

Recommended Codes for Pest Organisms in Cereal and Vegetable Crops

January 2010
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)
[*Daucus carota*](#) var. [*sativa*](#) (Carrot)
[*Hordeum vulgare*](#) (Barley)
[*Lactuca sativa*](#) (Lettuce)
[*Lagenaria siceraria*](#) (Bottle gourd)
[*Lycopersicon esculentum*](#) (Tomato)
[*Phaseolus vulgaris*](#) (Dwarf and climbing French bean)
[*Pisum sativum*](#) (Garden pea)
[*Raphanus sativus*](#) (Radish)
[*Secale cereale*](#) (Rye)
[*Solanum melongena*](#) (Eggplant/Aubergine)
[*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 |
|--------------------------------------|-------------------------|-------|
| Viruses: | | |
| <i>Okra yellow vein mosaic virus</i> | Okra yellow vein mosaic | OYVMV |
| Insects | | |
| <i>Amarasca biguttula</i> | Leaf hopper | Ab |

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

| Scientific name | English common name | Code |
|--|-------------------------|------|
| Viruses: | | |
| <i>Leek yellow stripe virus</i> | Leek yellow stripe | LYSV |
| Bacteria | | |
| <i>Pseudomonas syringae</i> pv. <i>porri</i> | Pseudomonas leek blight | Psp |
| Fungi: | | |
| <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 |
| Insects | | |
| <i>Thrips tabaci</i> | Onion thrips | Tt |
| Nematodes | | |
| <i>Ditylenchus dipsaci</i> | Stem and bulb nematode | Dd |

3. *Apium graveolens* (Celery and Celeriac)

| Scientific name | English common name | Code |
|---|---------------------------|------|
| Viruses: | | |
| <i>Celery mosaic virus</i> | Celery mosaic | CeMV |
| Bacteria: | | |
| <i>Pseudomonas syringae</i> pv. <i>apii</i> | Bacterial leaf spot | Psa |
| Fungi: | | |
| <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 |
|----------------------------------|--|------|
| Viruses: | | |
| <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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| Fungi: | | |
|--|--|-----|
| <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 |
| Nematodes: | | |
| <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 |
|---|---------------------|------|
| Fungi: | | |
| <i>Fusarium oxysporum</i> f.sp. <i>lagenariae</i> | Fusarium wilt | Fol |
| <i>Fusarium oxysporum</i> f.sp. <i>niveum</i> | Fusarium wilt | Fon |

6. Beta vulgaris (Table beet and Swiss chard)

| Scientific name | English common name | Code |
|--|--------------------------------|-------|
| Viruses: | | |
| <i>Beet curly top virus</i> | Beet curly top | BCTV |
| <i>Beet necrotic yellow vein virus</i> | Rhizomania | BNYVV |
| Bacteria: | | |
| <i>Pseudomonas syringae</i> pv. <i>aptata</i> | Bacterial blight | Psa |
| Fungi: | | |
| <i>Cercospora beticola</i> | Leaf spot | Cb |
| <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 | 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 |

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

| Scientific name | English common name | Code |
|---------------------------------|---------------------|------|
| Viruses: | | |
| <i>Cauliflower mosaic virus</i> | Cauliflower mosaic | CaMV |
| <i>Turnip mosaic virus</i> | Turnip mosaic | TuMV |

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| Bacteria: | | |
|--|--|-----|
| <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 |
| Fungi: | | |
| <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>Mycosphaerella brassicicola</i> | Ring spot | Mb |
| <i>Leptosphaeria maculans</i> (anamorph: <i>Phoma lingam</i>) | Black leg | Lm |
| <i>Peronospora parasitica</i> | Downy mildew | Pp |
| <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 | VI |
| Insects: | | |
| <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 |
|--|---------------------------|--------|
| Viruses: | | |
| <i>Chilli veinial mosaic virus</i> | Chilli veinial 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 |
| <i>Tomato mosaic virus</i> | Tomato mosaic | ToMV |
| <i>Tomato spotted wilt virus</i> | Tomato spotted wilt | TSWV |
| Bacteria: | | |
| <i>Ralstonia solanacearum</i> | Bacterial wilt | Rs |
| <i>Xanthomonas campestris</i> pv. <i>vesicatoria</i> | Bacterial spot | Xcv |
| Fungi: | | |
| <i>Colletotrichum acutatum</i> | Anthraxnose | Ca |
| <i>Colletotrichum capsici</i> | Anthraxnose | Cc |
| <i>Colletotrichum gloeosporioides</i> | Anthraxnose | 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 |

