

TPP host plants in New Zealand plus plant species found in TPP gut in PNW that occur in New Zealand

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Family	Genus	Species	Common Name	Where in NZ?	CLSo host	Researcher	Reference
Solanaceae	<i>Capsicum</i>	<i>annuum</i>	chili, pepper	Throughout NZ	Y	Wang	10.1146/annurev-phyto-080516-035513
	<i>Capsicum</i>	<i>frutescens</i>	Cayene pepper			Martin	https://nzacfactsheets.landcareresearch.co.nz/factsheet/interestinginsects/Tomato-potato-psyllid---Bactericera-cockerelli.html#host%20plants
	<i>Datura</i>	<i>stramonium</i>	Thorn-apple	N. Island; Upper S. Island	Y	Vereijssen	https://doi.org/10.5197/j.2044-0588.2015.032.001
	<i>Lycium</i>	<i>barbarum</i>	Chinese boxthorn	Throughout NZ			
	<i>Lycium</i>	<i>ferocissimum</i>	African boxthorn	Hawke's Bay; Canterbury	Y	Vereijssen	https://www.trecrops.org.nz/wp-content/uploads/88-TPP-non-crop-hosts_TC-Summer-2016-JDV.pdf
	<i>Nicandra</i>	<i>physolades</i>	Apple of Peru	N. Island; Upper S. Island		Vereijssen	https://www.trecrops.org.nz/wp-content/uploads/88-TPP-non-crop-hosts_TC-Summer-2016-JDV.pdf
	<i>Nicotiana</i>	<i>tabacum</i>	tobacco		Y	Wang	10.1146/annurev-phyto-080516-035513
	<i>Physalis</i>	<i>peruviana</i>	Cape gooseberry		Y	Wang	10.1146/annurev-phyto-080516-035513
	<i>Physalis</i>	<i>pubescens</i>	Ground cherry			Horton	Horton, Cooper, W. R., Munyaneza, J. E., Swisher, K. D., Echeagaray, E. R., Murphy, A. F., Rondón, S. I., Wohleb, C. H., Waters, T. D., & Jensen, A. S. (2015). A New Problem and Old Question: Potato Psyllid in the Pacific Northwest. <i>American Entomologist</i> (Lanham, Md), 61(4), 234-244. https://doi.org/10.1093/aet/rmv047
	<i>Solanum</i>	<i>betaceum</i>	tamarillo		Y	Wang	10.1146/annurev-phyto-080516-035513
	<i>Solanum</i>	<i>dulcamara</i>	bittersweet nightshade		Y	Horton	Horton, Cooper, W. R., Munyaneza, J. E., Swisher, K. D., Echeagaray, E. R., Murphy, A. F., Rondón, S. I., Wohleb, C. H., Waters, T. D., & Jensen, A. S. (2015). A New Problem and Old Question: Potato Psyllid in the Pacific Northwest. <i>American Entomologist</i> (Lanham, Md), 61(4), 234-244. https://doi.org/10.1093/aet/rmv048
	<i>Solanum</i>	<i>laciniatum</i>	Poroporo	Hawke's Bay; Canterbury		Vereijssen	https://www.trecrops.org.nz/wp-content/uploads/88-TPP-non-crop-hosts_TC-Summer-2016-JDV.pdf
	<i>Solanum</i>	<i>lycopersicum</i>	Tomato	Throughout NZ	Y	Wang	10.1146/annurev-phyto-080516-035513
	<i>Solanum</i>	<i>mauritianum</i>	woolly nightshade			Vereijssen	https://potatoesnz.co.nz/wp-content/uploads/2018/03/RDE-TO1.pdf
	<i>Solanum</i>	<i>melongena</i>	eggplant	Throughout NZ		Martin	Martin, N.A. 2008. Host plants of potato/tomato psyllid: a cautionary tale
<i>Solanum</i>	<i>nigrum</i>	black nightshade	Not found feeding		Martin	Martin, N.A. 2008. Host plants of potato/tomato psyllid: a cautionary tale	
<i>Solanum</i>	<i>pseudocapsicum</i>	Jerusalem cherry	Hawke's Bay	Y	Vereijssen	https://doi.org/10.5197/j.2044-0588.2015.032.001	
<i>Solanum</i>	<i>tuberosum</i>	potato (volunteers)	Throughout NZ	Y	Martin	Martin, N.A. 2008. Host plants of potato/tomato psyllid: a cautionary tale	
Convolvulaceae	<i>Convolvulus</i>	<i>arvensis</i>	Field bindweed	Hawke's Bay		Vereijssen	https://www.trecrops.org.nz/wp-content/uploads/88-TPP-non-crop-hosts_TC-Summer-2016-JDV.pdf
	<i>Ipomoea</i>	<i>batatas</i>	sweet potato	N. Island		Kaur	https://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0201506&type=printable



Capsicum (Chili pepper)



