 1948 |
| <i>Convolvulus</i> sp. | morning glory | Best, 1968 |
| <i>Cordyline terminalis</i> (L.) Kunth. | ti, ki | Cho et al., 1986 |
| <i>Coreopsis drummondii</i> Torr. & Gray | tick seed | Smith, 1957 |
| <i>Coriandrum sativum</i> L. | coriander | Best, 1968 |
| <i>Coronopus didymus</i> (L.) Smith | swinecress | Cho et al., 1986 |
| <i>Cosmos bipinnatus</i> Cav. | cosmos | Smith, 1957 |
| <i>Crepis capillaris</i> Wallr. Beitr. | hawksbeard | Best, 1968 |
| <i>Crepis divaricata</i> F. Schultz | --- | Best, 1968 |
| <i>Crepis pulchra</i> L. | --- | Best, 1968 |
| <i>Crepis pumila</i> | --- | Best, 1968 |
| <i>Crepis rhoeadifolia</i> Bieb. | --- | Best, 1968 |
| <i>Crotalaria incana</i> L. | fuzzy rattlepod | Cho et al., 1984, 1986 |
| <i>Crotalaria mucronata</i> Desv. | smooth rattlepod | Cho et al., 1984, 1986 |
| <i>Cucumis sativus</i> L. | cucumber | Ie, 1970 |
| <i>Cyanra scolymus</i> L. | artichoke | Garcia and Feldman, 1978 |
| <i>Dahlia pinnata</i> Cav. | dahlia | Holmes, 1948 |
| <i>Dahlia variabilis</i> (Willd.) Desf. | dahlia | Gardner and Whipple, 1934 |
| <i>Datura ferox</i> L. | --- | Greber and McCarthy, 1977 |
| <i>Datura stramonium</i> L.* | jimson weed | Smith, 1931 |
| <i>Datura wrightii</i> Hort. ex Regel | --- | Smith, 1957 |
| <i>Delphinium cultorum</i> Voss | --- | Gardner et al., 1935 |
| <i>Delphinium</i> sp. | larkspur | Best, 1968 |
| <i>Desmodium uncinatum</i> (Jacq.) DC. | Spanish clover | Cho et al., 1986 |
| <i>Dichondra carolinensis</i> Michx. | --- | Sakimura, 1961 |
| <i>Duboisia leichhardtii</i> | --- | McCarthy and Greber, 1978 |
| <i>Emilia sagittata</i> DC. | Flora's paintbrush | Linford, 1932 |
| <i>Emilia sonchifolia</i> (L.) DC. | red pualele | Sakimura, 1940 |
| <i>Emilia</i> sp. | --- | Best, 1968 |
| <i>Erigeron bonariensis</i> L. | hairy horseweed | Helms et al., 1961 |
| <i>Erigeron canadensis</i> L. | small-leaf horseweed | Cho et al., 1986 |
| <i>Gaillardia aristata</i> Pursh. | --- | Gardner et al., 1935 |
| <i>Gaillardia</i> sp. | --- | Best, 1968 |
| <i>Galinsoga parviflora</i> Cav.* | fuji grass | Cho et al., 1986 |
| <i>Galinsoga quadriradiata</i> (Raf.) Blake | Peruvian daisy | Cho et al., 1986 |
| <i>Gerbera</i> sp. | African daisy | Best, 1968 |
| <i>Gladiolus</i> sp. | gladiola | Smith, 1957 |
| <i>Gloxinia</i> sp. | gloxinia | Best, 1968 |
| <i>Godetia grandiflora</i> Lindl. | --- | Gardner et al., 1935 |
| <i>Gomphrena globosa</i> L. | globe amaranth | Paliwal, 1974 |
| <i>Gypsophila paniculata</i> L. | baby's breath | Best, 1968 |
| <i>Helipterum manglesii</i> (Lindl.) F. J. Muell. ex Benth. | Swan River everlasting | Best, 1968 |
| <i>Helipterum roseum</i> Benth. | --- | Best, 1968 |
| <i>Hippeastrum</i> sp. | Barbados lily | Best, 1968 |
| <i>Hydrangea macrophylla</i> 'Imaculata' Ser. | hydrangea | Allen et al., 1983 |
| <i>Hydrocotyle asiatica</i> Bert. ex Urban | water pennywort | Paliwal, 1974 |
| <i>Hyosoyamus niger</i> L. | henbane | Best, 1968 |
| <i>Ipomoea congesta</i> R. Br.* | blue morning-glory | Cho et al., 1986 |

