**Supplementary Materials and Methods**

The decay rate was calculated as following equation:

The disease index following the disease levels was calculated as:

**Table S0.** The disease level defined for calculated disease index.

|  |  |
| --- | --- |
| **Level** | **Description** |
| 0 | No obvious lesion. |
| 1 | Visible dotted lesion. |
| 2 | The area of lesion on the surface of a mango is less 20%. |
| 3 | The area of lesion on the surface of a mango is less 50%. |

* Total acids and total soluble solids content was determined by employing an Atago Pocket Brix-Acidity Meter (Citrus) PAL-BX|ACID1 Master Kit (Atago Co., Ltd. – Washington, USA).
* The respiration quotient of fruits was estimated by measuring the relative CO2 change in a sealed box using a Vaisala CARBOCAP® Carbon Dioxide Probe GMP252 (Vaisala – Vantaa, Finland) within a time-period of 30 minutes and at 25 °C ambient temperature.

**Supplementary Results**

**Table S1**. Effect of coating agent mixed with SEO on the weight loss during post-harvest ripening.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 5 d | 10 d | 15 d | 20 d | 25 d |
| Blank control | 4.37 ± 0.11ab | 7.44 ± 0.24a | 10.33 ± 0.30a | 13.61 ± 0.32a | 18.44 ± 0.28a |
| Coating Agent (CA) | 3.77 ± 0.11cd | 6.58 ± 0.18b | 8.96 ± 0.28c | 11.16 ± 0.33b | 15.38 ± 0.57bc |
| CA+1/2 MIC | 3.60 ± 0.12d | 6.21 ± 0.18b | 8.01 ± 0.26e | 11.08 ± 0.31b | 15.23 ± 0.30d |
| CA+ MIC | 4.06 ± 0.10bc | 6.77 ± 0.20b | 9.05 ± 0.30c | 12.04 ± 0.29b | 15.46 ± 0.36bc |
| CA+2 MIC | 4.51 ± 0.15a | 7.75 ± 0.30a | 10.03 ± 0.39b | 13.24 ± 0.39a | 16.94 ± 0.68ab |

Note: Weight losses were indicated by % compared with day 1. Different lower-case letters (a, b, c…) on the top of the bars indicate significant differences among treatments (p < 0.05).

**Table S2**. Effect of coating agent mixed with SEO on the respiratory rate during post-harvest ripening.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 5 d | 10 d | 15 d | 20 d | 25 d |
| Blank control | 89.11±0.61a | 84.49±3.20a | 79.27±5.39a | 63.89±10.03a | 60.18±5.72a |
| Coating Agent (CA) | 82.82±1.74ab | 77.55±3.57ab | 63.69±9.90a | 68.49±2.80a | 62.13±1.77a |
| CA+1/2 MIC | 77.76±7.93ab | 76.65±0.60ab | 70.65±3.39a | 59.69±1.23a | 67.14±6.37a |
| CA+ MIC | 72.39±6.58c | 73.21±2.08b | 66.96±4.35a | 60.37±3.73a | 68.01±1.70a |
| CA+2 MIC | 69.95±5.19c | 71.20±4.87b | 68.13±5.97a | 62.61±8.14a | 63.11±6.81a |

Note: Day 1 = 72.39 ± 6.58 mg∙kg-1∙h-1. Different lower-case letters (a, b, c…) on the top of the bars indicate significant differences among treatments (p < 0.05).

**Table S3**. Fruit hardness.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 5 d | 10 d | 15 d | 20 d | 25 d |
| Blank control | 9.59 ±0.37c | 5.15 ±0.27c | 3.06 ±0.28b | 2.86 ±0.11b | 1.94 ±0.35c |
| Coating Agent (CA) | 11.42 ±1.42c   |  |  | | --- | --- | | 3.7720 | 0.10723 | | 6.5818 | 0.18440 | | 8.9643 | 0.28477 | | 11.1564 | 0.32823 | | 15.3817 | 0.56864 |  |  |  | | --- | --- | | 3.7720 | 0.10723 | | 6.5818 | 0.18440 | | 8.9643 | 0.28477 | | 11.1564 | 0.32823 | | 15.3817 | 0.56864 | | 6.48 ±0.51b | 3.95 ±0.20b | 2.62 ±0.23b | 2.32 ±0.03bc |
| CA+1/2 MIC | 15.41 ±1.77a | 8.26 ±0.34a | 5.41 ±0.41a | 4.64 ±0.51a | 3.44 ±0.25a |
| CA+ MIC | 14.13 ±0.89ab | 7.50 ±0.63ab | 5.28 ±0.34a | 4.01 ±0.48a | 2.77 ±0.19b |
| CA+2 MIC | 12.81 ±1.34ab | 7.14 ±0.32ab | 6.18 ±0.30a | 4.57 ±0.25a | 2.74 ±0.13a |

Note: Day 1= 33.62 ±3.19 N/cm2. Different lower-case letters (a, b, c…) on the top of the bars indicate significant differences among treatments (p < 0.05).