Thorn-apple



Chinese boxthorn



African boxthorn



Apple of Peru



Cape Gooseberry



Ground Cherry



Tamarillo



Bittersweet nightshade



Poroporo



Woolly nightshade



Egg Plant



Black nightshade



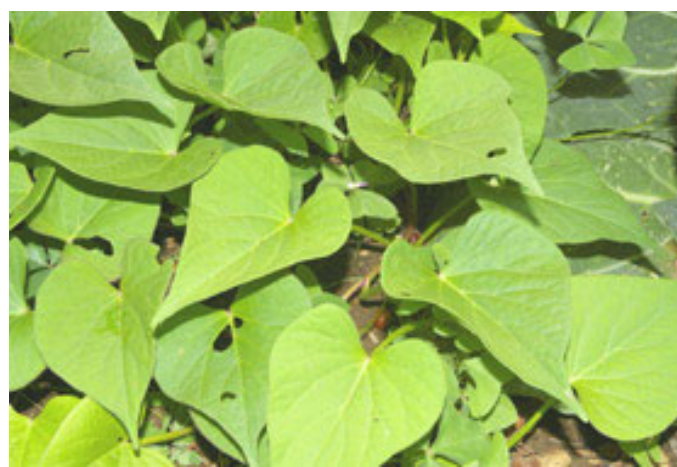
Jerusalem cherry



Volunteer potatoes



Field bindweed



Kumara

TPP Gut Analysis in PNW → Plants Fed on Common to New Zealand

Family	Feeding plants	Family	Feeding plants
Amaranthaceae	<i>Kochia scoparia</i> (firebush)	Oleaceae	<i>Fraxinus</i>
	<i>Chenopodium</i>	Pinaceae	<i>Picea</i>
	<i>Oxybasis</i>	Poaceae	<i>Bromus</i>
	<i>Salsola</i> (kali) prickly saltwort		<i>Dactylis</i>
Asteraceae	<i>Ambrosia</i>		<i>Elymus</i> syn. <i>Anthosachne</i>
	<i>Artemisia</i>		<i>Festuca</i>
	<i>Conyza</i> (<i>Erigeron</i> syn)		<i>Phalaris</i>
	<i>Helianthus</i>		<i>Poa</i>
	<i>Lactuca</i>	Polygonaceae	<i>Polygonum</i>
	<i>Symphotrichum</i>	Rosaceae	<i>Pyrus</i>
	<i>Taraxacum</i>		<i>Rubus</i>
Brassicaceae	<i>Brassica</i>	Salicaceae	<i>Salix</i>
	<i>Sinapis</i>	Sapindaceae	<i>Acer</i>
	<i>Sisymbrium</i>	Ulmaceae	<i>Ulmus</i>
	<i>Pisum</i>	Urticaceae	<i>Parietaria</i>



New Zealand Weeds & Exotics Common to PNW





Hyoscyamus niger - Henbane



Solanum rostratum - Buffalo burr



Kochia - Firebush



Chenopodium - Fathen



Salsola - Prickly saltwort



Oxybasis (NZ Native = PNW Weed)



