

# Recommended Codes for Pest Organisms in Cereal and Vegetable Crops

July 2015

Subject to regular review

Adopted by the Working Group established by the ISF Vegetable & Ornamental and Cereal Crops Sections

## Crops

- [\*Abelmoschus esculentus\*](#) (Okra)  
[\*Allium ampeloprasum\*](#) and [\*A. cepa\*](#) (Leek and Onion)  
[\*Apium graveolens\*](#) (Celery and Celeriac)  
[\*Avena sativa\*](#) (Oats)  
[\*Benincasa hispida\*](#) (Wax gourd)  
[\*Beta vulgaris\*](#) (Table beet and Swiss chard)  
[\*Brassicas\*](#) (Cabbage, Broccoli, Cauliflower, Chinese cabbage...)  
[\*Capsicum annuum\*](#) (Pepper)  
[\*Citrullus lanatus\*](#) (Watermelon)  
[\*Cucumis melo\*](#) (Melon)  
[\*Cucumis sativus\*](#) (Cucumber)  
[\*Cucurbita pepo\*](#), [\*C. maxima\*](#), [\*C. moschata\*](#) (Squash and pumpkin)  
[\*Diplotaxis tenuifolia\*](#) (Wild rocket)  
[\*Daucus carota var. sativa\*](#) (Carrot)  
[\*Eruca vesicaria subsp. sativa\*](#) (Arugula)  
[\*Hordeum vulgare\*](#) (Barley)  
[\*Lactuca sativa\*](#) (Lettuce)  
[\*Lagenaria siceraria\*](#) (Bottle gourd)  
[\*Ocinum basilicum\*](#) (Basil)  
[\*Petroselinum crispum\*](#) (Parsley)  
[\*Phaseolus vulgaris\*](#) (Dwarf and climbing French bean)  
[\*Pisum sativum\*](#) (Garden pea)  
[\*Raphanus sativus\*](#) (Radish)  
[\*Secale cereale\*](#) (Rye)  
[\*Solanum integrifolium\*](#) (Eggplant/Aubergine rootstock)  
[\*Solanum lycopersicum\*](#) (Ex *Lycopersicon esculentum*) (Tomato)  
[\*Solanum melongena\*](#) (Eggplant/Aubergine)  
[\*Solanum torvum\*](#) (Eggplant/Aubergine rootstock)  
[\*Spinacia oleracea\*](#) (Spinach)  
[\*Triticum spp.\*](#) (Wheat)  
[\*Valerianella locusta\*](#) (Corn salad)  
[\*Zea mays\*](#) (Sweet corn)

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**1. *Abelmoschus esculentus* (Okra)**

Scientific name	English common name	Code
<b>Viruses</b>		
<i>Okra yellow vein mosaic virus</i>	Okra yellow vein mosaic	OYVMV
<b>Insects</b>		
<i>Amarasca biguttula</i>	Leaf hopper	Ab

**2. *Alliums* - *A. ampeloprasum* and *A. cepa* (Leek and Onion)**

Scientific name	English common name	Code
<b>Viruses</b>		
<i>Leek yellow stripe virus</i>	Leek yellow stripe	LYSV
<b>Bacteria</b>		
<i>Pseudomonas syringae</i> pv. <i>porri</i>	Pseudomonas leek blight	Psp
<b>Fungi</b>		
<i>Alternaria porri</i>	Purple blotch	Ap
<i>Botrytis allii</i>	Botrytis neck rot	Ba
<i>Botrytis squamosa</i>	Botrytis leaf blight	Bs
<i>Colletotrichum gloeosporioides</i>	Twister	Cg
<i>Fusarium oxysporum</i> f. sp. <i>cepae</i>	Basal rot	Foc
<i>Peronospora destructor</i>	Downy mildew	Pd
<i>Phytophthora porri</i>	White tip of leek	Pp
<i>Puccinia allii</i>	Rust	Pa
<i>Pyrenochaeta terrestris</i>	Pink root	Pt
<i>Sclerotium cepivorum</i>	White rot	Sc
<b>Insects</b>		
<i>Thrips tabaci</i>	Onion thrips	Tt
<b>Nematodes</b>		
<i>Ditylenchus dipsaci</i>	Stem and bulb nematode	Dd

**3. *Apium graveolens* (Celery and Celeriac)**

Scientific name	English common name	Code
<b>Viruses</b>		
<i>Celery mosaic virus</i>	Celery mosaic	CeMV
<b>Bacteria</b>		
<i>Pseudomonas syringae</i> pv. <i>apii</i>	Bacterial leaf spot	Psa
<b>Fungi</b>		
<i>Fusarium oxysporum</i> f. sp. <i>apii</i>	Fusarium yellows and wilt	Foa
<i>Septoria apiicola</i>	Late blight	Sa

**4. *Avena sativa* (Oats)**

Scientific name	English common name(s)	Code
<b>Viruses</b>		
<i>Barley yellow dwarf virus</i>	Barley yellow dwarf virus	BYDV
<i>Oat golden stripe virus</i>	Oat chlorotic stripe virus, oat tubular virus, soil-borne oat stripe virus	OGSV
<i>Oat mosaic virus</i>	Soil-borne oat mosaic virus	OMV

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<b>Fungi</b>		
<i>Bipolaris victoriae</i> (teleomorph <i>Cochliobolus victoriae</i> )	Victoria blight	Bv
<i>Blumeria graminis</i> f. sp. <i>avenae</i> (anamorph: <i>Oidium monilioides</i> )	Powdery mildew	Bga
<i>Drechslera avenae</i>	Helminthosporium leaf spot, Helminthosporium leaf blotch, Drechslera leaf spot	Da
<i>Puccinia coronata</i>	Crown rust	Pc
<i>Puccinia graminis</i> f. sp. <i>avenae</i>	Stem rust	Pga
<i>Stagonospora avenae</i> f. sp. <i>avenaria</i> (teleomorph <i>Phaeosphaeria avenaria</i> f. sp. <i>avenaria</i> )	Speckled blotch, Septoria leaf blotch, Septoria black stem	Saa
<i>Ustilago avenae</i>	Loose smut	Ua
<i>Ustilago segetum</i>	Covered smut	Ug
<b>Nematodes</b>		
<i>Ditylenchus dipsaci</i>	Stem nematode, Stem eelworm, Stem and bulb nematode	Dd
<i>Heterodera avenae</i>	Cereal cyst nematode	Ha