**Table S4**. Total soluble solids content.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 5 d | 10 d | 15 d | 20 d | 25 d |
| Blank control | 17.75 ± 0.71a | 21.24 ± 0.92a | 20.09 ± 0.72b | 17.14 ± 0.46c | 17.89 ± 0.36a |
| Coating Agent (CA) | 15.55 ± 0.73a | 20.40 ± 0.63ab | 19.17 ± 0.80b | 17.80±0.44bc | 17.49 ± 0.56a |
| CA+1/2 MIC | 17.50 ± 1.43a | 18.47 ± 0.83b | 21.07 ± 1.02ab | 18.28±0.46bc | 17.70 ± 0.20a |
| CA+ MIC | 17.31 ± 0.41a | 19.40 ± 0.56ab | 21.47 ± 0.49ab | 18.82±0.17ab | 18.01 ± 0.28a |
| CA+2 MIC | 16.38 ± 1.15a | 19.98 ± 0.84ab | 23.03 ± 0.34a | 20.04±0.46a | 18.13 ± 0.51a |

Note: Day 1= 13.62±0.8%. Different lower-case letters (a, b, c…) on the top of the bars indicate significant differences among treatments (p < 0.05).

**Table S5**. Total acids content.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 5 d | 10 d | 15 d | 20 d | 25 d |
| Blank control | 0.56±0.02b | 0.50±0.01c | 0.46±0.01d | 0.43±0.01b | 0.40±0.01a |
| Coating Agent (CA) | 0.65±0.04b | 0.62±0.01b | 0.59±0.01c | 0.52±0.02a | 0.42±0.01a |
| CA+1/2 MIC | 0.77±0.03a | 0.68±0.02b | 0.61±0.01bc | 0.52±0.01a | 0.41±0.01a |
| CA+ MIC | 0.78±0.05a | 0.78±0.03a | 0.67±0.03ab | 0.53±0.01a | 0.40±0.01a |
| CA+2 MIC | 0.84±0.04a | 0.82±0.04a | 0.70±0.04a | 0.55±0.02a | 0.42±0.01a |

Note: Day 1 = 0.91 ± 0.04 %. Different lower-case letters (a, b, c…) on the top of the bars indicate significant differences among treatments (p < 0.05).

**Table S6**. Content of Vitamin C

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 5 d | 10 d | 15 d | 20 d | 25 d |
| Blank control | 91.05±0.95d | 71.66±1.08d | 68.65±1.25c | 58.82±1.35b | 58.19±1.98b |
| Coating Agent (CA) | 95.63±0.54cd | 77.99±0.79c | 69.44±2.13c | 67.41±2.25ab | 58.50±1.50b |
| CA+1/2 MIC | 102.76±3.73bc | 83.77±1.20bc | 76.75±1.56b | 69.71±7.35ab | 61.15±0.75ab |
| CA+ MIC | 104.99±3.87b | 85.47±0.70b | 79.88±0.38ab | 71.38±1.83ab | 61.53±0.18ab |
| CA+2 MIC | 113.93±1.49a | 92.20±3.71a | 82.47±2.07a | 76.73±3.04a | 63.07±0.91a |

Note: Day 1 = 179.52 ± 3.17 (mg/100g). Different lower-case letters (a, b, c…) on the top of the bars indicate significant differences among treatments (p < 0.05).

**Table S7**. Activity of catalase (CAT).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 5d | 10 d | 15 d | 20 d | 25 d |
| Blank control | 22.02±0.83b | 18.24±4.48b | 16.54±2.99c | 21.37±1.06c | 15.52±1.74c |
| Coating Agent (CA) | 23.22±1.43b | 35.68±1.43a | 40.85±4.49b | 24.36±2.55bc | 33.66±4.17ab |
| CA+1/2 MIC | 25.98±1.50ab | 21.02±2.50b | 31.01±2.36b | 27.67±2.58ab | 28.06±2.25b |
| CA+ MIC | 32.56±3.21a | 24.18±1.85ab | 38.48±5.45b | 31.40±1.61a | 30.65±1.02b |
| CA+2 MIC | 32.19±2.44a | 36.04±5.56a | 54.27±1.89a | 32.89±1.10a | 39.92±2.54a |

Note: Day 1= 5.37 ±0.68 (U/g). Different lower-case letters (a, b, c…) on the top of the bars indicate significant differences among treatments (p < 0.05).