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|---|---------------------|------------------------------|
| <i>Ipomoea hederacea</i> | --- | Sakimura, 1961 |
| 'Superba' (L.) Jacq. | --- | Gardner and Whipple, 1934 |
| <i>Lactuca sativa</i> L.* | lettuce | Snyder and Thomas, 1936 |
| <i>Lactuca sativa</i> var. <i>capitata</i> L.* | --- | Tompkins and Gardner, 1934 |
| <i>Lactuca sativa</i> var. <i>longifolia</i> Lam.* | romaine | Milbrath, 1939 |
| <i>Lactuca scariola</i> L. | --- | Snyder and Thomas, 1936 |
| <i>Lathyrus odoratus</i> L. | sweet pea | Gardner et al., 1935 |
| <i>Layia elegans</i> Torr. & Gray | --- | Cho et al., 1986 |
| <i>Leonotis nepetaefolia</i> R. Br.* | lion's ear | Best, 1968 |
| <i>Lilium tigrinum</i> Ker-Gawl. | tiger lily | Cho et al., 1986 |
| <i>Limonium latifolium</i> (Sm.) Ktze. | statice | Smith, 1957 |
| <i>Lobelia</i> sp. | --- | Gardner and Whipple, 1934 |
| <i>Lupinus albus</i> L. | lupine | Smith, 1932 |
| <i>Lupinus angustifolius</i> L. | --- | Smith, 1957 |
| <i>Lupinus leucophyllus</i> Dougl. ex Lindl. | --- | Best, 1968 |
| <i>Lychnis coronaria</i> (L.) Desr. | dusty miller | Smith, 1957 |
| <i>Lycium ferocissimum</i> Miers | matrimony-vine | Brittlebank, 1919 |
| <i>Lycopersicon esculentum</i> Mill.* | tomato | Smith, 1944 |
| <i>Lycopersicon hirsutum</i> HBK. | --- | Hutton and Peak, 1949 |
| <i>Lycopersicon peruvianum</i> (L.) Mill. | --- | Sakimura, 1940 |
| <i>Lycopersicon pimpinellifolium</i> (Jusl.) Mill. | --- | Best, 1968 |
| <i>Malcomia maritima</i> R. Br. | Virginia stock | Sakimura, 1961 |
| <i>Malva nicaeensis</i> All. | mallow | Best, 1968 |
| <i>Malva parviflora</i> L.* | cheeseweed | Milbrath, 1939 |
| <i>Malva rotundifolia</i> L. | common mallow | Best, 1968 |
| <i>Marrubium vulgare</i> L. | hoarhound | Gardner and Whipple, 1934 |
| <i>Martynia annua</i> L. | --- | Cho et al., 1986 |
| <i>Medicago polymorpha</i> L. | bur clover | Cho et al., 1986 |
| <i>Melilotus officinalis</i> (L.) Lam.* | yellow sweet clover | Best, 1968 |
| <i>Mesembryanthemum</i> sp. | tricolor ice plant | Best, 1968 |
| <i>Montia</i> sp. | --- | Best, 1968 |
| <i>Myosotis alpestris</i> Schmidt | forget-me-not | Milbrath, 1939 |
| <i>Nepeta cataria</i> L. | catnip | Francki and Grivell, 1970 |
| <i>Nerium oleander</i> L. | oleander | Gardner and Whipple, 1934 |
| <i>Nicandra physalodes</i> (L.) Gaertn.* | apple of Peru | Gardner and Whipple, 1934 |
| <i>Nicotiana acuminata</i> (R. C. Grah.) Hook. | --- | Gardner and Whipple, 1934 |
| <i>Nicotiana alata</i> Link & Otto | jasmine tobacco | Best, 1968 |
| <i>Nicotiana angustifolia</i> Mill. | --- | Smith, 1957 |
| <i>Nicotiana atropurpureum</i> Hort. | --- | Gonsalves and Trujillo, 1986 |
| <i>Nicotiana benthamiana</i> Domin | --- | Smith, 1957 |
| <i>Nicotiana bigelovii</i> (Torr.) S. Wats. | --- | Best, 1968 |
| <i>Nicotiana bonariensis</i> Lehm. | --- | Smith, 1957 |
| <i>Nicotiana calyciflora</i> | --- | Best, 1968 |
| <i>Nicotiana caudigera</i> Phil. | --- | Smith, 1957 |
| <i>Nicotiana chinensis</i> Fisch. | --- | Best, 1968 |