**5. Benincasa hispida (Wax gourd)**

Scientific name	English common name	Code
<b>Fungi</b>		
<i>Fusarium oxysporum</i> f. sp. <i>lagenariae</i>	Fusarium wilt	Fol
<i>Fusarium oxysporum</i> f. sp. <i>niveum</i>	Fusarium wilt	Fon
<i>Fusarium oxysporum</i> f. sp. <i>radicis-cucumerinum</i>	Root and stem rot	For

**6. Beta vulgaris (Table beet and Swiss chard)**

Scientific name	English common name	Code
<b>Viruses</b>		
<i>Beet curly top virus</i>	Beet curly top	BCTV
<i>Beet necrotic yellow vein virus</i>	Rhizomania	BNYVV
<b>Bacteria</b>		
<i>Pseudomonas syringae</i> pv. <i>aptata</i>	Bacterial blight	Psa
<i>Streptomyces scabies</i>	Common scab	Ss
<b>Fungi</b>		
<i>Cercospora beticola</i>	Leaf spot	Cb
<i>Colletotrichm dematium</i> f. sp. <i>spinaciae</i>	Anthracoise	Cds
<i>Fusarium oxysporum</i> f. sp. <i>betae</i>	Fusarium yellows	Fob
<i>Pythium aphanidermatum</i>	Pythium root rot	Pa
<i>Phoma betae</i>	Phoma root rot, Leaf spot	Pb
<i>Peronospora farinosa</i> f. sp. <i>betae</i>	Downy mildew	Pfb
<i>Ramularia beticola</i>	Ramularia leaf spot	Ra
<i>Rhizoctonia solani</i>	Rhizoctonia root and crown rot	Rs
<i>Verticillium albo-atrum</i>	Verticillium wilt	Va
<i>Verticillium dahliae</i>	Verticillium wilt	Vd

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**7. Brassicas (Cabbage, Broccoli, Cauliflower, Chinese cabbage...)**

Scientific name	English common name	Code
<b>Viruses</b>		
<i>Cauliflower mosaic virus</i>	Cauliflower mosaic	CaMV
<i>Turnip mosaic virus</i>	Turnip mosaic	TuMV
<b>Bacteria</b>		
<i>Pseudomonas syringae</i> pv. <i>maculicola</i>	Bacterial leaf spot, Peppery leaf spot	Psm
<i>Xanthomonas campestris</i> pv. <i>armoraciae</i>	Leaf spot	Xca
<i>Xanthomonas campestris</i> pv. <i>campestris</i>	Black rot	Xcc
<b>Fungi</b>		
<i>Albugo candida</i>	White rust	Ac
<i>Albugo macrospora</i>	White rust	Am
<i>Alternaria brassicae</i>	Black spot	Abe
<i>Alternaria brassicicola</i>	Black spot	Aba
<i>Alternaria japonica</i>	Black spot	Aj
<i>Erysiphe cruciferarum</i>	Powdery mildew	Ec
<i>Fusarium oxysporum</i> f. sp. <i>conglutinans</i>	Fusarium yellows	Foc
<i>Fusarium oxysporum</i> f. sp. <i>rapae</i>	Fusarium yellows	Foa
<sup>1</sup> <i>Hyaloperonospora brassicae</i> (ex <i>Peronospora</i> / <i>Hyaloperonospora parasitica</i> )	Downy mildew	Hb (ex Pp/ Hp)
<i>Mycosphaerella brassicicola</i>	Ring spot	Mb
<i>Leptosphaeria maculans</i> (anamorph: <i>Phoma lingam</i> )	Black leg	Lm
<i>Plasmodiophora brassicae</i>	Clubroot	Pb
<i>Verticillium albo-atrum</i>	Verticillium wilt	Va
<i>Verticillium dahliae</i>	Verticillium wilt	Vd
<i>Verticillium longisporum</i>	Verticillium wilt	Vl
<b>Insects</b>		
<i>Brevicoryne brassicae</i>	Cabbage aphid	Bb
<i>Plutella xylostella</i>	Diamond back moth	Px
<i>Thrips tabaci</i>	Thrips	Tt

**8. *Capsicum annuum* (Pepper)**

Scientific name	English common name	Code
<b>Viruses</b>		
<i>Chilli veinal mosaic virus</i>	Chilli veinal mosaic	ChiVMV
<i>Cucumber mosaic virus</i>	Cucumber mosaic	CMV
<i>Paprika mild mottle virus</i>	Paprika mild mottle	PaMMV
<i>Pepper mild mottle virus</i>	Pepper mild mottle	PMMoV
<i>Pepper mottle virus</i>	Pepper mottle	PepMoV
<i>Pepper yellow mosaic virus</i>	Pepper yellow mosaic	PepYMV
<i>Potato Y virus</i>	Potato Y	PVY
<i>Tobacco etch virus</i>	Tobacco etch	TEV
<i>Tobacco mild green mosaic virus</i>	Tobacco mild green mosaic	TMGMV
<i>Tobacco mosaic virus</i>	Tobacco mosaic	TMV

<sup>1</sup> *Hyaloperonospora parasitica* is currently and widely known as *H. brassicae*. *H. parasitica* is a pathogen with a host range different to cultivated Brassicas.

