List of plant species

Includes the list of various plant species and their cultivars/varieties/genotypes which are listed in the SCIP database under combined stress studies.

Sl. No.	Plant name	Scientific name	Cultivars	Verities/ Hybrids	Genotypes	Breeding lines
1	Mustard	*Brassica juncea*	Pekiniensis	varieties Lamtachabi and Local yella		
2	Alfalfa	*Medicago sativa*	Dongmu-70, Saranac, WL-316			
3	Apple	*Malus domestica*	Oregon Spur Delicious	Gala, Ginger gold, Rome		
4	Asparagus	*Asparagus Officinalis L.*	Mary washington 500			
5	Barley	*Hordeum vulgare*	Zephyr, Midas, Julia, Mazurka, Canor Carlsberg,Lenka, Ermo, Frost, Pallas, Munchurian, nudum Hook. f., Rambo, no 164	California Mariout	Pallas-Mla8, Pallas-Mla3, Pallas-MlLa, Rphq2 MlLa, rphq2 mlLa, rphq2 MlLa, 17-5-2016, SusPtrit (165), TrigoBiasa (168), EsBgh (176), ErBgh (182), Zyphyr (186), Julia (186), 116-5 (191), Vada (201), Grit (208), CM72, XZ5, XZ16	
6	Bell pepper	*Capsicum annuum* L.	Early calwonder, Delray bell, Florida VR-2, Zeraim Gedera			
7	Bentgrass	*Agrostis stolonifera*	T1			
8	Bottle gourd	*Lagenaria siceraria* (Mol.) Standl.				
9	California wild grape	*Vitis californica*				
10	Canola	*Brassica napus*	45H72; Pioneer Hi-Bred, Chatham, Ontario			
11	Carrot	*Daucus carota*	Danver 126			
12	Cashew	*Anacardium occidentale*	CCP06			

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13	Cassava	*Manihot esculenta*	Mameya , Seda			
14	Celery	*Apium graveolens*	Florida2-14	variety Utah 52-70		
15	Cherry	*Prunus cerasus*		Montmorency		
16	Chickpea					
17	Chinese cabbage	*Brassica rapa*	Kanntoner			
18	Chinese onion	*Allium chinese*		Rakuda		
19	Corn	*Zea mays* L.	Ohio W49, DaHuang, KWCA and EV8429-SR, Pioneer 3394, Z7,Penjalinan, XD889, XD319, Yu13 and Yu37, Adonis	Hybrids 1-8, CH159x CH3, B14xCH9, variety TZESR, Errazu , Northrup King 403 and Pride II08, DK 522, DK 572, DK 677, DK 582		
20	Cotton	*Garsium hirsutum*	Acala SJ-2, Texas Marker (TM)-1, NuCOTN 33B, Siza 3, Rowden			
21	Creosote bush	*Larrea tridentate*				
22	Cucumber	*Cucumus sativum*	Bet-alfa, Poinsett, SMR-58, Marketer, Straight-8, Cezar F1, Corona, Butcher's Disease Resiste			
23	Diatoms				Epipelon (Navicula phyllepta), Epipsammon (Biremis lucens), Tychoplankton (Plagiogrammopsis vanheurckii)	
24	Faba Bean	*Vicia faba*	Agabat, Diana, Bolero			
25	Field mustard	*Brassica campestris*		Chinensis		
26	Fremont cottonwood	*Vitis californica*				
27	Garden Cress	*Lepidium sativum*				
28	Garden germanium	*Pelargonium × hortorum*		Orbit white		
29	Garlic	*Allium sativum*		variety China		

