**Table S3. Complete list of endophytic strains displaying a positive preventative effect (PE) against powdery mildew in the leaf disc bioassay, organized by bacterial phylum, genus and original seed source.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Isolate name** | **Host plant** | **Leaf disc bioassay** | **Summary** | **P value** |
| **Phylum** | **Disease index%** | **Preventive effect%** |
| Firmicutes | Bacillus\_Strain\_EKM111B | Cucumber (Marketmore) | 71.42 | 12.78 | NS | 0.9980 |
| Bacillus\_Strain\_EKM117B | Cucumber (Marketmore) | 80 | 2.31 | NS | 0.9997 |
| Bacillus\_Strain\_EKM119B | Cucumber (Marketmore) | 28.57 | 65.11 | \*\*\*\* | 0.0001 |
| Bacillus\_Strain\_EKM120B | Cucumber (Marketmore) | 61.9 | 24.41 | NS | 0.4165 |
| Bacillus\_Strain\_EKM122B | Cucumber (Marketmore) | 66.66 | 18.59 | NS | 0.8537 |
| Bacillus\_Strain\_EKM123B | Cucumber (Straight eight) | 70.47 | 13.94 | NS | 0.9844 |
| Bacillus\_Strain\_EKM124B | Cucumber (Straight eight) | 45.71 | 44.18 | \*\* | 0.0021 |
| Bacillus\_Strain\_EKM126B | Cucumber (Marketmore) | 26.66 | 67.43 | \*\*\*\* | 0.0001 |
| Bacillus\_Strain\_EKM127B | Cucumber (Straight eight) | 37.14 | 54.64 | \*\*\*\* | 0.0001 |
| Bacillus\_Strain\_EKM128B | Cucumber (Straight eight) | 73.33 | 10.45 | NS | 0.9985 |
| Bacillus\_Strain\_EKM201B | Melon (Cantaloupe delicious) | 42.85 | 47.67 | \*\*\* | 0.0006 |
| Bacillus\_Strain\_EKM202B | 55.23 | 32.55 | NS | 0.0765 |
| Bacillus\_Strain\_EKM210B | Melon^ (Honeydew) | 28.57 | 65.11 | \*\*\*\* | 0.0001 |
| Bacillus\_Strain\_EKM211B | Melon^ (Honeydew) | 28.57 | 65.11 | \*\*\*\* | 0.0001 |
| Bacillus\_Strain\_EKM215B | Melon^ (Santa Claus cantaloupe) | 32.38 | 60.46 | \*\*\*\* | 0.0001 |
| Bacillus\_Strain\_EKM306B | Pumpkin^ | 16.19 | 80.23 | \*\*\*\* | 0.0001 |
| Bacillus\_Strain\_EKM408B | Watermelon (Crimson sweet) | 42.85 | 47.67 | \*\*\* | 0.0006 |
| Bacillus\_Strain\_EKM409B | Watermelon (Crimson sweet) | 64.76 | 20.92 | NS | 0.6821 |
| Bacillus\_Strain\_EKM410B | Watermelon (Crimson sweet) | 27.61 | 66.27 | \*\*\*\* | 0.0001 |
| Bacillus\_Strain\_EKM411B | Watermelon (Early Canada Improved) | 46.66 | 43.01 | \*\* | 0.0033 |
| Bacillus\_Strain\_EKM417B | Watermelon (Crimson sweet) | 21.9 | 73.25 | \*\*\*\* | 0.0001 |
| Bacillus\_Strain\_EKM418B | Watermelon^  | 38.09 | 53.48 | \*\*\*\* | 0.0001 |
| Bacillus\_Strain\_EKM419B | Watermelon^ | 8.57 | 89.53 | \*\*\*\* | 0.0001 |
| Bacillus\_Strain\_EKM420B | Watermelon (Crimson sweet) | 48.57 | 40.69 | \*\* | 0.0072 |
| Bacillus\_Strain\_EKM502B | Butternut^ | 26.66 | 67.43 | \*\*\*\* | 0.0001 |