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<i>Tomato mosaic virus</i>	Tomato mosaic	ToMV
<i>Tomato spotted wilt virus</i>	Tomato spotted wilt	TSWV
<b>Bacteria</b>		
<i>Ralstonia solanacearum</i>	Bacterial wilt	Rs
<i>Xanthomonas campestris</i> pv. <i>vesicatoria</i>	Bacterial spot	Xcv
<b>Fungi</b>		
<i>Colletotrichum acutatum</i>	Anthracnose	Ca
<i>Colletotrichum capsici</i>	Anthracnose	Cc
<i>Colletotrichum gloeosporioides</i>	Anthracnose	Cg
<i>Fusarium oxysporum</i> f. sp. <i>capsici</i>	Fusarium wilt	Foc
<i>Leveillula taurica</i> (anamorph: <i>Oidiopsis sicula</i> )	Powdery mildew	Lt
<i>Phytophthora capsici</i>	Buckeye fruit and root rot	Pc
<b>Nematodes</b>		
<i>Meloidogyne arenaria</i>	Root-knot	Ma
<i>Meloidogyne incognita</i>	Root-knot	Mi
<i>Meloidogyne javanica</i>	Root-knot	Mj

**9. *Citrullus lanatus* (Watermelon)**

Scientific name	English common name	Code
<b>Viruses</b>		
<i>Cucumber green mottle mosaic virus</i>	Cucumber green mottle mosaic	CGMMV
<i>Cucumber vein yellowing virus</i>	Cucumber vein yellowing	CVYV
<i>Cucumber mosaic virus</i>	Cucumber mosaic	CMV
<i>Papaya ringspot virus</i>	Papaya ringspot	PRSV
<i>Squash leaf curl virus</i>	Squash leaf curl	SLCV
<i>Watermelon mosaic virus</i>	Watermelon mosaic	WMV
<i>Zucchini yellow mosaic virus</i>	Zucchini yellow mosaic	ZYMV
<b>Bacteria</b>		
<i>Acidovorax citrulli</i> (ex <i>Acidovorax avenae</i> subsp. <i>citrulli</i> )	Bacterial fruit blotch	Ac (ex Aac)
<b>Fungi</b>		
<i>Colletotrichum orbiculare</i>	Anthracnose	Co
<i>Didymella bryoniae</i>	Gummy stem blight	Db
<i>Fusarium oxysporum</i> f. sp. <i>niveum</i>	Fusarium wilt	Fon
<i>Podosphaera xanthii</i>	Powdery mildew	Px

**10. *Cucumis melo* (Melon)**

Scientific name	English common name	Code
<b>Viruses</b>		
<i>Cucumber green mottle mosaic virus</i>	Cucumber green mottle	CGMMV
<i>Cucumber mosaic virus</i>	Cucumber mosaic	CMV
<i>Cucumber vein yellowing virus</i>	Cucumber vein yellowing	CVYV
<i>Cucurbit yellow stunting disorder virus</i>	Cucurbit yellow stunting disorder	CYSDV
<i>Melon necrotic spot virus</i>	Melon necrotic spot	MNSV
<i>Moroccan watermelon mosaic virus</i>	Moroccan watermelon mosaic	MWMV
<i>Papaya ringspot virus</i>	Papaya ringspot	PRSV
<i>Squash leaf curl virus</i>	Squash leaf curl	SLCV

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<i>Squash mosaic virus</i>	Squash mosaic	SqMV
<i>Watermelon mosaic virus</i>	Watermelon mosaic	WMV
<i>Zucchini yellow mosaic virus</i>	Zucchini yellows	ZYMV
<b>Bacteria</b>		
<i>Acidovorax citrulli</i> (ex <i>Acidovorax avenae</i> subsp. <i>citrulli</i> )	Bacterial fruit blotch	Ac (ex Aac)
<b>Fungi</b>		
<i>Didymella bryoniae</i>	Gummy stem blight	Db
<i>Golovinomyces cichoracearum</i>	Powdery mildew	Gc
<i>Fusarium oxysporum</i> f. sp. <i>melonis</i>	Fusarium wilt	Fom
<i>Pseudoperonospora cubensis</i>	Downy mildew	Pcu
<i>Podosphaera xanthii</i>	Powdery mildew	Px
<b>Insects</b>		
<i>Aphis gossypii</i>	Cotton aphid	Ag
<b>11. Cucumis sativus (Cucumber)</b>		
<b>Scientific name</b>	<b>English common name</b>	<b>Code</b>
<b>Viruses</b>		
<i>Beet pseudo yellowing virus</i>	Beet pseudo yellows virus	BPYV
<i>Cucumber green mottle mosaic virus</i>	Cucumber green mottle	CGMMV
<i>Cucumber mosaic virus</i>	Cucumber mosaic	CMV
<i>Cucumber vein yellowing virus</i>	Cucumber vein yellowing	CVYV
<i>Cucurbit yellow stunting disorder virus</i>	Cucurbit yellow stunting disorder	CYSDV
<i>Kyuri green mottle mosaic virus</i>	Cucumber green mottle	KGMMV
<i>Papaya ringspot virus</i>	Papaya ringspot	PRSV
<i>Squash leaf curl virus</i>	Squash leaf curl	SLCV
<i>Watermelon mosaic virus</i>	Watermelon mosaic	WMV
<i>Zucchini yellow mosaic virus</i>	Zucchini yellows	ZYMV
<b>Bacteria</b>		
<i>Erwinia tracheiphila</i>	Bacterial wilt	Et
<i>Pseudomonas syringae</i> pv. <i>lachrymans</i>	Angular leaf spot	Psi
<b>Fungi</b>		
<i>Cladosporium cucumerinum</i>	Scab and gummosis	Ccu
<i>Colletotrichum orbiculare</i>	Anthraxnose	Co
<i>Corynespora cassiicola</i>	Corynespora blight and target spot	Cca
<i>Didymella bryoniae</i>	Gummy stem blight	Db
<i>Golovinomyces cichoracearum</i>	Powdery mildew	Gc
<i>Fusarium oxysporum</i> f. sp. <i>cucumerinum</i>	Fusarium wilt	Foc
<i>Fusarium oxysporum</i> f. sp. <i>radicis-cucumerinum</i>	Fusarium crown and root rot	For
<i>Fusarium solani</i> f. sp. <i>cucurbitae</i>	Crown and root rot	Fsc
<i>Pseudoperonospora cubensis</i>	Downy mildew	Pcu
<i>Podosphaera xanthii</i>	Powdery mildew	Px

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**12. Cucurbita pepo, C. maxima, C. moschata (Squash and pumpkin)**

