

## LISTADO PATOGENOS POR CULTIVO

| TOMATE    |   | En semilla | PIMIENTO  |  | En semilla |
|-----------|---|------------|-----------|--|------------|
| HONGOS    | Alternaria  | SI         | HONGOS    | Botrytis cinerea                         | NO         |
|           | Botrytis cinerea  | NO         |           | Fusarium oxysporum                       | SI         |
|           | Colletotrichum  | SI         |           | Phytophthora spp.                        | NO         |
|           | Fusarium oxysporum  | SI         |           | Pyrenopeziza lycopersici                 | NO         |
|           | Phytophthora spp.   | NO         |           | Pythium spp.                             | NO         |
|           | Pyrenopeziza lycopersici  | NO         |           | Rhizoctonia                              | NO         |
|           | Pythium spp.  | NO         |           | Sclerotinia sclerotiorum                 | NO         |
|           | Rhizoctonia   | NO         |           | Verticillium dahliae                     | SI         |
|           | Sclerotinia sclerotiorum  | NO         |           |  |            |
|           | Stemphylium sp.   | NO         |           |  |            |
| NEMÁTODOS | Verticillium dahliae  | SI         | NEMÁTODOS | Meloidogyne spp.                         | NO         |
|           | Meloidogyne spp.  | NO         |           | Clavibacter michiganensis                | SI         |
| BACTERIAS | Clavibacter michiganensis   | SI         | BACTERIAS | Pectobacterium                           | SI         |
|           | Pectobacterium  | NO         |           | Pseudomonas                              | SI         |
|           | Pseudomonas   | SI         |           | Ralstonia solanacearum                   | SI         |
|           | Ralstonia solanacearum  | SI         |           | Xanthomonas                              | SI         |
|           | Xanthomonas   | SI         |           |  |            |
| VIRUS     | Beet western yellows virus (BWYV)   | NO         | VIRUS     | Alfalfa Mosaic Virus (AMV)               | SI         |
|           | Cucumber Mosaic Virus (CMV)   | NO         |           | Broad bean wilt virus (BBWV)             | NO         |
|           | Eggplant mottle dwarf virus (EMDV)  | NO         |           | Cucumber Mosaic Virus (CMV)              | SI         |
|           | Parietaria mottle virus, (PmoV)   | NO         |           | Eggplant mottle dwarf virus (EMDV)       | NO         |
|           | Pepino Mosaic Virus (PepMV)   | SI         |           | Parietaria mottle virus, (PmoV)          | NO         |
|           | Potato Virus Y (PVY)  | SI         |           | Pepper Mild Mottle Virus (PMMoV)         | SI         |
|           | Tobacco Mosaic Virus (TMV)  | SI         |           | Potato Virus Y (PVY)                     | SI         |
|           | Tomato Bushy Stunt Virus (TBSV)   | SI         |           | Tobacco mild green mosaic virus, (TMGMV) | SI         |
|           | Tomato chlorosis virus, (ToCV)  | NO         |           | Tobacco Mosaic Virus (TMV)               | SI         |
|           | Tomato Mosaic Virus (ToMV)  | SI         |           | Tomato Bushy Stunt Virus (TBSV)          | SI         |
|           | Tomato spotted wilt virus, (TSWV)   | NO         |           | Tomato Mosaic Virus (ToMV)               | SI         |
|           | Tomato torrado virus, (ToTV)  | NO         |           | Tomato spotted Wilt Virus (TSWV)         | NO         |
|           | Tomato yellow leaf curl virus, (TYLCV) y especies relacionadas (TYLCSV, TYLCMV y TYLCAXV) | NO         |           | Tomato spotted wilt virus, (TSWV)        | NO         |

