

Diseases are one of the main causes of crop losses. The cultivated plants coexist with a multitude of microorganisms such as viruses, bacteria, fungi or nematodes. Sometimes, the interaction with certain microorganisms produces visible damages in the plants.

A disease is nothing more than an alteration of the normal development of a plant as a result of the prolonged interaction between the plant and a microorganism under favorable environmental conditions. Plant breeding has offered and can offer solutions through the development of disease resistant varieties.

Two levels of resistance are defined High or standard resistance (**HR**) and Moderate or intermediate resistance (**IR**)

| <i>Capsicum annuum</i> (PEPPER)  |                             |                           |
|--|-----------------------------|---------------------------|
| Scientific name  | English common name         | Code                      |
| <b>Viruses</b>   |                             |                           |
| <i>Pepper mild mottle virus</i>  | Pepper mild mottle          | <b>PMMoV</b>              |
| <i>Pepper mild mottle virus</i>  | Pepper mild mottle Gen (L3) | <b>PMMoV:1,2 (L3)</b>     |
| <i>Pepper mild mottle virus</i>  | Pepper mild mottle Gen (L4) | <b>PMMoV:1,2,3 (L4)</b>   |
| <i>Tobacco mosaic virus</i>  | Tobacco mosaic Gen (L1)     | <b>TMV:0 (L1)</b>         |
| <i>Tomato mosaic virus</i>   | Tomato mosaic               | <b>ToMV</b>               |
| <i>Tomato spotted wilt virus</i>   | Tomato spotted wilt         | <b>TSWV</b>               |
| <b>Bacteria</b>  |                             |                           |
| <i>Xanthomonas campestris</i> pv. <i>vesicatoria</i><br>(now <i>Xanthomonas</i> spp) | Bacterial spot              | <b>Xcv</b><br>(now X spp) |

| <i>Cucumis melo</i> (MELON)                     |                     |             |
|---|---------------------|-------------|
| Scientific name                                 | English common name | Code        |
| <b>Viruses</b>                                  |                     |             |
| <i>Melon necrotic spot virus</i>                | Melon necrotic spot | <b>MNSV</b> |
| <b>Fungi</b>                                    |                     |             |
| <i>Fusarium oxysporum</i> f. sp. <i>melonis</i> | Fusarium wilt       | <b>Fom</b>  |
| <i>Podosphaera xanthii</i>                      | Powdery mildew      | <b>Px</b>   |

| <i>Cucumis sativus</i> (CUCUMBER)              |                                   |              |
|--|-----------------------------------|--------------|
| Scientific name                                | English common name               | Code         |
| <b>Viruses</b>                                 |                                   |              |
| <i>Cucumber vein yellowing virus</i>           | Cucumber vein yellowing           | <b>CVYV</b>  |
| <i>Cucurbit yellow stunting disorder virus</i> | Cucurbit yellow stunting disorder | <b>CYSDV</b> |

Prophylactic or phytosanitary measures must be used in addition to existing genetic resistance.

***Cucurbita pepo, C. maxima, C. moschata (SQUASH and PUMPKIN)***

| Scientific name                         | English common name | Code        |
|---|---------------------|-------------|
| <b>Viruses</b>                          |                     |             |
| <i>Cucumber mosaic virus</i>            | Cucumber mosaic     | <b>CMV</b>  |
| <i>Watermelon mosaic virus</i>          | Watermelon mosaic   | <b>WMV</b>  |
| <i>Zucchini yellow mosaic virus</i>     | Zucchini yellows    | <b>ZYMV</b> |
| <b>Fungi</b>                            |                     |             |
| <i>Fusarium oxysporum f. sp. niveum</i> | Fusarium wilt       | <b>Fon</b>  |
| <i>Podosphaera xanthii</i>              | Powdery mildew      | <b>Px</b>   |

***Solanum lycopersicum (ex Lycopersicon esculentum) (TOMATO)***

| Scientific name                                      | English common name         | Code              |
|--|-----------------------------|-------------------|
| <b>Viruses</b>                                       |                             |                   |
| <i>Tobacco mosaic virus</i>                          | Tobacco mosaic              | <b>TMV</b>        |
| <i>Tomato mosaic virus</i>                           | Tomato mosaic               | <b>ToMV</b>       |
| <i>Tomato spotted wilt virus</i>                     | Tomato spotted wilt         | <b>TSWV</b>       |
| <i>Tomato yellow leaf curl virus</i>                 | Tomato yellow leaf curl     | <b>TYLCV</b>      |
| <b>Bacteria</b>                                      |                             |                   |
| <i>Pseudomonas syringae pv. tomato</i>               | Bacterial speck             | <b>Pst</b>        |
| <b>Fungi</b>   |                             |                   |
| <i>Alternaria solani</i>                             | Early blight                | <b>As</b>         |
| <i>Passalora fulva (ex Fulvia fulva)</i>             | Leaf mold                   | <b>Pf (ex Ff)</b> |
| <i>Fusarium oxysporum f. sp. lycopersic</i>          | Fusarium wilt               | <b>Fol</b>        |
| <i>Fusarium oxysporum f. sp. radices-lycopersici</i> | Fusarium crown and root rot | <b>For</b>        |
| <i>Phytophthora infestans</i>                        | Late blight                 | <b>Pi</b>         |
| <i>Verticillium albo-atrum</i>                       | Verticillium wilt           | <b>Va</b>         |
| <i>Verticillium dahliae</i>                          | Verticillium wilt           | <b>Vd</b>         |
| <b>Nematodes</b>                                     |                             |                   |
| <i>Meloidogyne arenaria</i>                          | Root-knot                   | <b>Ma</b>         |
| <i>Meloidogyne incognita</i>                         | Root-knot                   | <b>Mi</b>         |
| <i>Meloidogyne javanica</i>                          | Root-knot                   | <b>Mj</b>         |

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