Scientific name	English common name	Code
<b>Viruses</b>		
<i>Cucumber green mottle mosaic virus</i>	Cucumber green mottle mosaic	CGMMV
<i>Cucumber mosaic virus</i>	Cucumber mosaic	CMV
<i>Luffa yellow mosaic virus</i>	Luffa yellow mosaic	LYMV
<i>Papaya ringspot virus</i>	Papaya ringspot	PRSV
<i>Squash leaf curl virus</i>	Squash leaf curl	SLCV
<i>Squash mosaic virus</i>	Squash mosaic	SqMV
<i>Watermelon mosaic virus</i>	Watermelon mosaic	WMV
<i>Moroccan watermelon mosaic virus</i>	Moroccan watermelon mosaic	MWMV
<i>Zucchini yellow mosaic virus</i>	Zucchini yellows	ZYMV
<b>Bacteria</b>		
<i>Acidovorax citrulli</i> (ex <i>Acidovorax avenae</i> subsp. <i>citrulli</i> )	Bacterial fruit blotch	Ac (ex Aac)
<b>Fungi</b>		
<i>Didymella bryoniae</i>	Gummy sten blight	Db
<i>Golovinomyces cichoracearum</i>	Powdery mildew	Gc
<i>Fusarium oxysporum</i> f. sp. <i>cucumerinum</i>	Fusarium wilt	Foc
<i>Fusarium oxysporum</i> f. sp. <i>lagenariae</i>	Fusarium wilt	Fol
<i>Fusarium oxysporum</i> f. sp. <i>melonis</i>	Fusarium wilt	Fom
<i>Fusarium oxysporum</i> f. sp. <i>niveum</i>	Fusarium wilt	Fon
<i>Fusarium oxysporum</i> f. sp. <i>radicis-cucumerinum</i>	Root and stem rot	For
<i>Fusarium solani</i> f. sp. <i>cucurbitae</i>	Crown and root rot	Fsc
<i>Phomopsis sclerotoides</i>	Black root rot	Ps
<i>Pythium aphanidermatum</i>	Damping off , Pythium fruit rot (cottony leak)	Pa
<i>Phytophthora capsici</i>	Phytophthora crown and root rot	Pc
<i>Pseudoperonospora cubensis</i>	Downy mildew	Pcu
<i>Podosphaera xanthii</i>	Powdery mildew	Px
<b>13. Daucus carota var. sativa (Carrot)</b>		
Scientific name	English common name	Code
<b>Bacteria</b>		
<i>Xanthomonas hortorum</i> pv. <i>carotae</i>	Bacterial leaf blight	Xhc
<b>Fungi</b>		
<i>Alternaria dauci</i>	Alternaria leaf blight	Ad
<i>Alternaria radicina</i>	Black rot	Ar
<i>Cercospora carotae</i>	Cercospora leaf blight	Cc
<i>Erysiphe heraclei</i>	Powdery mildew	Eh
<i>Pythium sulcatum</i>	Cavity spot	Ps
<i>Pythium ultimum</i>	Cavity spot	Pu
<i>Pythium violae</i>	Cavity spot	Pv
<b>Insects</b>		
<i>Psila rosae</i>	Carrot fly	Pr
<b>Nematodes</b>		
<i>Meloidogyne incognita</i>	Root-knot	Mi

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<i>Meloidogyne javanica</i>	Root-knot	Mj
<b>Phytoplasmas</b>		
<i>Aster yellows</i>	Aster yellows	Ay
<b>14. <i>Diplotaxis tenuifolia</i> (Wild rocket)</b>		
<b>Scientific name</b>	<b>English common name</b>	<b>Code</b>
<b>Fungi</b>		
<i>Hyaloperonospora parasitica</i>	Downy mildew	Hp
<b>15. <i>Eruca vesicaria</i> subsp. <i>sativa</i> (Arugula)</b>		
<b>Scientific name</b>	<b>English common name</b>	<b>Code</b>
<b>Fungi</b>		
<i>Hyaloperonospora parasitica</i>	Downy mildew	Hp
<b>16. <i>Hordeum vulgare</i> (Barley)</b>		
<b>Scientific name</b>	<b>English common name(s)</b>	<b>Code</b>
<b>Viruses</b>		
<i>Barley mild mosaic virus</i>	Barley mild mosaic	BaMMV
<i>Barley yellow dwarf virus</i>	Barley yellow dwarf	BYDV
<i>Barley yellow mosaic virus</i>	Barley yellow mosaic	BaYMV
<b>Bacteria</b>		
<i>Pseudomonas syringae</i> pv. <i>atrofaciens</i>	Basal glume rot	Psa
<i>Pseudomonas syringae</i> pv. <i>syringae</i>	Bacterial leaf blight	Pss
<b>Fungi</b>		
<i>Bipolaris sorokiniana</i> (teleomorph <i>Cochliobolus sativus</i> )	Common root rot	Bs
<i>Blumeria graminis</i> f. sp. <i>hordei</i>	Powdery mildew	Bgh
<i>Drechslera graminea</i> (teleomorph: <i>Pyrenophora graminea</i> )	Leaf stripe, Barley stripe	Dg
<i>Drechslera teres</i> f. sp. <i>maculata</i>	Net blotch ('spot' form), Spot-type net blotch, Spotted net blotch (SNB)	Dtm
<i>Drechslera teres</i> f. sp. <i>teres</i> (teleomorph: <i>Pyrenophora teres</i> )	Net blotch ('net' form), Net-type net blotch, Netted net blotch (NNB)	Dtt
<i>Fusarium avenaceum</i> (teleomorph: <i>Gibberella avenacea</i> )	Fusarium head blight, Scab	Fa
<i>Fusarium culmorum</i>	Fusarium head blight, Scab	Fc
<i>Fusarium graminearum</i> (teleomorph: <i>Gibberella zeae</i> )	Fusarium head blight, Scab	Fg
<i>Fusarium pseudograminearum</i>	Crown rot	Fp
<i>Gaeumannomyces graminis</i>	Take-all	Gg
<i>Microdochium nivale</i> var. <i>majus</i>	Snow mould, Pink snow mold	Mnm
<i>Oculimacula acuformis</i> (anamorph: <i>Helgardia acuformis</i> )	Eyespot, Strawbreaker	Oa
<i>Oculimacula yallundae</i> (anamorph <i>Helgardia yallundae</i> )	Eyespot, Strawbreaker	Oy
<i>Puccinia graminis</i> f. sp. <i>tritici</i>	Stem rust	Pgt
<i>Puccinia hordei</i>	Leaf rust, Brown rust	Ph
<i>Puccinia striiformis</i> f. sp. <i>hordei</i>	Stripe rust, Yellow rust, BSR	Psh
<i>Pseudoseptoria donacis</i>	Halo spot	Pd