## LISTADO PATOGENOS POR CULTIVO

| BERENJENA |  | En semilla | JUDÍA     |   | En semilla |
|-----------|--|------------|-----------|---|------------|
| HONGOS    | Alternaria                               | SI         | HONGOS    | Botrytis cinerea  | NO         |
|           | Botrytis cinerea                         | NO         |           | Colletotrichum  | SI         |
|           | Fusarium oxysporum                       | NO         |           | Fusarium oxysporum  | NO         |
|           | Phytophthora spp.                        | NO         |           | Pythium spp.  | NO         |
|           | Pyrenopeziza lycopersici                 | NO         |           | Rhizoctonia   | SI         |
|           | Pythium spp.                             | NO         |           | Sclerotinia sclerotiorum  | NO         |
|           | Sclerotinia sclerotiorum                 | NO         |           |   |            |
|           | Stemphylium sp.                          | NO         |           |   |            |
|           | Verticillium dahliae                     | SI         |           |   |            |
| NEMÁTODOS | Meloidogyne spp.                         | NO         | NEMÁTODOS | Meloidogyne spp.  | NO         |
| BACTERIAS | Pectobacterium                           | NO         |           | Pectobacterium  | SI         |
|           | Ralstonia solanacearum                   | SI         |           | Pseudomonas   | SI         |
| VIRUS     | Cucumber Mosaic Virus (CMV)              | SI         | VIRUS     | Xanthomonas   | SI         |
|           | Eggplant mottle dwarf virus (EMDV)       | NO         |           | Bean Common Mosaic Necrosis Virus (BCMV)  | SI         |
|           | Pepino Mosaic Virus (PepMV)              | SI         |           | Bean Common Mosaic Virus (BCMV)   | SI         |
|           | Tobacco mild green mosaic virus, (TMGMV) | SI         |           | Bean yellow disorder virus, (BnYDV)   | NO         |
|           | Tobacco Mosaic Virus (TMV)               | NO         |           | Bean Yellow Mosaic Virus (BYMV)   | SI         |
|           | Tomato Bushy Stunt Virus (TBSV)          | SI         |           | Beet western yellows virus (BWYV)   | NO         |
|           | Tomato torrado virus.( ToTV)             | NO         |           | Broad bean wilt virus (BBWV)  | NO         |
|           |  |            |           | Cucumber Mosaic Virus (CMV)   | SI         |
|           |  |            |           | Southern Bean mosaic virus (SBMV)   | SI         |
|           |  |            |           | Tomato Spotted Wilt Virus (TSWV)  | SI         |
|           |  |            |           | Tomato yellow leaf curl virus, (TYLCV) y especies relacionadas (TYLCSV, TYLCMV y TYLCAXV) | NO         |

## LISTADO PATOGENOS POR CULTIVO

| MELON     |   | En semilla | SANDÍA    |   | En semilla |
|-----------|---|------------|-----------|---|------------|
| HONGOS    | Acremonium                                      | NO         | HONGOS    | Acremonium                                      | NO         |
|           | Alternaria                                      | SI         |           | Alternaria                                      | SI         |
|           | Botrytis cinerea                                | NO         |           | Botrytis cinerea                                | NO         |
|           | Colletotrichum                                  | SI         |           | Colletotrichum                                  | SI         |
|           | Didymella Bryoniae                              | SI         |           | Didymella Bryoniae                              | SI         |
|           | Fusarium oxysporum                              | NO         |           | Fusarium oxysporum                              | NO         |
|           | Phytophthora spp.                               | NO         |           | Phytophthora spp.                               | NO         |
|           | Pyrenopeziza lycopersici                        | NO         |           | Pythium spp.                                    | NO         |
|           | Pythium spp.                                    | NO         |           | Rhizoctonia solani                              | NO         |
|           | Rhizoctonia                                     | NO         |           | Sclerotinia sclerotiorum                        | NO         |
| NEMÁTODOS | Sclerotinia sclerotiorum                        | NO         | NEMÁTODOS | Meloidogyne spp.                                | NO         |
|           | Meloidogyne spp.                                | NO         |           | Meloidogyne spp.                                | NO         |
| BACTERIAS | Acidovorax citrulli pv. Citrulli                | SI         | BACTERIAS | Acidovorax avenae pv. citrulli                  | SI         |
|           | Pectobacterium                                  | NO         |           | Pectobacterium                                  | NO         |
|           | Pseudomonas syringae lachrymans                 | SI         |           | Pseudomonas syringae lachrymans                 | SI         |
|           | Xanthomonas                                     | SI         |           | Xanthomonas campestris                          | SI         |
| VIRUS     | Cucumber green mottle mosaic virus (CGMMV)      | SI         | VIRUS     | Beet western yellows virus (BWYV)               | NO         |
|           | Cucumber Mosaic Virus (CMV)                     | SI         |           | Cucumber green mottle mosaic virus (CGMMV)      | SI         |
|           | Cucumber vein yellowing virus.(CVYV)            | NO         |           | Cucumber Mosaic Virus (CMV)                     | SI         |
|           | Cucurbit aphid-borne yellows virus (CABYV)      | SI         |           | Cucumber vein yellowing virus.(CVYV)            | NO         |
|           | Cucurbit yellow stunting disorder virus.(CYSDV) | NO         |           | Cucurbit aphid-borne yellows virus (CABYV)      | SI         |
|           | New Delhi, (ToLCNDV)                            | NO         |           | Cucurbit yellow stunting disorder virus.(CYSDV) | NO         |
|           | Melon Necrotic Spot Virus (MNSV)                | SI         |           | New Delhi, (ToLCNDV)                            | NO         |
|           | Papaya ringspot virus, (PRSV)                   | NO         |           | Melon Necrotic Spot Virus (MNSV)                | SI         |
|           | Squash mosaic virus, (SqMV)                     | SI         |           | Papaya ringspot virus, (PRSV)                   | NO         |
|           | Watermelon mosaic virus, (WMV)                  | NO         |           | Squash mosaic virus, (SqMV)                     | SI         |
|           | Zucchini yellow mosaic virus, (ZYMV)            | NO         |           | Watermelon mosaic virus, (WMV)                  | NO         |
|           |   |            |           | Zucchini yellow mosaic virus, (ZYMV)            | NO         |