| <i>Nicotiana debneyi</i> Domin | --- | Best, 1968 |
| <i>Nicotiana etigua</i> | --- | Best, 1968 |
| <i>Nicotiana glauca</i> Graham | tree tobacco | Smith, 1932 |
| <i>Nicotiana glutinosa</i> L. | --- | Smith, 1932 |
| <i>Nicotiana goodspeedii</i> Wheeler | --- | Best, 1968 |
| <i>Nicotiana langsdorffii</i> Weinm. | --- | Gardner and Whipple, 1934 |

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|--|-----------------------|---------------------------|
| <i>Nicotiana longiflora</i> Cav. | long-flowered tobacco | Smith, 1957 |
| <i>Nicotiana macrophylla</i> Spreng. | --- | Best, 1968 |
| <i>Nicotiana maritima</i> Wheeler | --- | Best, 1968 |
| <i>Nicotiana nudicaulis</i> S. Wats. | --- | Costa and Forster, 1942 |
| <i>Nicotiana paniculata</i> L. | --- | Smith, 1957 |
| <i>Nicotiana plumbaginifolia</i> Viv. | --- | Best, 1968 |
| <i>Nicotiana rustica</i> L. | wild tobacco | Smith, 1932 |
| <i>Nicotiana sanderae</i> W. Wats. | --- | Gardner and Whipple, 1934 |
| <i>Nicotiana solanifolia</i> Walp. | --- | Best, 1968 |
| <i>Nicotiana suaveolens</i> Lehm. | --- | Smith, 1957 |
| <i>Nicotiana sylvestris</i> Spegaz. & Comes | --- | Smith, 1957 |
| <i>Nicotiana tabacum</i> L. | Turkish tobacco | Smith, 1931 |
| <i>Nicotiana tomentosiformis</i> Goodspeed | --- | Best, 1968 |
| <i>Nicotiana undulata</i> Ruiz & Pav. | --- | Best, 1968 |
| <i>Nicotiana wigandioides</i> Koch & Fint | --- | Best, 1968 |
| <i>Oenothera</i> sp. | evening primrose | Best, 1968 |
| <i>Papaver nudicaule</i> L. | Iceland poppy | Best, 1968 |
| <i>Papaver orientale</i> L. | oriental poppy | Gardner et al., 1935 |
| <i>Papaver</i> sp. | poppy | Smith, 1957 |
| <i>Penstemon hirsutus</i> (L.) Willd. | bread-tongue | Gardner et al., 1935 |
| <i>Peonia</i> sp. | peony | Smith, 1957 |
| <i>Petunia hybrida</i> Vilm. | petunia | Gardner and Whipple, 1934 |
| <i>Petunia</i> sp. | petunia | Smith, 1932 |
| <i>Phaseolus vulgaris</i> L. | snap bean | Smith, 1957 |
| <i>Phlox drummondii</i> Hook. | phlox | Best, 1968 |
| <i>Physalis peruviana</i> L. | cape gooseberry | Best, 1968 |
| <i>Physalis pubescens</i> L. | husk tomato | Gardner and Whipple, 1934 |
| <i>Pisum sativum</i> L. | garden pea | Snyder and Thomas, 1936 |
| <i>Plantago major</i> L. | broad-leaved plantain | Smith, 1932 |
| <i>Polygonum convolvulus</i> L. | --- | Smith, 1957 |
| <i>Polygonum</i> sp. | jointweed | Smith, 1957 |
| <i>Portulaca oleracea</i> L.* | purslane | Allen et al., 1983 |
| <i>Primula malacoides</i> Franch. | fairly primrose | Smith, 1957 |
| <i>Primula obconica</i> Hance | --- | Gardner et al., 1935 |
| <i>Primula sinensis</i> Lindl. | Chinese primrose | Smith, 1957 |
| <i>Primula</i> sp. | primrose | Best, 1968 |
| <i>Quamoclit coccinea</i> 'Hederifolia' L. | star ipomoea | Sakimura, 1961 |
| <i>Ranunculus</i> sp. | buttercup | Smith, 1957 |
| <i>Salpiglossis sinuata</i> Ruiz & Pav. | painted tongue | Gardner and Whipple, 1934 |
| <i>Salvia splendens</i> Ker-Gawl. | scarlet sage | Gardner et al., 1935 |
| <i>Saponaria officinalis</i> L. | bouncing bet | Best, 1968 |