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<i>Ramularia collo-cygni</i>	Ramularia, RCC	Rc
<i>Rhizoctonia solani</i>	Rhizoctonia bare patch, Rhizoctonia root rot	Rso
<i>Rhynchosporium secalis</i>	Rhynchosporium, Leaf blotch, Scald	Rhs
<i>Septoria passerinii</i>	Speckled leaf blotch, Septoria speckled leaf blotch (SSLB)	Sp
<i>Stagonospora avenae</i> f. sp. <i>triticea</i> (teleomorph: <i>Phaeosphaeria avenaria</i> f. sp. <i>triticea</i> )	Speckled leaf blotch, Septoria speckled leaf blotch (SSLB)	Sat
<i>Typhula idahoensis</i>	Speckled snow mold	Tid
<i>Typhula incarnata</i>	Snow rot, Gray snow mold, Typhula blight	Tin
<i>Ustilago hordei</i>	Covered smut	Uh
<i>Ustilago tritici</i>	Loose smut, True loose smut	Ut
<b>Insects</b>		
<i>Schizaphis graminum</i>	Green bug	Sg
<b>Nematodes</b>		
<i>Heterodera avenae</i>	Cereal cyst nematode	Ha

**17. *Lactuca sativa* (Lettuce)**

Scientific name	English common name	Code
<b>Viruses</b>		
<i>Beet western yellows virus</i>	Yellows	BWYV
<i>Cucumber mosaic virus</i>	Cucumber mosaic	CMV
<i>Lettuce necrotic stunt virus</i>	Lettuce die-back	LNSV
<i>Lettuce mosaic virus</i>	Lettuce mosaic	LMV
<i>Mirafiori lettuce big-vein virus</i>	Lettuce big vein	MLBVV
<i>Tomato bushy stunt virus</i>	Lettuce die-back	TBSV
<i>Tomato spotted wilt virus</i>	Spotted wilt	TSWV
<b>Bacteria</b>		
<i>Pseudomonas cichorii</i>	Bacterial rot	Pc
<sup>2</sup> <i>Sphingomonas suberifaciens</i> (now <i>Rhizorhapis suberifaciens</i> )	Corky root	Ss (now Rs)
<i>Xanthomonas campestris</i> pv. <i>vitians</i>	Bacterial spot	Xcv
<b>Fungi</b>		
<i>Bremia lactucae</i>	Downy mildew	Bl
<i>Fusarium oxysporum</i> f. sp. <i>lactucae</i>	Fusarium wilt	Fol
<i>Microdochium panattonianum</i>	Anthraxnose	Mpa
<b>Insects</b>		
<i>Macrosiphum euphorbiae</i>	Potato aphid	Me
<i>Myzus persicae</i>	Green peach aphid	Mpe
<i>Nasonovia ribisnigri</i>	Lettuce leaf aphid	Nr
<i>Pemphigus bursarius</i>	Lettuce root aphid	Pb

<sup>2</sup> A recent review article in 2015 uses the new genus name *Rhizorhapis* based on work published in 2014 on the reclassification of the pathogen causing lettuce corky root (<http://apsjournals.apsnet.org/doi/pdf/10.1094/PDIS-09-14-0953-FE>).

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**18. *Lagenaria siceraria* (Bottle gourd)**

Scientific name	English common name	Code
<b>Viruses</b>		
<i>Cucumber green mottle mosaic virus</i>	Cucumber green mottle	CGMMV
<b>Fungi</b>		
<i>Fusarium oxysporum</i> f. sp. <i>lagenariae</i>	Fusarium wilt	Fol
<i>Fusarium oxysporum</i> f. sp. <i>niveum</i>	Fusarium wilt	Fon
<i>Fusarium oxysporum</i> f. sp. <i>radicis-cucumerinum</i>	Root and stem rot	For

**19. *Ocimum basilicum* (Basil)**

Scientific name	English common name	Code
<b>Fungi</b>		
<i>Fusarium oxysporum</i> f. sp. <i>basilicum</i>	Fusarium wilt	Fob
<i>Peronospora belbahrii</i>	Downy mildew	Pb

**20. *Petroselinum crispum* (Parsley)**

Scientific name	English common name	Code
<b>Fungi</b>		
<i>Septoria petroselini</i>	Septoria blight	Sp

**21. *Phaseolus vulgaris* (Dwarf and climbing French bean)**

Scientific name	English common name	Code
<b>Viruses</b>		
<i>Bean common mosaic virus</i>	Bean common mosaic	BCMV
<i>Bean common mosaic necrosis virus</i>	Bean common mosaic necrosis	BCMNV
<i>Beet curly top virus</i>	Beet curly top	BCTV
<i>Bean golden mosaic virus</i>	Bean golden mosaic	BGMV
<i>Bean golden yellow mosaic virus</i>	Bean golden yellow mosaic	BGYMV
<i>Beet mild curly top virus</i>	Mild curly top	BMCTV
<i>Beet severe curly top virus</i>	Severe curly top	BSCTV
<i>Bean yellow disorder virus</i>	Bean yellow disorder virus	BnYDV
<i>Bean yellow mosaic virus</i>	Bean yellow mosaic	BYMV
<i>Southern bean mosaic virus</i>	Bean southern virus	SBMV
<i>Cucumber mosaic virus</i>	Cucumber virus	CMV
<b>Bacteria</b>		
<i>Pseudomonas savastanoi</i> pv. <i>phaseolicola</i>	Halo blight	Psp
<i>Pseudomonas syringae</i> pv. <i>syringae</i>	Bacterial brown spot	Pss
<sup>3</sup> <i>Xanthomonas axonopodis</i> pv. <i>phaseoli</i>	Common or fuscous blight	Xap
<b>Fungi</b>		
<i>Aphanomyces euteiches</i>	Root rot	Ae
<i>Colletotrichum lindemuthianum</i>	Anthracnose	Cl
<i>Fusarium oxysporum</i> f. sp. <i>phaseoli</i>	Fusarium wilt	Fop
<i>Fusarium solani</i> f. sp. <i>phaseoli</i>	Fusarium root rot	Fsp

<sup>3</sup> Although *Xanthomonas axonopodis* pv. *phaseoli* and *X. fuscans* subsp. *fuscans* (Xff) (formerly *X. axonopodis* pv. *phaseoli* var. *fuscans*) are taxonomically different bacterial species that are the causal agents of common bacterial blight, it is not possible to differentiate them based on symptoms under natural conditions and there is no evidence that resistance to these two species in bean differ.