| Bacillus\_Strain\_EKM503B | Acorn squash^ | 27.61 | 66.27 | \*\*\*\* | 0.0001 |
| Bacillus\_Strain\_EKM504B | Spaghetti squash^ | 42.85 | 47.67 | \*\*\* | 0.0006 |
| Bacillus\_Strain\_EKM505B | Spaghetti squash^ | 23.8 | 70.92 | \*\*\*\* | 0.0001 |
| Bacillus\_Strain\_EKM702B | Bottle gourd | 24.76 | 69.76 | \*\*\*\* | 0.0001 |
| Bacillus\_Strain\_EKM703B | Bottle gourd | 20.95 | 74.41 | \*\*\*\* | 0.0001 |
| Bacillus\_Strain\_EKM704B | Bottle gourd | 77.14 | 5.80 | NS | 0.9993 |
| Bacillus\_Strain\_EKM705B | Bottle gourd | 72.38 | 11.62 | NS | 0.9983 |
| Bacillus\_Strain\_EKM706B | Bottle gourd | 40 | 51.15 | \*\*\* | 0.0002 |
| Paenibacillus\_Strain\_EKM103P | Cucumber (Burpless Beauty) | 40 | 51.15 | \*\*\* | 0.0002 |
| Paenibacillus\_Strain\_EKM203P | Melon (Cantaloupe delicious) | 59.04 | 27.90 | NS | 0.2198 |
| Paenibacillus\_Strain\_EKM208P | Melon (Cantaloupe delicious) | 74.28 | 9.29 | NS | 0.9987 |
| Paenibacillus\_Strain\_EKM210P | Melon (Cantaloupe delicious) | 33.33 | 59.29 | \*\*\*\* | 0.0001 |
| Paenibacillus\_Strain\_EKM303P | Pumpkin (Jack O’lantern) | 26.66 | 67.43 | \*\*\*\* | 0.0001 |
| Paenibacillus\_Strain\_EKM305P | Pumpkin^ | 27.61 | 66.27 | \*\*\*\* | 0.0001 |
| Paenibacillus\_Strain\_EKM306P | Pumpkin^ | 20.95 | 74.41 | \*\*\*\* | 0.0001 |
| Paenibacillus\_Strain\_EKM307P | Pumpkin^ | 45.71 | 44.18 | \*\* | 0.0021 |
| Paenibacillus\_Strain\_EKM308P | Pumpkin^ | 15.23 | 81.39 | \*\*\*\* | 0.0001 |
| Paenibacillus\_Strain\_EKM309P | Pumpkin^ | 40 | 51.15 | \*\*\* | 0.0002 |
| Paenibacillus\_Strain\_EKM310P | Pumpkin^ | 29.52 | 63.95 | \*\*\*\* | 0.0001 |
| Paenibacillus\_Strain\_EKM312P | Pumpkin^ | 10.47 | 87.20 | \*\*\*\* | 0.0001 |
| UnclassifiedPaenibacillaceae\_Strain\_EKM501M | Spaghetti squash^ | 19.04 | 76.74 | \*\*\*\* | 0.0001 |
| Lactococcus\_Strain\_EKM102L | Cucumber (Straight eight) | 24.76 | 69.76 | \*\*\*\* | 0.0001 |
| Lactococcus\_Strain\_EKM201L | Melon^ (Cantaloupe) | 62.85 | 23.25 | NS | 0.4998 |
| Lactococcus\_Strain\_EKM202L | Melon^ (Cantaloupe) | 71.42 | 12.78 | NS | 0.9980 |
| Lactococcus\_Strain\_EKM203L | Melon^ (Cantaloupe) | 20.95 | 74.41 | \*\*\*\* | 0.0001 |
| Lactococcus\_Strain\_EKM501L | Acorn squash^ | 10.47 | 87.20 | \*\*\*\* | 0.0001 |
| Lactococcus\_Strain\_EKM502L | Acorn squash^ | 18.09 | 77.90 | \*\*\*\* | 0.0001 |
| Pediococcus\_Strain\_EKM201D | Melon^ (Cantaloupe) | 14.28 | 82.55 | \*\*\*\* | 0.0001 |
| Pediococcus\_Strain\_EKM202D | Melon^ (Cantaloupe) | 8.57 | 89.53 | \*\*\*\* | 0.0001 |