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31	Grapevine	*Vitis vinifera, Vitis amurensis*	Sauvignon,Cabernet Sauvignon, Sangiovese, Muscat Hamburg, Jinshou	Carignane		
32	Jatropha	*Jatropha curcas*				
33	Jewelflower	*Streptanthus polygaloides*				
34	Jewelflower	*Streptanthus insignis*				
35	Jojoba	*Simmondsia chinensis*				
36	Lemon	*Citrus limon*	Eureka			
37	Madwort	*Alyssum serpyllifolium*				
38	Maize	*Zea mays*	flint × dent, WF9×M14, DMR, DKC 65-44			
39	Mangrove	*Avicennia germinans*				
40	Melon	*Cucumis melo*				
41	Nouelia	*Nouelia insignis*				
42	Oranges	*Citrus sinensis*	Valencia			
43	Parsnip	*Pastinaca sativa*		variety Lisbonnais		
44	Pea	*Pisum sativum*	Sutton phenomenon, Lincoln, Douce de provence), 77 Early Perfection		Little marvel, PI 257593, Dark Skin Perfection, Minnesota 494-A11	MN313
45	Peanut	*Arachis hypogaea*	Tamspan 90, Southwest Runner, Okrun, and Flavor Runner 458, Georgia Green, Virginia Sihit Meshubahat, Florunner			
46	Pearl millet	*Pennisetum glaucum*		ICMH 451		
47	Pepper	*Capsicum annuum*	Cooper			
48	Pigeon pea	*Cajanus cajan*				
49	Potato	*Solanum tuberosum*	Zihuabai, Russet burbank, Red pontiac, Morene and Hermes, Nicola, Desiree, Alpha, Cara			
50	Quinoa	*Chenopodium quinoa*	Achachino, Titicaca			
51	Rapeseed	*Brassica rapa*		varieties M-27, Ragini		

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52	Red clover	*Trifolium pratense*	Pennscott			
53	Rice	*Oryza sativa*	Nohrin, T-43, Dongjin, 9311	IR64,		
54	Romaine lettuce	*Lactuca sativa L. var. longifolia*		Longifolia		
55	Rose	*Rosa chinensis* Jacq.	Movie Star			
56	Rosinha, Carioca, Dufrix, Gallatin, Pinto, Topcrop,Gintebo Slenderette, Pinto 111	*Phaseolus vulgaris*	Rosinha, Carioca, Dufrix, Gallatin, Pinto, Topcrop,Gintebo			
57	Santa cruz kada, New Yorker, Rheinlands Ruhm, Optima, Jinlingmeiyu, Garbo, Robin, Kenfengxin 2002, Miliana	*Solanum lycopersicum*	Santa cruz kada, New Yorker, Rheinlands Ruhm, Optima, Jinlingmeiyu, Garbo, Robin, Kenfengxin 2002			
58	Sea purslane	*Sesuvium portulacastrum*				
59	Siratro	*Macroptilium atropurpureum*	Siratro			
60	Sorghum	*Sorghum bicolor*	CSH6	Aralba, R109A, ICSV 112.		
61	Soybeans	*Glycine max*	Wells II, Hood,TGx1448-2E, BRS 255 RR and CD 213 RR, Mycogen 5N351RR, 5905 Roundup Ready, Bragg, Maple Arrow, Fiskeby V. O32, Merr			
62	Spinach	*Spinacia oleracea L.*	Racoon			
63	Strawberry	*Fragaria × ananassa*	Duchesne 'Midway'	Lisbonnais		
64	Sugar beet	*Beta vulgaris*	27, 28, 32			
65	Sugarcane	*Saccharum officinarum*			IACSP94-2094 and IACSP97-7065	
66	Sunflower	*Helianthus annuus L.*	S.28111, Hysun-33, Hysun-39, SF0049, 894A, Vidoc-5			
67	Tea	*Camellia sinensis*	Yingshuang			