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<i>Sclerotinia sclerotiorum</i>	White mold	Ss
<i>Uromyces appendiculatus</i>	Rust	Ua

**22. *Pisum sativum* (Garden pea)**

Scientific name	English common name	Code
<b>Viruses</b>		
<i>Bean leaf roll virus</i>	Pea leaf roll, pea top yellows	BLRV
<i>Bean yellow mosaic virus</i>	Bean yellow mosaic	BYMV
<i>Pea enation mosaic virus</i>	Pea enation mosaic	PEMV
<i>Pea seed-borne mosaic virus</i>	Pea seed-borne mosaic	PSbMV
<b>Bacteria</b>		
<i>Pseudomonas syringae</i> pv. <i>pisi</i>	Bacterial blight	Psp
<b>Fungi</b>		
<i>Aphanomyces euteiches</i>	Aphanomyces root rot	Ae
<i>Ascochyta pisi</i>	Ascochyta leaf and pod spot	Aps
<i>Ascochyta pinodella</i>	Leaf spot and foot rot	Apn
<i>Botrytis cinerea</i>	Grey mold	Bc
<i>Erysiphe pisi</i>	Powdery mildew	Ep
<i>Fusarium oxysporum</i> f. sp. <i>pisi</i>	Near wilt	Fop
<i>Fusarium solani</i>	Fusarium root rot	Fs
<i>Mycosphaerella pinodes</i>	Ascochyta blight	Mp
<i>Peronospora viciae</i>	Downy mildew	Pv

**23. *Raphanus sativus* (Radish)**

Scientific name	English common name	Code
<b>Viruses</b>		
<i>Turnip mosaic virus</i>	Turnip mosaic	TuMV
<b>Bacteria</b>		
<i>Pseudomonas syringae</i> pv. <i>maculicola</i>	Bacterial leaf spot, Peppery leaf spot	Psm
<i>Xanthomonas campestris</i> pv. <i>campestris</i>	Black rot	Xcc
<b>Fungi</b>		
<i>Alternaria brassicae</i>	Black spot	Abe
<i>Alternaria brassicicola</i>	Black spot	Aba
<i>Alternaria japonica</i>	Black spot	Aj
<i>Aphanomyces raphani</i>	Black root	Ar
<i>Fusarium oxysporum</i> f. sp. <i>raphani</i>	Yellows	For
<i>Peronospora parasitica</i>	Downy mildew	Pp
<i>Plasmodiophora brassicae</i>	Clubroot	Pb
<i>Rhizoctonia solani</i>	Rhizoctonia scurf	Rs

**24. *Secale cereale* (Rye)**

Scientific name	English common name(s)	Code
<b>Viruses</b>		
<i>Barley yellow dwarf virus</i>	Barley yellow dwarf virus	BYDV
<i>Wheat soil-borne mosaic virus</i>	Soil-borne wheat green mosaic virus, Wheat mosaic virus	SBWMV

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<b>Fungi</b>		
<i>Bipolaris sorokiniana</i> (teleomorph: <i>Cochliobolus sativus</i> )	Spot blotch, Leaf blotch	Bs
<i>Blumeria graminis</i> f. sp. <i>secalis</i> (anamorph: <i>Oidium monilioides</i> )	Powdery mildew	Bgs
<i>Claviceps purpurea</i> (anamorph: <i>Sphacelia segetum</i> )	Ergot	Cp
<i>Gaeumannomyces graminis</i>	Take-all	Gg
<i>Oculimacula acuformis</i> (anamorph: <i>Helgardia acuformis</i> )	Eyespot, Strawbreaker	Oa
<i>Oculimacula yallundae</i> (anamorph: <i>Helgardia yallundae</i> )	Eyespot, Strawbreaker	Oy
<i>Phaeosphaeria nodorum</i> (anamorph: <i>Stagonospora nodorum</i> )	Septoria nodorum, Stagonospora blotch, Glume blotch	Pn
<i>Puccinia recondita</i> (anamorph: <i>Aecidium clematidis</i> )	Leaf rust, Brown rust	Pr
<i>Rhynchosporium secalis</i>	Rhynchosporium Leaf blotch, Scald	Rs
<i>Urocystis occulta</i>	Stem smut, Stalk smut, Stripe smut	Uo
<i>Ustilago tritici</i>	Loose smut	Ut
<b>Nematodes</b>		
<i>Heterodera avenae</i>	Cereal cyst nematode, CCN	Ha
<b>25. <i>Solanum integrifolium</i> (Eggplant rootstock)</b>		
Scientific name	English common name	Code
<b>Fungi</b>		
<i>Fusarium oxysporum</i> f. sp. <i>melongenae</i>	Fusarium wilt	Fom
<b>26. <i>Solanum lycopersicum</i> (ex <i>Lycopersicon esculentum</i>) (Tomato)</b>		
Scientific name	English common name	Code
<b>Viruses</b>		
<i>Beet curly top virus</i>	Curly top	BCTV
<i>Cucumber mosaic virus</i>	Cucumber mosaic	CMV
<i>Pepino mosaic virus</i>	Pepino mosaic	PepMV
<i>Tobacco mosaic virus</i>	Tobacco mosaic	TMV
<i>Tomato apex necrosis virus</i>	Tomato apex necrosis	ToANV
<i>Tomato mosaic virus</i>	Tomato mosaic	ToMV
<i>Tomato torrado virus</i>	Tomato torrado	ToTV
<i>Tomato spotted wilt virus</i>	Tomato spotted wilt	TSWV
<i>Tomato yellow leaf curl virus</i>	Tomato yellow leaf curl	TYLCV
<b>Bacteria</b>		
<i>Clavibacter michiganensis</i> subsp. <i>michiganensis</i>	Bacterial canker	Cmm
<i>Pseudomonas corrugata</i>	Pith necrosis	Pc
<i>Pseudomonas syringae</i> pv. <i>tomato</i>	Bacterial speck	Pst
<i>Ralstonia solanacearum</i>	Bacterial wilt	Rs
<sup>4</sup> <i>Xanthomonas campestris</i> pv. <i>vesicatoria</i>	Bacterial spot	Xcv