| <i>Saxifraga</i> sp. | rockfoil | Best, 1968 |
| <i>Scabiosa</i> sp. | mourning bride | Smith, 1957 |
| <i>Schizanthus pinnatus</i> Ruiz & Pav. | pincushion flower | Gardner and Whipple, 1934 |
| <i>Senecio cruentus</i> (Mass.) DC. | --- | Gardner and Whipple, 1934 |
| <i>Senecio jacobea</i> L. | tansy ragwort | Allen et al., 1983 |
| <i>Sinningia speciosa</i> (Lodd.) Hiern. | gloxinia | Gardner et al., 1935 |
| <i>Solanum aculeatissimum</i> Jacq. | cockroach berry | Smith, 1932 |
| <i>Solanum capsicastrum</i> Link | --- | Smith, 1931 |
| <i>Solanum dulcamara</i> L. | bittersweet | Smith, 1932 |
| <i>Solanum laciniatum</i> Ait. | --- | Smith, 1931 |
| <i>Solanum marginatum</i> L. | --- | Smith, 1932 |

| | | |
|--|-----------------------|---------------------------|
| <i>Solanum melongena</i> L. | eggplant | Smith, 1932 |
| <i>Solanum miniatum</i> Bernh. ex Willd. | --- | Smith, 1957 |
| <i>Solanum nigrum</i> L. | black nightshade | Smith, 1931 |
| <i>Solanum nodiflorum</i> Jacq. | --- | Smith, 1931 |
| <i>Solanum sanitwongsei</i> Craib. | --- | Smith, 1957 |
| <i>Solanum seforthianum</i> Andr. | --- | Smith, 1957 |
| <i>Solanum sodomium</i> Hort. ex Dun. | apple of Sodom | Smith, 1957 |
| <i>Solanum triflorum</i> Nutt. | --- | Allen et al., 1983 |
| <i>Solanum tuberosum</i> L. | potato | Smith, 1931 |
| <i>Sonchus oleraceus</i> L.* | sowthistle | Best, 1968 |
| <i>Spinacia oleracea</i> L. | spinach | Sakimura, 1940 |
| <i>Stachys arvensis</i> L. | staggerweed | Greber and McCarthy, 1977 |
| <i>Stellaria media</i> (L.) Cyrill.* | chickweed | Holmes, 1948 |
| <i>Streptosolen jamesonii</i> Miers | --- | Smith, 1957 |
| <i>Tagetes minuta</i> L. | marigold | Best, 1968 |
| <i>Trachelium caerulea</i> L. | --- | Best, 1968 |
| <i>Trachelium</i> sp. | throatwort | Best, 1968 |
| <i>Trachymene caerulea</i> R. C. Grah. | --- | Best, 1968 |
| <i>Tribulus terrestris</i> L. | --- | Allen et al., 1983 |
| <i>Trifolium repens</i> L. | white clover | Paliwal, 1974 |
| <i>Trifolium subterraneum</i> L. | --- | Helms et al., 1961 |
| <i>Tropaeolum majus</i> L.* | nasturtium | Best, 1968 |
| <i>Tropaeolum</i> sp. | nasturtium | Best, 1968 |
| <i>Troximon</i> sp | --- | Best, 1968 |
| <i>Urtica dioica</i> L. | nettle | Gardner and Whipple, 1934 |
| <i>Verbena hybrida</i> Voss | verbena | Gardner et al., 1935 |
| <i>Verbena litoralis</i> HBK. | oi | Cho et al., 1984, 1986 |
| <i>Verbena</i> sp. | --- | Best, 1968 |
| <i>Verbesina encelioides</i> (Cav.) Benth. & Hook.* | golden crown-beard | Cho et al., 1984, 1986 |
| <i>Vicia faba</i> L. | broad bean | Best, 1968 |
| <i>Vigna sinensis</i> Endl. | cowpea | Paliwal, 1974 |
| <i>Vinca rosea</i> L. | Madagascar periwinkle | Paliwal, 1974 |
| <i>Xanthium saccharatum</i> Wallr.* | cocklebur | Cho et al., 1986 |
| <i>Zantedeschia aethiopica</i> Spreng. | common calla lily | Best, 1968 |
| <i>Zinnia elegans</i> Jacq. | zinnia | Best, 1968 |

*Important TSWV reservoir hosts associated with Hawaii's vegetable-growing regions.

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