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68	Thale cress	*Arabidopsis thaliana*	Columbia-0, Ler			
69	Tobacco	*Nicotiana benthamiana*				
70	Tobacco	*Nicotiana tabacum*	Zihuabai, Russet burbank, Red pontiac, Morene and Hermes, Nicola, Desiree, Alpha, Cara, PovinWindsor shade 117, 'SR1' plant line A, Turk, Trapeson, Samsun, Samsun NN, Havana 38			
71	Tomato	*Solanum lycopersicum*	Hezuo 903, Jinfen 5, Pusa Ruby, Qianxi, M82, Liaoyuanduoli, Rutgers	GC788, ST1254, Momo126, SLA2103 GC788, ZU1438, ZU1082, ZU753		
72	Watermelon	*Citrzdus lunatus*	Sugar baby			
73	Wheat	*Triticum aestivum*	Elite Leuple, Rothwell Sprite, Maris Beacon, Troll, Kolibri and Maris Butler,Flamingo, Hope x Timstein, Joss Cambier, Rubis, Maris Widgeon, Cappelle-Desprez, Maris Nimrod, Sappo, Maris Huntsman, Maris Ranger, Candiota, BR8, Max, BH1146, Lakish, Anza, Lehmi, Baart, Longbow, Flame, Faro, Hyak, Jacmar, Tres, Tyee, Riband, Ares, Malakoff, Democrat, Mediterranean, Hussar, Webster, Flinor, Champlein, Yannong 19, Bezostaya-1, Seri-82, Kirac-66,Kiziltan-91, Kunduru 414-44, C1252.SW41, Wilgoyne, Chuanmai 42, Len, Claire, Yannong 19	Faro-Hyak, Jacmar-Hyak, Faro-Tres, Faro-Tyee, Jacmar-Tres, Jacmar-Tyee, Faro-Hyak-Tres-Tyee, Cham-1, Lumai22, Sonalika, Mv Emese	2145, Jagger, TAM 105, Jimai22, Yangmai20	

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74	White clover	*Trifolium repens*	Regal			
75	Wild celery	*Vallisneria americana*				
78	Winter barley	*Hordeum vulgare*	Halcyon and Pipkin			
79	Winter wheat	*Triticum aestivum*	Consort and Riband			
80	Grapefruit	*Citrus paradisi*	Volkamer lemon			
81	Avocado	*Persea americana*	Pancho, Waldin, Hass			
82	Birch	*Betula pendula*				
83	Cowpea	*Vigna unguiculata*	*Walp*			
84	Tibetan peach	*Amygdalus mira Koehne*				
85	Broccoli	*(Brassica oleracea*		*TSS-AVRDC-2, B-75*		
86	Kentucky bluegrass		Unique, Serene			
87	*Bruguiera gymnorrhiza*					
88	*Heritiera littoralis*					
89	Sweet potato	*Ipomoea batatas*	Yongtsai, Taoyuan 1			
90	*Picea sitchensis*					
91	Late Goldenrod					
92	Arched elegant rock cress					
93	California wild grape					
94	Bayberry		Dongkui			
95	Giant taro					
96	Enset			Entada		
97	Chrysanthemum	*Chrysanthemum indicum*	B.G.A. Tuneful			
98	Broad beans	Vicia faba				
99	Thale cress	*Arabidopsis halleri*				
100	Yorkshire fog	*Holcus lanatus L.*				
101	Alpine Penny-cress	*Thlaspi caerulescens*	Prayon			
102	Cape Gooseberry	*Physalis peruviana L.*	Colombia			
103	Durum wheat	*Triticum turgidum L.*	durum			

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104	Pyrethrum	*Tanacetum cinerariifolium*				
105	Mungbean	*Vigna radiata*				
106	Rosemary	*Rosmarinus officinalis*				
107	Pomegranate	*Punica granatum*	Dente di cavallo			
108	White bean	*Phaseolus vulgaris*	Sanilac, Pinto-111			
109	Wild strawbwerry	*Fragaria virginiana*				
110	Petunia	*Petunia hybrida*	White cascade			
111	Linseed	*Linum usitatissimum*	Padmini, T-397			
112	Marsh Pennywort	*Hydrocotyle vulgaris*				
113	Eurasian milfoil	*Myriophyllum spicatum L.*				
114	California brome	*Bromus carinatus, Bromus diandrus*				
115	Widgeongrass	*Ruppia maritima L.*				
116	Needlerush	*Juncus roemerianus*				
117	Rayless alkali aster	*Aster laurentianus*				
118	Smooth cordgrass	*Spartina alterniflora*				
119	Bittersweet	*Solanum dulcamara*				
120	Adzuki Bean	*Vigna angularis*				
121	Lentil	*Lens culinaris*	DPL62, L-912, L-830,			
122	Firecracker	*Crossandra infundibuliformis*				
123	Eggplant	*Solanum melongena*	Imperial black beauty, Navkiran			
124	Mint	*Mentha piperita*	Black Mitcham, Native spearmint, Scotch spearmint			
125	Carnation	Dianthus caryophyllus		Red King		
126	Okra	*Abelmoschus esculentus L.*	Pusa Sawani			

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List of pathogens

Includes the list of various plant pathogenic bacteria, fungi, virus, nematodes, mites, oomycetes, and weed species which are listed in the SCIP database under combined stress studies.