**Table S8**. Content of malondialdehyde (MDA).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 5 d | 10 d | 15 d | 20 d | 25 d |
| Blank control | 16.00±1.40a | 26.64±2.38ab | 26.71±1.92a | 23.56±1.13a | 25.28±0.95a |
| Coating Agent (CA) | 16.82±1.06a | 30.86±2.19a | 22.79±2.64ab | 23.80±1.53a | 24.23±0.90a |
| CA+1/2 MIC | 16.84±0.96a | 23.62±2.62bc | 23.13±2.86ab | 21.78±0.56ab | 18.56±1.41b |
| CA+ MIC | 14.22±0.70a | 22.76±1.00bc | 21.88±0.61b | 22.00±1.44ab | 22.24±1.94ab |
| CA+2 MIC | 13.81±1.74a | 19.38±2.05c | 17.30±0.60b | 18.63±0.47b | 19.50±0.95b |

Note: Day 1 = 11.00 ± 1.00 mg∙kg-1∙h-1. Different lower-case letters (a, b, c…) on the top of the bars indicate significant differences among treatments (p < 0.05).

**Table S9**. Activity of superoxide dismutase (SOD).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 5 d | 10 d | 15 d | 20 d | 25 d |
| Blank control | 596.07±3.19b | 573.10±12.06c | 514.63±8.84c | 554.60±22.77a | 501.56±1.08a |
| Coating Agent (CA) | 619.96±19.80ab | 558.36±4.85bc | 585.41±23.12a | 558.44±26.80a | 496.28±9.62a |
| CA+1/2 MIC | 602.90±8.73ab | 601.35±13.05abc | 529.79±4.28bc | 570.35±10.90a | 508.49±12.41a |
| CA+ MIC | 626.78±25.63ab | 613.44±18.76ab | 559.52±13.67ab | 565.13±48.44a | 525.74±17.90a |
| CA+2 MIC | 660.06±18.19a | 627.46±20.40a | 573.50±6.67a | 562.67±14.82a | 526.44±14.43a |

Note: Day 1 = 580.40 ±32.13 (U/g). Different lower-case letters (a, b, c…) on the top of the bars indicate significant differences among treatments (p < 0.05).

**Table S10**. Activity of polyphenol oxidase (PPO).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 5 d | 10 d | 15 d | 20 d | 25 d |
| Blank control | 19.76±0.81cd | 12.36±0.07c | 28.46±0.93c | 36.20±0.91a | 12.36±0.07c |
| Coating Agent (CA) | 21.80±0.97ab | 18.88±0.45ab | 41.90±0.73a | 27.00±2.71b | 18.88±0.45ab |
| CA+1/2 MIC | 18.20±0.90d | 15.96±1.07bc | 36.00±0.45b | 25.40±2.69b | 15.96±1.07bc |
| CA+ MIC | 24.28±0.80bc | 20.12±3.17ab | 30.88±2.36c | 17.56±1.21b | 20.12±3.17ab |
| CA+2 MIC | 25.96±1.06a | 21.92±1.64a | 31.16±1.83c | 23.76±0.98c | 21.92±1.64a |

Note: Day 1 = 12.22 ± 2.00 (U/g). Different lower-case letters (a, b, c…) on the top of the bars indicate significant differences among treatments (p < 0.05).

**Table S11.** Decay rate during post-harvest ripening.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Treatment** | **Decay Rate（%）** | | | | |
| **5 d** | **10 d** | **15 d** | **20 d** | **25 d** |
| Blank control | 11.02±1.90a | 26.61±1.47a | 44.12±4.72a | 59.31±5.58a | 74.08±6.25a |
| Coating Agent (CA) | 6.98±1.22b | 18.81±1.04b | 30.64±2.00b | 40.12±1.73b | 59.33±1.77b |
| ½ MIC + CA | 3.33±0.53c | 10.57±2.92cd | 26.63±1.44bc | 34.42±1.75bc | 44.57±1.32c |
| MIC + CA | 3.91±0.90bc | 11.78±2.18c | 23.54±1.33bc | 34.28±46.07bc | 46.07±1.47c |
| 2 MIC + CA | 3.22±0.46c | 5.68±1.15d | 19.39±1.31c | 27.16±0.61c | 38.26±2.46c |

Note: ½ MIC SEO = 0.1% SEO. Different lower-case letters (a, b, c…) on the top of the bars indicate significant differences among treatments (p < 0.05).

**Table S12.** Disease index during post-harvest ripening.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Treatment** | **Disease index（%）** | | | | |
| **5 d** | **10 d** | **15 d** | **20 d** | **25 d** |
| Blank control | 18.12±2.29a | 29.63±1.48a | 41.36±2.67a | 49.33±4.21a | 76.45±4.93a |
| Coating Agent (CA) | 10.04±1.01b | 21.41±1.31b | 26.13±0.94b | 41.04±3.77b | 60.60±2.47b |
| ½ MIC + CA | 5.04±1.39bc | 11.82±2.01cd | 19.19±3.19c | 28.53±1.01c | 51.34±3.19c |
| MIC + CA | 5.48±11.41bc | 12.43±1.45c | 15.61±1.95c | 25.33±1.07cd | 47.04±0.88cd |
| 2 MIC + CA | 4.43±0.91c | 7.52±0.84d | 12.63±0.9c | 21±0.64d | 59.15±1.95d |

Note: Different lower-case letters (a, b, c…) on the top of the bars indicate significant differences among treatments (p < 0.05).