## LISTADO PATOGENOS POR CULTIVO

| PEPINO    |   | En semilla | CALABACÍN |   | En semilla |
|-----------|---|------------|-----------|---|------------|
|           |   |            |           |   |            |
| HONGOS    | Alternaria                                      | SI         | HONGOS    | Alternaria                                      | SI         |
|           | Botrytis cinerea                                | NO         |           | Botrytis cinerea                                | NO         |
|           | Didymella Bryoniae                              | SÍ         |           | Didymella Bryoniae                              | SÍ         |
|           | Fusarium oxysporum                              | NO         |           | Fusarium oxysporum                              | NO         |
|           | Phytophthora spp.                               | NO         |           | Phytophthora spp.                               | NO         |
|           | Pythium spp.                                    | NO         |           | Pythium spp.                                    | NO         |
|           | Rhizoctonia                                     | NO         |           | Sclerotinia sclerotiorum                        | NO         |
|           | Sclerotinia sclerotiorum                        | NO         |           |   |            |
| NEMÁTODOS | Meloidogyne spp.                                | NO         | NEMÁTODOS | Meloidogyne spp.                                | NO         |
| BACTERIAS | Acidovorax citrulli pv. Citrulli                | SI         |           | Acidovorax citrulli pv. Citrulli                | SI         |
|           | Pectobacterium                                  | NO         |           | Pectobacterium                                  | NO         |
|           | Pseudomonas                                     | SI         |           | Pseudomonas                                     | SI         |
|           | Xanthomonas                                     | SI         |           | Xanthomonas                                     | SI         |
| VIRUS     | Beet western yellows virus (BWYV)               | NO         | VIRUS     | Cucumber green mottle mosaic virus (CGMMV)      | SI         |
|           | Cucumber fruit mottle mosaic virus, (CFMMV)     | NO         |           | Cucumber Mosaic Virus (CMV)                     | SI         |
|           | Cucumber green mottle mosaic virus (CGMMV)      | SI         |           | Cucumber vein yellowing virus.(CVYV)            | NO         |
|           | Cucumber Mosaic Virus (CMV)                     | SI         |           | Cucurbit aphid-borne yellows virus (CABYV)      | SI         |
|           | Cucumber vein yellowing virus,(CVYV)            | NO         |           | Cucurbit yellow stunting disorder virus,(CYSDV) | NO         |
|           | Cucurbit aphid-borne yellows virus (CABYV)      | SI         |           | New Delhi, (ToLCNDV)                            | NO         |
|           | Cucurbit yellow stunting disorder virus.(CYSDV) | NO         |           | Melon Necrotic Spot Virus (MNSV)                | SI         |
|           | Eggplant mottle dwarf virus (EMDV)              | NO         |           | Papaya ringspot virus, (PRSV)                   | NO         |
|           | New Delhi, (ToLCNDV)                            | NO         |           | Squash mosaic virus, (SqMV)                     | SI         |
|           | Melon Necrotic Spot Virus (MNSV)                | SI         |           | Watermelon mosaic virus, (WMV)                  | NO         |
|           | Papaya ringspot virus, (PRSV)                   | NO         |           | Zucchini yellow mosaic virus, (ZYMV)            | NO         |
|           | Squash mosaic virus, (SqMV)                     | SI         |           |   |            |
|           | Watermelon mosaic virus, (WMV)                  | NO         |           |   |            |
|           | Zucchini yellow mosaic virus, (ZYMV)            | NO         |           |   |            |