A) Bacterial pathogens

1 *Pseudomonas syringae pv. tomato DC3000*
2 *Xylella fastidiosa*
3 *Pseudomonas syringae pv. tomato 1065*
4 *Xanthomonas compestris pv. musacearum*
5 *Pseudomonas syringae pv. phaseolicola*
6 *Xanthomonas oryzae pv. oryzae*
7 *Pseudomonas syringae pv. tabaci*
8 *Pseudomonas syringae pv. tomato*
9 *Erwinia chrysanthemi*
10 *Ralstonia solanacearum*
11 *Pseudomonas lachrymans isolate 408*
12 *Corynebacterium sepedonicum*
13 *Xanthomonas oryzae pv. Oryzicola bacterial isolates(BAI13, TAI2, MdAI1, Banzon BAI118, Karfiguela BAI119, Karankasso Sambla BAI120)*
14 *Xanthomonas campestris pv. vitians 701a strain*
15 *Pseudomonas syringae pv. tomato DC3000; avirulent strain*
16 *Pseudomonas tabaci*
17 *Pseudomonas syringae pv. syringae*
18 *Burkholderia glumae*
19 *Xanthomonas vesicatoria*
20 *Erwinia carotovora ssp. atroseptica SCRI1039 strain*
21 *Pseudomonas syringae pv lachrymans (Psl)*
22 *Xanthomonas oryzae*
23 *Pseudomonas glycinea*
24 *Xanthomonas phaseoli*
25 *Xanthomonas fragariae*
26 *Enterobacter cloacae*
27 *Paenibacillus polymyxa*
28 *Streptomyces flavofungini SNA26*
29 *Pseudomonas putida SNB53*
30 *Serratia marcescens subsp. sakuensis SNB54*

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31 *Lysinibacillus mangiferahumi M-GX18*
32 *Pseudomonas aeruginosa*

B) Fungal pathogens

1. *Albugo candida*
2. *Alternaria alternata*
3. *Alternaria brassicae*
4. *Alternaria brassicicola*
5. *Alternaria dauci*
6. *Alternaria mali*
7. *Alternaria solani*
8. *Amylostereum areolatum*
9. *Arthrobotrys conoides*
10. *Aspergillus sp*
11. *Bipolaris maydis*
12. *Bipolaris sorokiniana*
13. *Blumeria graminis f. sp. tritici*
14. *Blumeria graminis f.sp. Hordei*
15. *Botrytis cinerea*
16. *Botrytis fabae*
17. *Calonectria ilicicola*
18. *Cercospora apii*
19. *Cladosporium cucumerinum*
20. *Cochliobolus sativus*
21. *Colletotrichum acutatum*
22. *Colletotrichum coccodes*
23. *Colletotrichum graminicola*
24. *Colletotrichum lagenarium*
25. *Colletotrichum lagenarium; race 1*
26. *Colletotrichum lindemuthianum*
27. *Colletottichum orbiculare*
28. *Crinipellis perniciosa*
29. *Drechslera teres, Bipolaris sorokinian*
30. *Erysiphe cichoracearum*
31. *Erysiphe cruciferarum*
32. *Erysiphe graminis f sp. tritici.*
33. *Erysiphe graminis f. sp. Hordei*
34. *Exserohilum turcicum*
35. *Fusarium pallidoroseum*
36. *Fusarium acuminatum*
37. *Fusarium avenaceum (BRIP 64445)*
38. *Fusarium culmorum*