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| | | |
|-----------------------------|----------------------------|----|
| <i>Phytophthora capsici</i> | Buckeye fruit and root rot | Pc |
|-----------------------------|----------------------------|----|

Nematodes:

| | | |
|------------------------------|-----------|----|
| <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 |
|-----------------|---------------------|------|
|-----------------|---------------------|------|

Viruses:

| | | |
|---|------------------------------|-------|
| <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>Watermelon mosaic virus</i> | Watermelon mosaic | WMV |
| <i>Zucchini yellow mosaic virus</i> | Zucchini yellow mosaic | ZYMV |

Bacteria:

| | | |
|--|------------------------|--------------|
| ¹ <i>Acidovorax avenae</i> subsp. <i>citrulli</i> (now <i>A. citrulli</i>) | Bacterial fruit blotch | Aac (now Ac) |
|--|------------------------|--------------|

Fungi:

| | | |
|--|-------------------|------------|
| <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> (ex <i>Sphaerotheca fuliginea</i>) | Powdery mildew | Px (ex Sf) |

10. *Cucumis melo* (Melon)

| Scientific name | English common name | Code |
|-----------------|---------------------|------|
|-----------------|---------------------|------|

Viruses:

| | | |
|--|-----------------------------------|-------|
| <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>Papaya ringspot virus</i> | Papaya ringspot | PRSV |
| <i>Squash mosaic virus</i> | Squash mosaic comovirus | SqMV |
| <i>Watermelon mosaic virus</i> | Watermelon mosaic | WMV |
| <i>Zucchini yellow mosaic virus</i> | Zucchini yellows | ZYMV |

Bacteria:

| | | |
|--|------------------------|--------------|
| ¹ <i>Acidovorax avenae</i> subsp. <i>citrulli</i> (now <i>A. citrulli</i>) | Bacterial fruit blotch | Aac (now Ac) |
|--|------------------------|--------------|

Fungi:

| | | |
|--|-------------------|------------|
| <i>Didymella bryoniae</i> | Gummy stem blight | Db |
| <i>Golovinomyces cichoracearum</i> (ex <i>Erysiphe cichoracearum</i>) | Powdery mildew | Gc (ex Ec) |
| <i>Fusarium oxysporum</i> f.sp. <i>melonis</i> | Fusarium wilt | Fom |
| <i>Pseudoperonospora cubensis</i> | Downy mildew | Pcu |
| <i>Podosphaera xanthii</i> (ex <i>Sphaerotheca fuliginea</i>) | Powdery mildew | Px (ex Sf) |

¹ Anonymous (2009) Validation List no. 127 - List of new names and new combinations previously effectively, but not validly, published. *International Journal of Systematic and Evolutionary Microbiology* 59, 923–925.

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| Insects: | | |
|---|------------------------------------|--------------|
| <i>Aphis gossypii</i> | Cotton aphid | Ag |
| 11. Cucumis sativus (Cucumber) | | |
| Scientific name | English common name | Code |
| Viruses: | | |
| <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>Watermelon mosaic virus</i> | Watermelon mosaic | WMV |
| <i>Zucchini yellow mosaic virus</i> | Zucchini yellows | ZYMV |
| Bacteria: | | |
| <i>Erwinia tracheiphila</i> | Bacterial wilt | Et |
| <i>Pseudomonas syringae</i> pv. <i>lachrymans</i> | Angular leaf spot | Psl |
| Fungi: | | |
| <i>Cladosporium cucumerinum</i> | Scab and gummosis | Ccu |
| <i>Colletotrichum orbiculare</i> | Anthracnose | Co |
| <i>Corynespora cassiicola</i> | Corynespora blight and target spot | Cca |
| <i>Didymella bryoniae</i> | Gummy stem blight | Db |
| <i>Golovinomyces cichoracearum</i> (ex <i>Erysiphe cichoracearum</i>) | Powdery mildew | Gc (ex Ec) |
| <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> (ex <i>Sphaerotheca fuliginea</i>) | Powdery mildew | Px (ex Sf) |
| 12. Cucurbita pepo, C. maxima, C. moschata (Squash and pumpkin) | | |
| Scientific name | English common name | Code |
| Viruses: | | |
| <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 mosaic virus</i> | Squash mosaic | SqMV |
| <i>Watermelon mosaic virus</i> | Watermelon mosaic | WMV |
| <i>Watermelon moroccan mosaic virus</i> | Moroccan watermelon mosaic | MWMV |
| <i>Zucchini yellow mosaic virus</i> | Zucchini yellows | ZYMV |
| Bacteria: | | |
| <i>Acidovorax avenae</i> subsp. <i>citrulli</i> (now <i>A. citrulli</i>) | Bacterial fruit blotch | Aac (now Ac) |