## LISTADO PATÓGENOS POR CULTIVO

| LECHUGA   |  | En semilla | PATÓGENOS EN CÍTRICOS |                            |
|-----------|--|------------|-----------------------|----------------------------|
| HONGOS    | Alternaria                                 | SÍ         | HONGOS                | Alternaria spp.            |
|           | Botrytis cinerea                           | NO         |                       | Botrytis cinerea           |
|           | Pyrenopeziza lycopersici                   | NO         |                       | Cladosporium spp.          |
|           | Pythium ultimum                            | NO         |                       | Colletotrichum spp.        |
|           | Rhizoctonia solani                         | NO         |                       | Fusarium oxysporum         |
|           | Sclerotinia sclerotiorum                   | NO         |                       | Geotrichum spp.            |
|           | Stemphylium sp.                            | NO         |                       | Penicillium spp.           |
|           | Verticillium dahliae                       | SÍ         |                       | Phomopsis spp.             |
| NEMÁTODOS | Meloidogyne spp.                           | NO         |                       | Phytophthora citrophthora  |
|           | Pectobacterium carotovorum                 | NO         |                       | Rhizopus stolonifer        |
| BACTERIAS | Pseudomonas cichorii                       | SÍ         | NEMÁTODOS             | Sclerotinia sclerotiorum   |
|           | Rhizomonas spp.                            | NO         |                       | Trichoderma viride         |
|           | Xantomonas campestris                      | SÍ         | BACTERIAS             | --                         |
|           | Alfalfa Mosaic Virus(AMV)                  | SÍ         |                       | Pseudomonas syringae       |
| VIRUS     | Beet western yellows virus (BWYV)          | NO         | VIRUS                 | Citrus tristeza virus (CT) |
|           | Broad bean wilt virus (BBWV)               | NO         |                       |                            |
|           | Cucumber Mosaic Virus (CMV)                | SÍ         |                       |                            |
|           | Cucurbit aphid-borne yellows virus (CABYV) | SÍ         |                       |                            |
|           | Lettuce Mosaic Virus (LMV)                 | SÍ         |                       |                            |
|           | Lettuce Necrotic Stunt Virus (LNSV)        | SÍ         |                       |                            |
|           | Tomato Bushy Stunt Virus (TBSV)            | NO         |                       |                            |
|           | Tomato Spotted Wilt Virus (TSWV)           | SÍ         |                       |                            |

## LISTADO PATOGENOS POR CULTIVO

| COLES DE BRUSELAS |   | En semilla |
|-------------------|---|------------|
| HONGOS            | Alternaria<br>Fusarium oxysporum<br>Phoma sp.<br>Pythium SP<br>Rhizoctonia solani |            |
| NEMÁTODOS         |   |            |
| BACTERIAS         | Erwinia carotovora subsp. carotovora  |            |
| VIRUS             | Tomato Spotted Wilt Virus (TSWV)  |            |

## LISTADO PATOGENOS POR CULTIVO

| ESPÁRRAGO |  |
|-----------|--|
| HONGOS    | <i>Botrytis cinerea</i><br><i>Fusarium moniliforme</i><br><i>Fusarium oxysporum</i><br><i>Pectobacterium carotovorum</i><br><i>Penicillium hirsutum</i><br><i>Phytophthora sp.</i><br><i>Rhizoctonia violacea</i><br><i>Stemphylium vesicarium</i> |

| KIWI      |   |
|-----------|---|
| HONGOS    | <i>Alternaria alternata</i><br><i>Botrytis cinerea</i><br><i>Cladosporium sp.</i><br><i>Phytophthora spp.</i><br><i>Sclerotinia sclerotiorum</i><br><i>Verticillium sp.</i> |
| BACTERIAS | <i>Pseudomonas syringae</i>   |