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39. *Fusarium graminearum*
40. *Fusarium graminearum; GZ03639 strain*
41. *Fusarium incarnatum*
42. *Fusarium moniliforme*
43. *Fusarium oxysporum (BRIP 64449)*
44. *Fusarium oxysporum f. sp. asparagi*
45. *Fusarium oxysporum f. sp. allii*
46. *Fusarium oxysporum f. sp. ciceris*
47. *Fusarium oxysporum f. sp. conglutinans*
48. *Fusarium oxysporum f. sp. medicaginis*
49. *Fusarium oxysporum f. sp. physali*
50. *Fusarium poae*
51. *Fusarium proliferatum*
52. *Fusarium roseum*
53. *Fusarium solani*
54. *Fusarium udum*
55. *Fusarium verticillioides*
56. *Gaeumannomyces graminis*
57. *Giberella zeae*
58. *Glomerella sp.*
59. *Helminthosporium pedicellatum*
60. *Itersonilia perplexans*
61. *Leptosphaeria maculans*
62. *Leptosphaeria nodorum Muller*
63. *Macrophomina phaseolina*
64. *Magnaporthae oryzae*
65. *Magnaporthe salvinii*
66. *Melampsora allii-fragilis*
67. *Melampsoridium betulinum*
68. *Mycosphaerella graminicola*
69. *Mycosphaerella melonis*
70. *Paraphoma vinacea*
71. *Pestalotiopsis*
72. *Phaeoisariopsis griseola*
73. *Phakopsora pachyrhizi*
74. *Phialophora gregata*
75. *Phoma destructiva*
76. *Phoma nebulosa*
77. *Phoma terrestris*
78. *Phomopsis emicis*
79. *Phomopsis longicolla*
80. *Phomopsis subordinaria*
81. *Phomopsis vexans*

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82. *Phyllosticta owaniana*
83. *Phytophthora infestans*
84. *Plasmopara viticola*
85. *Podosphaera pannosa*
86. *Pseudocercosporella herpotrichoides*
87. *Puccinia allii*
88. *Puccinia carduorum*
89. *Puccinia helianthii*
90. *Puccinia hordei 1.2.1*
91. *Puccinia punctiformis*
92. *Puccinia recondita f. sp. Triticina*
93. *Puccinia striiformis*
94. *Puccinia triticina*
95. *Pyrenophora tritic-repentis*
96. *Pyricularia oryzae; race 283*
97. *Pythium irregulare*
98. *Rhizoctonia bataticola*
99. *Rhizoctonia solani*
100. *Rhynchosporium secalis*
101. *Sclerotinia minor*
102. *Sclerotinia sclerotiorum*
103. *Sclerotium rolfsii*
104. *Septoria musiua*
105. *Septoria nodorum*
106. *Septoria tritici*
107. *Sphaerotheca fuliginea*
108. *Spissistitlus festinus*
109. *Stagonospora nodorum*
110. *Uncinula necator*
111. *Uromyces appendiculatus*
112. *Uromyces phaseoli*
113. *Uromyces rumicis*
114. *Uromyces viciae-fabae*
115. *Verticillium albo-atrum*
116. *Verticillium dahliae*
117. *Zymoseptoria tritici*

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C) Virus

1. *Tobacco mosaic virus*
2. *Potato Virus X*
3. *Turnip mosaic virus*
4. *Potato virus X*
5. *Turnip vein clearing virus*
6. *Potato spindle tuber viroid*
7. *Cucumber mosaic virus*
8. *Tomato yellow leaf curl virus TYLCV*
9. *Tobacco streak virus*
10. *Tobbaco vein mottling virus*
11. *Peanut stunt virus*
12. *Bean common mosaic virus*
13. *Tobacco ringspot virus*
14. *Soybean mosaic virus*

D) Mites

1. *Twospotted spider mites (Tetranychus urticae)*
2. *European red mite (Panonychus ulmi)*
3. *Spider mites (Tetranychus urticae)*
4. *Gaeolaelaps aculeifer*
5. *Cosmolaelaps simplex*