<sup>4</sup> Taxonomic studies on the bacteria causing bacterial spot on tomato and pepper have shown there are four different species that cannot be differentiated by pathogenicity as they all cause very similar symptoms. As resistance in tomato and pepper to bacterial spot is based on races that go across these species the old and traditional name *X. c. vesicatoria* and its acronym Xcv have been maintained.

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<b>Fungi</b>		
<i>Alternaria alternata</i> f. sp. <i>lycopersici</i>	Alternaria stem canker	Aal
<i>Alternaria solani</i>	Early blight	As
<i>Corynespora cassiicola</i>	Target spot	Cc
<sup>5</sup> <i>Fulvia fulva</i> (now <i>Passalora fulva</i> )	Leaf mold	Ff (now Pf)
<i>Fusarium oxysporum</i> f. sp. <i>lycopersici</i>	Fusarium wilt	Fol
<i>Fusarium oxysporum</i> f. sp. <i>radicis-lycopersici</i>	Fusarium crown and root rot	For
<i>Leveillula taurica</i> (anamorph: <i>Oidiopsis sicula</i> )	Powdery mildew	Lt
<i>Oidium neolycopersici</i>	Powdery mildew	On
<i>Phytophthora infestans</i>	Late blight	Pi
<i>Phytophthora parasitica</i>	Buckeye fruit and root rot	Pp
<i>Pyrenochaeta lycopersici</i>	Corky root rot	Pl
<i>Stemphylium botryosum</i> f. sp. <i>lycopersici</i>	Gray leaf spot	Sbl
<i>Stemphylium lycopersici</i>	Gray leaf spot	Sl
<i>Stemphylium solani</i>	Gray leaf spot	Ss
<i>Verticillium albo-atrum</i>	Verticillium wilt	Va
<i>Verticillium dahliae</i>	Verticillium wilt	Vd
<b>Nematodes</b>		
<i>Meloidogyne arenaria</i>	Root-knot	Ma
<i>Meloidogyne incognita</i>	Root-knot	Mi
<i>Meloidogyne javanica</i>	Root-knot	Mj

**27. *Solanum melongena* (Eggplant/Aubergine)**

Scientific name	English common name	Code
<b>Viruses</b>		
<i>Tomato mosaic virus</i>	Tomato mosaic	ToMV
<i>Tomato spotted wilt virus</i>	Tomato spotted wilt	TSWV
<b>Bacteria</b>		
<i>Ralstonia solanacearum</i>	Bacterial wilt	Rs
<b>Fungi</b>		
<i>Fusarium oxysporum</i> f. sp. <i>melongenae</i>	Fusarium wilt	Fom
<i>Verticillium albo-atrum</i>	Verticillium wilt	Va
<i>Verticillium dahliae</i>	Verticillium wilt	Vd
<b>Nematodes</b>		
<i>Meloidogyne incognita</i>	Root-knot	Mi

**28. *Solanum torvum* (Eggplant rootstock)**

Scientific name	English common name	Code
<b>Bacteria</b>		
<i>Ralstonia solanacearum</i>	Bacterial wilt	Rs
<b>Fungi</b>		
<i>Fusarium oxysporum</i> f. sp. <i>melongena</i>	Fusarium wilt	Fom
<i>Verticillium albo-atrum</i>	Verticillium wilt	Va
<i>Verticillium dahliae</i>	Verticillium wilt	Vd

<sup>5</sup> Both *Cladosporium fulvum* and *Fulvia fulva* are still in use. The current name has changed from *Fulvia fulva* to *Passalora fulva* (See <http://www.hort.cornell.edu/hightunnel/crops/pdfs/Leaf%20Mold%20on%20Tomatoes%20-%20final.pdf>).

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<b>Nematodes</b>		
<i>Meloidogyne incognita</i>	Root knot	Mi
<i>Meloidogyne mayaguensis</i> (Syn. <i>M. enterolobii</i> )	Root knot	Me
<i>Meloidogyne arenaria</i>	Root knot	Ma
<i>Meloidogyne javanica</i>	Root knot	Mj

**29. Spinacia oleracea (Spinach)**

Scientific name	English common name	Code
<b>Viruses</b>		
<i>Cucumber mosaic virus</i>	Cucumber mosaic	CMV
<b>Fungi</b>		
<i>Albugo occidentalis</i>	White rust	Ao
<i>Cladosporium variabile</i>	Leaf spot	Cv
<i>Colletotrichum dematium</i>	Anthraxnose	Cd
<i>Fusarium oxysporum</i> f. sp. <i>spinaciae</i>	Fusarium wilt	Fos
<i>Peronospora farinosa</i> f. sp. <i>spinaciae</i>	Downy mildew	Pfs
<i>Stemphyllium botryosum</i>	Stemphyllium leaf spot	Sb
<i>Verticillium dahliae</i>	Verticillium wilt	Vd
<b>Insects</b>		
<i>Liriomyza langei</i>	Leaf miner	LI