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| Fungi: | | |
|--|--|------------|
| <i>Didymella bryoniae</i> | Gummy sten blight | Db |
| <i>Golovinomyces cichoracearum</i> (ex <i>Erysiphe cichoracearum</i>) | Powdery mildew | Gc (ex Ec) |
| <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 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> (ex <i>Sphaerotheca fuliginea</i>) | Powdery mildew | Px (ex Sf) |

13. *Daucus carota* var. *sativa* (Carrot)

| Scientific name | English common name | Code |
|--|----------------------------|--------------|
| Bacteria: | | |
| <i>Xanthomonas hortorum</i> pv. <i>carotae</i> (ex <i>X. campestris</i> pv. <i>carotae</i>) | Bacterial leaf blight | Xhc (ex Xcc) |
| Fungi: | | |
| <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 |
| Insects: | | |
| <i>Psila rosae</i> | Carrot fly | Pr |
| Nematodes: | | |
| <i>Meloidogyne incognita</i> | Root-knot | Mi |
| <i>Meloidogyne javanica</i> | Root-knot | Mj |

14. *Hordeum vulgare* (Barley)

| Scientific name | English common name(s) | Code |
|--|-------------------------------|-------------|
| Viruses: | | |
| <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 |
| Bacteria: | | |
| <i>Pseudomonas syringae</i> pv. <i>atrofaciens</i> | Basal glume rot | Psa |
| <i>Pseudomonas syringae</i> pv. <i>syringae</i> | Bacterial leaf blight | Pss |
| Fungi: | | |
| <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 |

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| | | |
|---|--|-------------|
| <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 |
| <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 |
| Insects: | | |
| <i>Schizaphis graminum</i> | Greenbug | Sg |
| Nematodes: | | |
| <i>Heterodera avenae</i> | Cereal cyst nematode | Ha |
| 15. <i>Lactuca sativa</i> (Lettuce) | | |
| Scientific name | English common name | Code |
| Viruses: | | |
| <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 |
| Bacteria: | | |
| <i>Pseudomonas cichorii</i> | Bacterial rot | Pc |

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| | | |
|---|--------------------|------------|
| <i>Sphingomonas suberifaciens</i> (ex <i>Rhizomonas suberifaciens</i>) | Corky root | Ss (ex Rs) |
| <i>Xanthomonas campestris</i> pv. <i>vitiens</i> | Bacterial spot | Xcv |
| Fungi: | | |
| <i>Bremia lactucae</i> | Downy mildew | Bl |
| <i>Fusarium oxysporum</i> f.sp. <i>lactucae</i> | Fusarium wilt | Fol |
| <i>Microdochium panattonianum</i> | Anthracnose | Mpa |
| Insects: | | |
| <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 |

16. *Lagenaria siceraria* (Bottle gourd)

| Scientific name | English common name | Code |
|---|-----------------------|-------|
| Viruses: | | |
| <i>Cucumber green mottle mosaic virus</i> | Cucumber green mottle | CGMMV |
| Fungi: | | |
| <i>Fusarium oxysporum</i> f.sp. <i>lagenariae</i> | Fusarium wilt | Fol |
| <i>Fusarium oxysporum</i> f.sp. <i>niveum</i> | Fusarium wilt | Fon |

17. *Lycopersicon esculentum* (Tomato)

| Scientific name | English common name | Code |
|--|-----------------------------|------------|
| Viruses: | | |
| <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 necrotic virus</i> | Tomato apex necrotic | 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 |
| Bacteria: | | |
| <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 |
| <i>Xanthomonas campestris</i> pv. <i>vesicatoria</i> | Bacterial spot | Xcv |
| Fungi: | | |
| <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 |
| <i>Fulvia fulva</i> (ex <i>Cladosporium fulvum</i>) | Leaf mold | Ff (ex Cf) |
| <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 |

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| | | |
|---|----------------------------|------------|
| <i>Oidium neolycopersici</i> (ex <i>Oidium lycopersicum</i>) | Powdery mildew | On (ex OI) |
| <i>Phytophthora infestans</i> | Late blight | Pi |
| <i>Phytophthora parasitica</i> | Buckeye fruit and root rot | Pp |
| <i>Pyrenochaeta lycopersici</i> | Corky root rot | PI |
| <i>Stemphylium botryosum</i> f.sp. <i>lycopersici</i> | Gray leaf spot | Sbl |
| <i>Stemphylium lycopersici</i> | Gray leaf spot | SI |
| <i>Stemphylium solani</i> | Gray leaf spot | Ss |
| <i>Verticillium albo-atrum</i> | Verticillium wilt | Va |
| <i>Verticillium dahliae</i> | Verticillium wilt | Vd |
| Nematodes: | | |
| <i>Meloidogyne arenaria</i> | Root-knot | Ma |
| <i>Meloidogyne incognita</i> | Root-knot | Mi |
| <i>Meloidogyne javanica</i> | Root-knot | Mj |