E) Oomycetes

1. *Aphanomyces cochlioides*
2. *Aphanomyces euteiches*
3. *Phytophthora capsici*
4. *Phytophthora infestans*
5. *Phytophthora megasperma f.sp. medicaginis*
6. *Phytophthora megasperma var. sojae*
7. *Phytophthora nicotianae*
8. *Phytophthora palmivora*
9. *Phytophthora rubi*
10. *Pythium aphanidermatum*
11. *Pythium arrhenomanes*
12. *Pythium graminicola*
13. *Pythium irregulare*
14. *Pythium mamillatum*
15. *Pythium tracheiphilum*
16. *Pythium ultimum*

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F) Nematodes

1. *Aphelenchoides bessey*
2. *Aphelenchus avenae*
3. *Belonolaimus longicaudatus*
4. *Ditylenchus dipsaci*
5. *Globodera pallida*
6. *Globodera rostochiensis*
7. *Helicotylenchus dihystera*
8. *Heterodera avenae*
9. *Heterodera cajani*
10. *Heterodera filipjevi*
11. *Heterodera glycines*
12. *Heterodera rostochiensis*
13. *Heterodera schachtii*
14. *Heterodera trifolii*
15. *Hoplolaimus indicus*
16. *Meloidogyne artiellia*
17. *Meloidogyne enterolobii*
18. *Meloidogyne graminicola*
19. *Meloidogyne hapla*
20. *Meloidogyne incognita*
21. *Meloidogyne javanica*
22. *Meloidogyne trifoliophila*
23. *Mesocriconema xenoplax*
24. *Nacobbus aberrans*
25. *Paratrichodorus minor*
26. *Pratylenchus brachyurus*
27. *Pratylenchus coffeae*
28. *Pratylenchus crenatus*
29. *Pratylenchus delattrei*
30. *Pratylenchus loosi*
31. *Pratylenchus neglectus*
32. *Pratylenchus penetrans*
33. *Pratylenchus scribneri*
34. *Pratylenchus thornei*
35. *Pratylenchus zeae*
36. *Rotylenchulus reniformis*
37. *Tylenchorhynchus annulatus*
38. *Tylenchorhynchus martini*
39. *Tylenchorhynchus sp.*
40. *Tylenchulus semipenetrans*

G) Weeds

1. Thistle- *Cirsium arvense*
2. Southern threecornerjack- *Emex australis*
3. Curly dock- *Rumex crispus*
4. Bitter dock- *Rumex obtusifolius*

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5. Ribwort plantain- *Plantago lanceolata*
6. Rangeland weed
7. Tausch goatgrass- *Aegilops tauschii*

List of organisms

Includes the list of various plant disease-causing insects which are listed in the SCIP database under combined stress studies.

1 *Acalymma vittatun*
2 *Acyrthosiphon pisum*
3 *Aphis faba*
4 *Aphis fabae ssp. Cirsiiacanthoidis*
5 *Aphis glycines*
6 *Apion onopordi*
7 *Armillaria mellea*
8 *Autumnal moth larvae*
9 *Botrytis cinerea*
10 *Brevicoryne brassicae*
11 *Cassida rubiginosa*
12 *Ceutorhynchidius troglodytes*
13 *Chromatomyia milli*
14 *cottonwood leaf beetles*
15 *Diabrotica virgifera virgifera*
16 *Diaporthe phaseolorum var. Caulivora*
17 *Eldana saccharina*
18 *Empoasca fabae*
19 *Epiphyas postvittana*
20 *Frankliniella occidentalis*
21 *Fungus gnat (Bradysia impatiens)*
22 *Gastrophlysa viridula*
23 *Helicoverpa zea*
24 *Hylurgopinus rufipes*
25 *Hypothenemus hampei*
26 *Lepidoptera larvae*
27 *Lobesia botrana*
28 *Macrosiphum euphorbiae (aphid)*
29 *Mamestra brassicae*
30 *Manduca sexta*
31 *Melanoplus differentialis*
32 *Metopolophium dirhodum (aphid)*
33 *Myzus persicae*