| Staphylococcus\_Strain\_EKM201S | Melon^ (Honeydew) | 19.04 | 76.74 | \*\*\*\* | 0.0001 |
| Proteobacteria  | UnclassifiedEnterobacteriaceae\_Strain\_EKM102E | Cucumber (Spacemaster) | 13.33 | 83.71 | \*\*\*\* | 0.0001 |
| UnclassifiedEnterobacteriaceae\_Strain\_EKM103E | Cucumber^ (seed wash) | 80.95 | 1.15 | NS | 0.9999 |
| UnclassifiedEnterobacteriaceae\_Strain\_EKM102Z | Cucumber^ (seed wash) | 24.76 | 69.76 | \*\*\*\* | 0.0001 |
| UnclassifiedEnterobacteriaceae\_Strain\_EKM301K | Pumpkin^ | 11.42 | 86.04 | \*\*\*\* | 0.0001 |
| UnclassifiedEnterobacteriaceae\_Strain\_EKM302K | Pumpkin^ | 20 | 75.57 | \*\*\*\* | 0.0001 |
| UnclassifiedEnterobacteriaceae\_Strain\_EKM301Z | Pumpkin^ | 12.38 | 84.88 | \*\*\*\* | 0.0001 |
| UnclassifiedEnterobacteriaceae\_Strain\_EKM403G | Watermelon (Crimson sweet) | 39.04 | 52.32 | \*\*\* | 0.0001 |
| UnclassifiedEnterobacteriaceae\_Strain\_EKM601Z | Chinese okra | 41.9 | 48.83 | \*\*\* | 0.0004 |
| UnclassifiedEnterobacteriaceae\_Strain\_EKM602Z | Chinese okra | 17.14 | 79.06 | \*\*\*\* | 0.0001 |
| UnclassifiedEnterobacteriaceae\_Strain\_EKM603Z | Chinese okra | 37.14 | 54.64 | \*\*\*\* | 0.0001 |
| Pantoea\_Strain\_EKM101V | Cucumber^ (seed wash) | 9.52 | 88.37 | \*\*\*\* | 0.0001 |
| Pantoea\_Strain\_EKM103V | Cucumber^ (seed wash) | 21.9 | 73.25 | \*\*\*\* | 0.0001 |
| Cronobacter\_Strain\_EKM102R | Cucumber (Spacemaster) | 43.8 | 46.50 | \*\*\* | 0.0009 |
| Pseudomonas\_Strain\_EKM103A | Cucumber^ (seed wash) | 28.57 | 65.11 | \*\*\*\* | 0.0001 |
| Pseudomonas\_Strain\_EKM402A | Watermelon^ | 31.42 | 61.62 | \*\*\*\* | 0.0001 |
| Pseudomonas\_Strain\_EKM403A | Watermelon^ | 10.47 | 87.20 | \*\*\*\* | 0.0001 |
| Actino-bacteria | Microbacterium\_Strain\_EKM101T | Cucumber^ | 26.66 | 67.43 | \*\*\*\* | 0.0001 |
| Microbacterium\_Strain\_EKM102T | Cucumber^ | 21.9 | 73.25 | \*\*\*\* | 0.0001 |
| UnclassifiedMicrobacteriaceae\_Strain\_EKM601Y | Chinese okra | 32.38 | 60.46 | \*\*\*\* | 0.0001 |
| Rathayibacter\_Strain\_EKM201Y | Melon^ (Canary cantaloupe) | 43.8 | 46.50 | \*\*\* | 0.0009 |
| Micrococcus\_Strain\_EKM201U | Melon^ (Santa Claus cantaloupe) | 33.33 | 59.29 | \*\*\*\* | 0.0001 |
| Micrococcus\_Strain\_EKM501U | Acorn squash^ | 26.66 | 67.43 | \*\*\*\* | 0.0001 |
| Controls | Prothioconazole | Chemical fungicide | 31.42 | 61.62 | \*\*\*\* | 0.0001 |
| Bacillus subtilis strain QST 713 | Biofungicide | 39.04 | 52.32 | \*\*\*\* | 0.0001 |
| Negative control | - | 81.90 | - |  |  |

^: fresh fruits were used as a source of seeds

NS: Non-significant, \*: p < 0.05, \*\*: p< 0.01, \*\*\*: p < 0.001, \*\*\*\*: p < 0.0001