18. Phaseolus vulgaris (Dwarf and climbing French bean)

| Scientific name | English common name | Code |
|---|-----------------------------|-------|
| Viruses: | | |
| <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 |
| Bacteria: | | |
| <i>Pseudomonas savastanoi</i> pv. <i>phaseolicola</i> | Halo blight | Psp |
| <i>Pseudomonas syringae</i> pv. <i>syringae</i> | Bacterial brown spot | Pss |
| <i>Xanthomonas axonopodis</i> pv. <i>phaseoli</i> | Common or fuscous blight | Xap |
| Fungi: | | |
| <i>Aphanomyces euteiches</i> | Root rot | Ae |
| <i>Colletotrichum lindemuthianum</i> | Anthraxnose | CI |
| <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 |
| <i>Sclerotinia sclerotiorum</i> | White mold | Ss |
| <i>Uromyces appendiculatus</i> | Rust | Ua |

19. Pisum sativum (Garden pea)

| Scientific name | English common name | Code |
|------------------------------------|--------------------------------|-------|
| Viruses: | | |
| <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 |

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| | | |
|---|--|-------------|
| Bacteria: | | |
| <i>Pseudomonas syringae</i> pv. <i>pisii</i> | Bacterial blight | Psp |
| Fungi: | | |
| <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>pisii</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 |
| | | |
| 20. <i>Raphanus sativus</i> (Radish) | | |
| Scientific name | English common name | Code |
| Viruses: | | |
| <i>Turnip mosaic virus</i> | Turnip mosaic | TuMV |
| Bacteria: | | |
| <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 |
| Fungi: | | |
| <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>Plasmiodiophora brassicae</i> | Clubroot | Pb |
| <i>Rhizoctonia solani</i> | Rhizoctonia scurf | Rs |
| | | |
| 21. <i>Secale cereale</i> (Rye) | | |
| Scientific name | English common name(s) | Code |
| Viruses: | | |
| <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 |
| Fungi: | | |
| <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 |

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| | | |
|-------------------------------|------------------------------------|----|
| <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 |

Nematodes:

| | | |
|--------------------------|---------------------------|----|
| <i>Heterodera avenae</i> | Cereal cyst nematode, CCN | Ha |
|--------------------------|---------------------------|----|

22. *Solanum melongena* (Eggplant/Aubergine)

| Scientific name | English common name | Code |
|-----------------|---------------------|------|
|-----------------|---------------------|------|

Viruses:

| | | |
|----------------------------------|---------------------|------|
| <i>Tomato mosaic virus</i> | Tomato mosaic | ToMV |
| <i>Tomato spotted wilt virus</i> | Tomato spotted wilt | TSWV |

Bacteria:

| | | |
|-------------------------------|----------------|----|
| <i>Ralstonia solanacearum</i> | Bacterial wilt | Rs |
|-------------------------------|----------------|----|

Fungi:

| | | |
|---|-------------------|-----|
| <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 |

Nematodes:

| | | |
|------------------------------|-----------|----|
| <i>Meloidogyne incognita</i> | Root-knot | Mi |
|------------------------------|-----------|----|

23. *Spinacia oleracea* (Spinach)

| Scientific name | English common name | Code |
|-----------------|---------------------|------|
|-----------------|---------------------|------|

Viruses:

| | | |
|------------------------------|-----------------|-----|
| <i>Cucumber mosaic virus</i> | Cucumber mosaic | CMV |
|------------------------------|-----------------|-----|

Fungi:

| | | |
|--|---------------|-----|
| <i>Albugo occidentalis</i> | White rust | Ao |
| <i>Cladosporium variabile</i> | Leaf spot | Cv |
| <i>Fusarium oxysporum</i> f.sp. <i>spinaciae</i> | Fusarium wilt | Fos |
| <i>Peronospora farinosa</i> f.sp. <i>spinaciae</i> | Downy mildew | Pfs |

24. *Triticum* spp. (Wheat)

| Scientific name | English common name(s) | Code |
|-----------------|------------------------|------|
|-----------------|------------------------|------|

Viruses:

| | | |
|--|--|-------|
| <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 |

Bacteria:

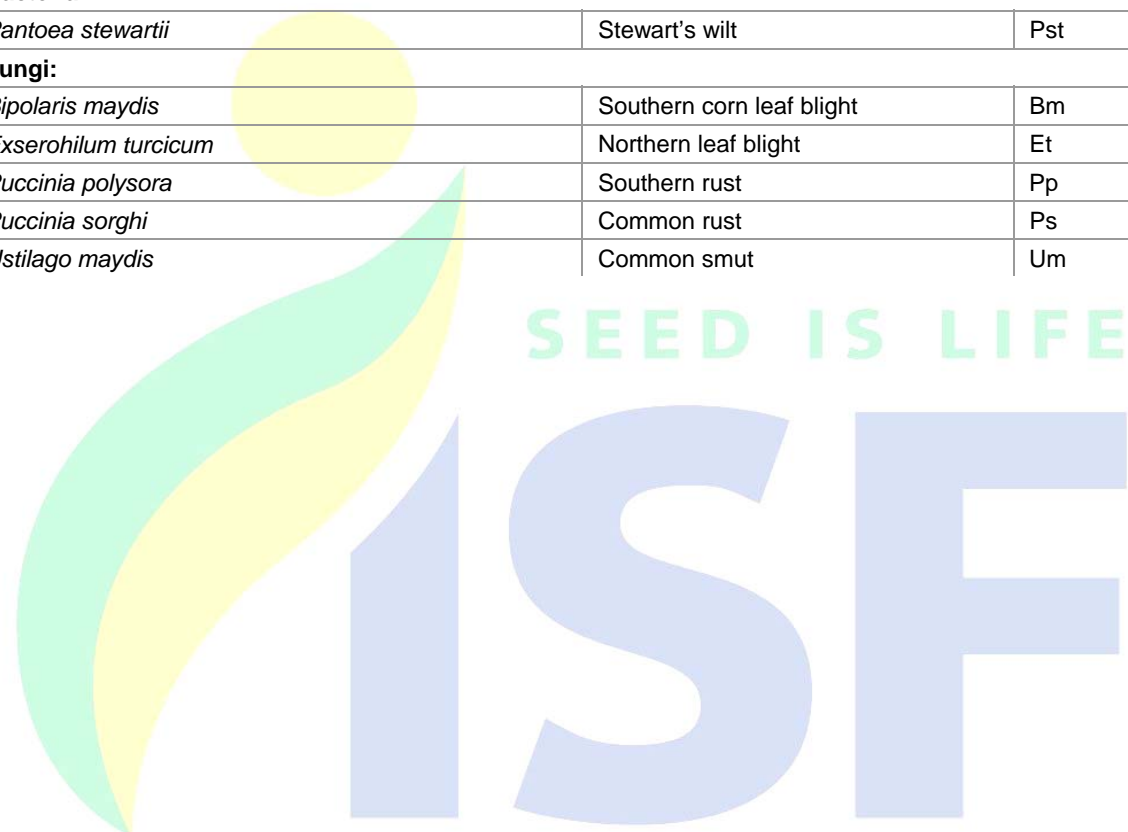
| | | |
|--|--|-----|
| <i>Pseudomonas syringae</i> pv. <i>atrocians</i> | Basal glume rot | Psa |
| <i>Pseudomonas syringae</i> pv. <i>syringae</i> | Bacterial leaf blight | Pss |
| <i>Xanthomonas campestris</i> pv. <i>translucens</i> | Bacterial leaf streak, Black chaff, Bacterial stripe | Xct |
| <i>Xanthomonas translucens</i> pv. <i>undulosa</i> | Bacterial leaf streak, BLS, Black chaff, Bacterial stripe | Xtu |

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| Fungi: | | |
|---|--|-----|
| <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 |
| <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 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 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 | Tl |
| <i>Urocystis agropyri</i> | Flag smut | Ua |
| <i>Ustilago tritici</i> | Loose smut | Ut |

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| Nematodes: | | |
|--|---------------------------|------|
| <i>Heterodera avenae</i> | Cereal cyst nematode, CCN | Ha |
| 25. Valerianella locusta (Corn salad) | | |
| Scientific name | English common name | Code |
| Fungi: | | |
| <i>Peronospora valerianellae</i> | Downy mildew | Pv |
| <i>Phoma valerianellae</i> | Damping off | Phv |
| 26. Zea mays (Sweet corn) | | |
| Scientific name | English common name | Code |
| Viruses: | | |
| <i>Maize dwarf mosaic virus</i> | Maize dwarf mosaic | MDMV |
| <i>Sugarcane mosaic virus</i> | Sugarcane mosaic | SMV |
| Bacteria: | | |
| <i>Pantoea stewartii</i> | Stewart's wilt | Pst |
| Fungi: | | |
| <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 |



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