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34 *Ostrinia nubilalis*
35 *Panonychus ulmi*
36 *Perapion antiquum*
37 *Periconiella velutina*
38 *Phaedon cochlearia*
39 *Phyllotreta cruciferae*
40 *Pieris brassicae*
41 *Pieris rapae*
42 *Plagiodera versicolora*
43 *Pseudomonas syringae*
44 *Pyrallsta nubilalis*
45 *Rhodobium porosum*
46 *Rootworm*
47 *Schizaphis graminim*
48 *Sirex noctilio*
49 *Sitona hispidulus*
50 *Spissistilus festinus*
51 *Spodoptera exigua*
52 *Spodoptera frugiperda*
53 *Spodoptera littoralis*
54 *Tenebrio molitor*
55 *Tetraneura nigriabdominalis*
56 *Tetranychus urticae*
57 *Thrips tabaci*
58 *Trichosirocalus horridu*
59 *Western corn root worm*

Terminologies

Includes the definitions of various terms and parameters associated with the plant growth, physiology, and pathogen defense-related that are mentioned in this SCIP-database.

1. **Transpiration rate-** Is the amount of water transpired by plant per unit leaf area per unit time.

2. **Electrolyte/Membrane leakage-** Solute leaked from cytosol due to membrane damage. Quantification of this reflects the extent of damage to the membrane.

3. **Electron transport rate (ETR)-** Is a light-adapted parameter which directly related to an amount of energy used in photochemistry by photosystem II under steady-state photosynthetic lighting conditions.

4. **Ci content-** Is the intercellular carbon dioxide concentration.

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5. **Relative water content (RWC)-** Is the actual water content of the sampled leaf tissue in relation to the maximal water content it can hold at full turgidity.

6. **Stomatal conductance (gs)-** Is a measure of the rate of CO_2 taken in or water transpired through stomata.

7. **Water use efficiency (WUE)-** Amount of water transpired to produce a gram of biomass.

8. **Mesophyll conductance (gm)-** Is the transfer of carbon dioxide from a sub-stomatal cavity/intercellular airspace of the leaf into the chloroplast.

9. **Water potential (Ψw)-** A measure of the free energy associated with water per unit volume.

10. **Hydraulic conductivity-** Is a property of vascular plants, soils, and rocks that, describes the ease with which a fluid (usual water) can move through pore spaces or fractures.

11. **Embolism-** When the tension in the xylem conduits becomes too high, xylem cavitation will occur (water column breakage). This results in the hydraulic disconnection of leaves and above-ground parts from roots because xylem conduits are filled with air and water vapor, and this phenomenon is called embolism.

12. **Isotope discrimination-** The uptake by plants of a particular isotope in preference to another isotope of the same element. E.g. Plants prefer ^{12}C (lighter-fast diffusive) over ^{13}C (heavier-slow diffusive).

13. **Wilt index-** Is the percentage of wilted leaves to that of non-wilted leaves in a plant.

14. **Photosynthetic rate/ Assimilation rate (A)-** Is the amount photosynthetic products (glucose) produced per unit time.

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$$\Delta = \frac{\text{Rair}}{\text{Rp-1}}$$

where Rair and Rp stand for the $^{13}C/^{12}C$ ratio in air and the photosynthetic product, respectively.

17. **de-wit Replacement series-** This method is used for examining the competitive interaction between the plant pathogen by calculating the relative yield of the fungus. The relative yield (RYT) of fungus is the ratio of sporocarp yield in the combined treatment to its sporocarp yield in the single treatment. This calculated relative yield was plotted against the proportion of that fungus used in the combination treatment. The RY of each pathogen when present alone (100%) was equal to 1.0, and the other RYs were calculated with reference to this; at each input proportion, the sum of the RY gave the RYT. The relationship between the inoculation ratio of both the pathogen and relative yields was compared statistically to a hypothetically noncompetition model. The shape of the RYT line reflects the interaction between the two pathogens in the mixture.

18. **TBARS assay**- Thiobarbituric acid reactive substances (TBARS) are formed as a byproduct of lipid peroxidation (i.e. malondialdehyde) which can be detected by the TBARS assay using thiobarbituric acid as a reagent. It is an indirect measure of oxidative stress damage.
19. **The plastochron index (PI):** Is a measurement of the developmental age of a plant which is independent of biomass parameters

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