| CEBOLLA   |  |
|-----------|--|
| HONGOS    | <i>Aspergillus niger</i><br><i>Botrytis sp.</i><br><i>Colletotrichum sp.</i><br><i>Pyrenophaeta sp.</i><br><i>Sclerotium sp.</i> |
| NEMÁTODOS | <i>Ditylenchus sp.</i>   |
| BACTERIAS | <i>Pectobacterium carotovorum</i><br><i>Pseudomonas marginalis</i>   |

| CHIRIMOYO |  |
|-----------|--|
| HONGOS    | <i>Armillaria mellea</i><br><i>Botrytis cinerea</i><br><i>Colletotrichum sp.</i><br><i>Fusarium oxysporum</i><br><i>Penicillium sp.</i><br><i>Phoma sp.</i><br><i>Phomopsis sp.</i><br><i>Phytiuum sp.</i><br><i>Phytophthora sp.</i><br><i>Rhizoctonia violacea</i><br><i>Rhizopus sp.</i><br><i>Verticillium dhaliae</i> |

| FRAMBUESA |   |
|-----------|---|
| HONGOS    | <i>Botrytis cinerea</i><br><i>Colletotrichum spp.</i><br><i>Didymella applanata</i><br><i>Leptosphaeria coniothrium</i><br><i>Phytophthora sp.</i><br><i>Verticillium dahliae</i> |

## LISTADO PATOGENOS POR CULTIVO

| LISTADO PATOGENOS EN SUELO y AGUA |  | MICROORGANISMOS BENEFICIOSOS |   |
|-----------------------------------|--|------------------------------|---|
| HONGOS                            | <i>Fusarium oxysporum</i><br><i>Phytophthora spp.</i><br><i>Pyrenopeziza lycopersici</i><br><i>Pythium ultimum</i><br><i>Rhizoctonia solani</i><br><i>Verticillium dahliae</i> | HONGOS                       | <i>Beauveria bassiana</i><br><i>Beauveria brogniartii</i><br><i>Cladosporium herbarum</i><br><i>Lecanicillium spp</i><br><i>Metarrhizium</i><br><i>Paecilomyces fumosoroseus</i><br><i>Paecilomyces lilacinus</i><br><i>Trichoderma</i> |
| NEMÁTODOS                         | <i>Meloidogyne spp.</i>  | NEMÁTODOS                    | ---   |
| BACTERIAS                         | <i>Clavibacter michiganensis</i> pv. <i>Michiganensis</i><br><i>Xanthomonas campestris</i> pv. <i>Vesicatoria</i>  | BACTERIAS                    | <i>Azotobacter</i><br><i>Bacillus</i><br><i>Pseudomonas</i><br><i>Rhizobium</i><br><i>Streptomyces</i>  |

## LISTADO PATOGENOS POR CULTIVO

| LISTADO PATOGENOS EN SUELO y AGUA |  | MICROORGANISMOS BENEFICIOSOS |   |
|-----------------------------------|--|------------------------------|---|
| HONGOS                            | <i>Fusarium oxysporum</i><br><i>Phytophthora spp.</i><br><i>Pyrenopeziza lycopersici</i><br><i>Pythium ultimum</i><br><i>Rhizoctonia solani</i><br><i>Verticillium dahliae</i> | HONGOS                       | <i>Beauveria bassiana</i><br><i>Beauveria brogniartii</i><br><i>Cladosporium herbarum</i><br><i>Lecanicillium spp</i><br><i>Metarrhizium</i><br><i>Paecilomyces fumosoroseus</i><br><i>Paecilomyces lilacinus</i><br><i>Trichoderma</i> |
| NEMÁTODOS                         | <i>Meloidogyne spp.</i>  | NEMÁTODOS                    | ---   |
| BACTERIAS                         | <i>Clavibacter michiganensis</i> pv. <i>Michiganensis</i><br><i>Xanthomonas campestris</i> pv. <i>Vesicatoria</i>  | BACTERIAS                    | <i>Azotobacter</i><br><i>Bacillus</i><br><i>Pseudomonas</i><br><i>Rhizobium</i><br><i>Streptomyces</i>  |