**30. Triticum spp. (Wheat)**

Scientific name	English common name(s)	Code
<b>Viruses</b>		
<i>Barley yellow dwarf virus</i>	Barley yellow dwarf	BYDV
<i>Wheat soil-borne mosaic virus</i>	Soil-borne wheat green mosaic virus, Wheat mosaic virus	SBWMV
<i>Wheat dwarf virus</i>	Wheat dwarf virus	WDV
<i>Wheat streak mosaic virus</i>	Wheat streak mosaic virus	WSMV
<i>Wheat spindle streak mosaic virus</i>	Wheat spindle streak mosaic virus	WSSMV
<b>Bacteria</b>		
<i>Pseudomonas syringae</i> pv. <i>atrogenes</i>	Basal glume rot	Psa
<i>Pseudomonas syringae</i> pv. <i>syringae</i>	Bacterial leaf blight	Pss
<i>Xanthomonas campestris</i> pv. <i>translucens</i>	Bacterial leaf streak, Black chaff, Bacterial stripe	Xct
<i>Xanthomonas translucens</i> pv. <i>undulosa</i>	Bacterial leaf streak, BLS, Black chaff, Bacterial stripe	Xtu
<b>Fungi</b>		
<i>Alternaria alternata</i>	Sooty moulds, Black head molds	Aa
<i>Alternaria infectoria</i>	Sooty moulds, Black head molds	Ai
<i>Alternaria triticina</i>	Sooty moulds, Black head molds	At
<i>Bipolaris sorokiniana</i> (teleomorph: <i>Cochliobolus sativus</i> )	Common root rot, CRR, Cochliobolus root rot	Bs
<i>Blumeria graminis</i> f. sp. <i>tritici</i> (anamorph: <i>Oidium monilioides</i> )	Powdery mildew	Bgt
<i>Cladosporium herbarum</i> (teleomorph: <i>Mycosphaerella tassiana</i> )	Sooty moulds, Black head molds	Ch
<i>Claviceps purpurea</i> (anamorph: <i>Sphacelia segetum</i> )	Ergot	Cp

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<i>Fusarium avenaceum</i> (teleomorph: <i>Gibberella avenacea</i> )	Brown foot rot, Fusarium foot rot, Fusarium head blight (FHB), Scab, Fusarium ear blight, Seedling blight	Fa
<i>Fusarium culmorum</i>	Brown foot rot, Fusarium foot rot, Fusarium head blight (FHB), Scab, Fusarium ear blight, Dryland root rot	Fc
<i>Fusarium graminearum</i> (teleomorph: <i>Gibberella zeae</i> )	Brown foot rot, Fusarium foot rot, Fusarium head blight (FHB), Scab, Fusarium ear blight, Dryland foot rot	Fg
<i>Fusarium langsethiae</i>	Fusarium head blight (FHB), Scab, Fusarium ear blight	Fl
<i>Fusarium poae</i>	Fusarium head blight (FHB), Scab, Fusarium ear blight	Fpo
<i>Fusarium pseudograminearum</i>	Foot rot	Fps
<i>Gaeumannomyces graminis</i>	Take-all	Gg
<i>Hymenula cerealis</i>	Cephalosporium stripe	Hc
<i>Microdochium nivale</i> var. <i>majus</i> (teleomorph: <i>Monographella nivalis</i> )	Brown foot rot, Fusarium foot rot, Fusarium head blight (FHB), Scab, Fusarium ear blight, Fusarium seedling blight	Mnm
<i>Microdochium nivale</i> var. <i>nivale</i> (teleomorph: <i>Monographella nivalis</i> )	Brown foot rot, Fusarium foot rot, Fusarium head blight (FHB), Scab, Fusarium ear blight, Fusarium seedling blight	Mnn
<i>Mycosphaerella graminicola</i> (anamorph: <i>Septoria tritici</i> )	Septoria tritici, Septoria tritici leaf blotch, Septoria blotch, STB	Mg
<i>Oculimacula acufiformis</i> (anamorph: <i>Helgardia acufiformis</i> )	Eyespot, Strawbreaker	Oa
<i>Oculimacula yallundae</i> (anamorph: <i>Helgardia yallundae</i> )	Eyespot, Strawbreaker	Oy
<i>Phaeosphaeria nodorum</i> (anamorph: <i>Stagonospora nodorum</i> )	Septoria nodorum, Stagonospora blotch, Glume blotch	Pn
<i>Puccinia graminis</i> f. sp. <i>tritici</i>	Black rust, Stem rust	Pgt
<i>Puccinia striiformis</i> f. sp. <i>tritici</i>	Stripe rust, Yellow rust	Pst
<i>Puccinia triticina</i>	Leaf rust, Brown rust	Pt
<i>Pyrenophora tritici-repentis</i> (anamorph: <i>Drechslera tritici-repentis</i> )	Tan spot, Yellow leaf spot, DTR	Ptr
<i>Rhizoctonia cerealis</i>	Sharp eyespot	Rc
<i>Tilletia caries</i>	Common bunt, Stinking smut	Tca
<i>Tilletia controversa</i>	Dwarf bunt	Tco
<i>Tilletia indica</i>	Karnal bunt	Ti
<i>Tilletia laevis</i>	Common bunt, Stinking smut	TI
<i>Urocystis agropyri</i>	Flag smut	Ua
<i>Ustilago tritici</i>	Loose smut	Ut
<b>Nematodes</b>		
<i>Heterodera avenae</i>	Cereal cyst nematode, CCN	Ha

**31. Valerianella locusta (Corn salad)**

Scientific name	English common name	Code
<b>Fungi</b>		
<i>Acidovorax valerianellae</i>	Bacterial spot	Av
<i>Peronospora valerianellae</i>	Downy mildew	Pv
<i>Phoma valerianellae</i>	Damping off	Phv
<i>Thielaviopsis basicola</i>	Root rot	Tb

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**32. Zea mays (Sweet corn)**

Scientific name	English common name	Code
<b>Viruses</b>		
<i>Maize dwarf mosaic virus</i>	Maize dwarf mosaic	MDMV
<i>Sugarcane mosaic virus</i>	Sugarcane mosaic	SMV
<b>Bacteria</b>		
<i>Pantoea stewartii</i>	Stewart's wilt	Pst
<b>Fungi</b>		
<i>Bipolaris maydis</i>	Southern corn leaf blight	Bm
<i>Exserohilum turcicum</i>	Northern leaf blight	Et
<i>Puccinia polysora</i>	Southern rust	Pp
<i>Puccinia sorghi</i>	Common rust	Ps
<i>Ustilago maydis</i>	Common smut	Um