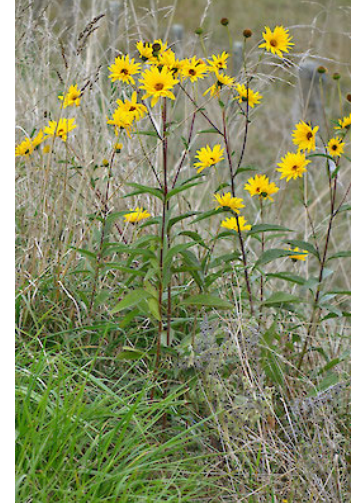
Ambrosia – annual ragweed



Artemisia - wormwood



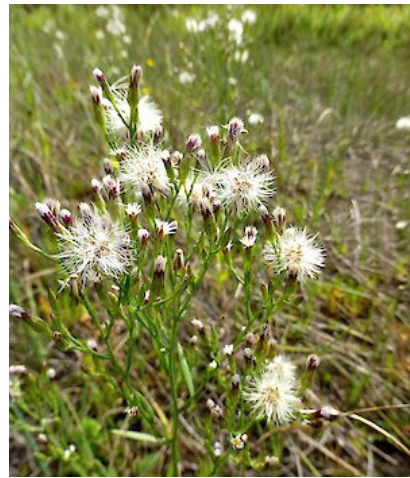
Erigeron - Fleabane



Perennial sunflower



Lettuce



Symphyotrichum - Sea aster



Dandelion



Brassica - Twigly Turnip



White mustard



Hedge mustard



Green pea



Ash



Norway spruce



Brome grass



Cocksfoot



Bluegrass



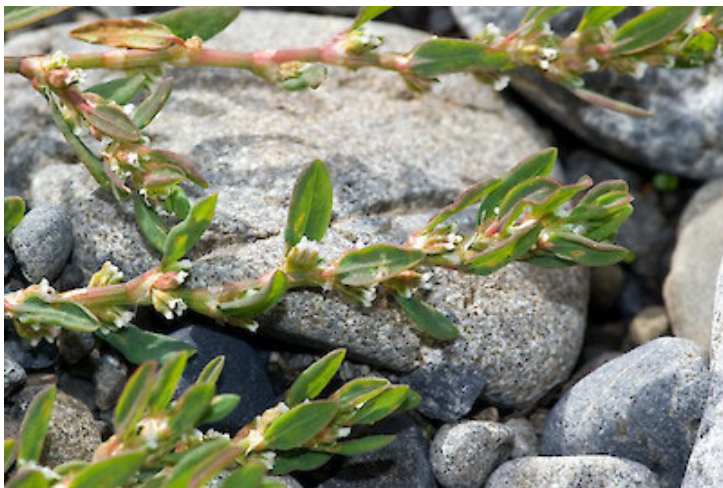
Fescue



Canary grass



Annual poa



Wireweed



Pear



Blackberry



Solanum carolinense - Horse Nettle



Willow



Sycamores & Maples



Elms



(Cornbind – S. Island)



Asthma weed



Moon flower

New Zealand Native Plants with same Genus as PNW Food Plants



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	<i>Chenopodium</i>	Pinaceae	<i>Picea</i>
	<i>Oxybasis</i>	Poaceae	<i>Bromus</i>
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	<i>Artemisia</i>		<i>Festuca</i>
	<i>Conyza</i> (<i>Erigeron</i> syn)		<i>Phalaris</i>
	<i>Helianthus</i>		<i>Poa</i>
	<i>Lactuca</i>	Polygonaceae	<i>Polygonum</i>
	<i>Symphotrichum</i>	Rosaceae	<i>Pyrus</i>
	<i>Taraxacum</i>		<i>Rubus</i>
Brassicaceae	<i>Brassica</i>	Salicaceae	<i>Salix</i>
	<i>Sinapis</i>	Sapindaceae	<i>Acer</i>
	<i>Sisymbrium</i>	Ulmaceae	<i>Ulmus</i>
	<i>Pisum</i>	Urticaceae	<i>Parietaria</i>





Chenopodium trigonon



Chenopodium triandrum



Oxybasis ambigua



Taraxacum magellanicum - NZ Dandelion



Bromus arenarius
sand brome



Festuca actae
Banks peninsula fescue



Poa anceps
broadleaved poa



Polygonum plebeium
Small knotweed



Rubus australis
tātārāmoa, bush lawyer



Parietaria debilis – NZ pellitory

Solution?

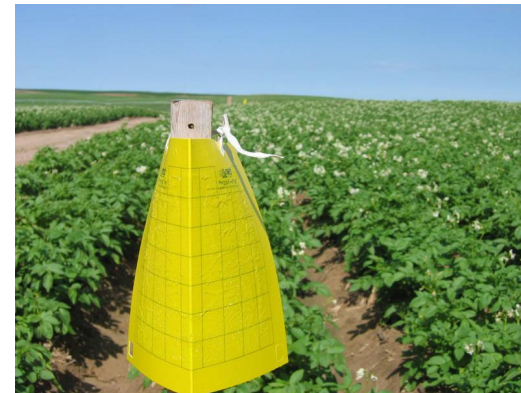
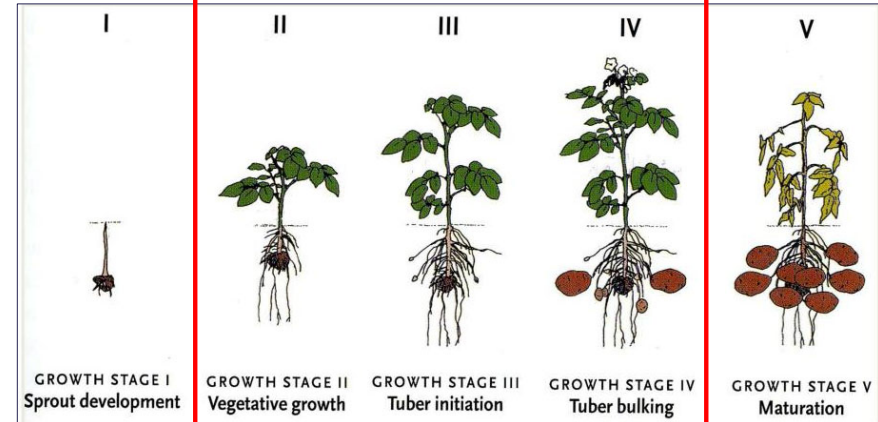
- ~~Scorched Earth~~
- Biological control
 - *Buchananiella*
 - *Orius*
 - Brown Tasman lacewing
 - Augmented by *Tamarixia*

IPM - Trapping of TPP

Yellow sticky traps (YST)

- Place at 4 directions (N, S, E, W)
- Replace YST weekly
- Count number of TPP
- Action threshold of > 3 TPP adults/trap/week) -0.9-1.6%

Monitoring activities



Phenological stages	GDD (°Cd)	Cumulative GDD (°Cd)
First OV of wintering adult	90	90
Egg development	115	205
Nymphal development	385	590
Adult Pre-OV	105	695
Peak OV period	73	768



3D Printed Traps → TPP-specific

Courtesy of Rodney Cooper USDA-ARS, Wapato, WA

