

## SUPPLEMENTARY MATERIALS



Figure S1: Conidia of *Alternaria alternata* observed in Leica DM750 light microscope (LM) (Leica Microsystems, Co., Wetzlar, Germany).

Table S1: *In vitro* mycelial growth of *Alternaria alternata*, in PDA culture media, added with different concentrations (1, 2, 4, 8 and 16  $\mu\text{L mL}^{-1}$ ) of essential oil from fruit peel (means of unripe and ripe) of mandarin fruits, grafted on Rangpur lime (Cordeirópolis, SP, 2019 and 2020). (\*) means followed by different lowercase letters, in the column, indicate significant differences between the doses within each variety and different uppercase letters, in the row, indicate significant differences between the varieties at the same dose (Tukey, 5%). n=12.

Doses	Mycelial Growth (cm)			
	Fremont	Murcott	Maria	Late
0	7.96 aA	7.96 aA	7.96 aA	7.96 aA
1	6.00 bA	6.06 bA	6.03 bA	6.05 bA
2	5.94 bA	5.85 b	5.76 bA	6.07 bA
4	5.50 bA	5.55bA	4.56 bA	5.23 bA
8	5.11 bA	4.63 bA	3.56 bA	5.08 bA
16	4.87 bA	4.53 bA	1.10 cB	3.20 cA
Coefficient of Variation = 27.63%				
Standard Error (column) = 0.2058				
Standard Error (row) = 0.3103				

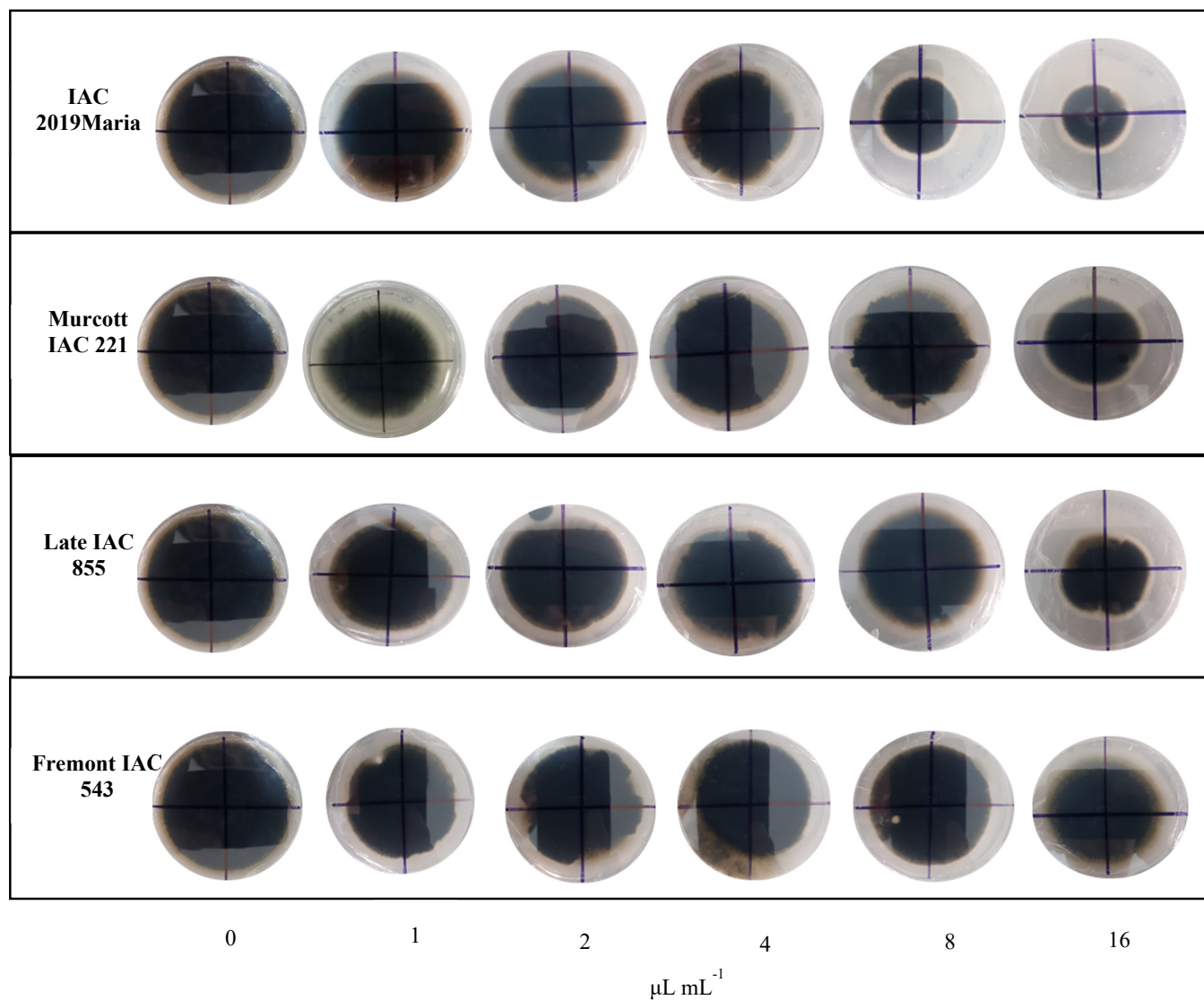


Figure S2: In vitro mycelial growth of the fungus *Alternaria alternata* after 168 h in culture medium BDA with different concentrations (1, 2, 4, 8 and 16  $\mu\text{L mL}^{-1}$ ) of mandarin essential oils.

Table S2: Severity (%) in preventive treatment, *in vitro*, of *Alternaria alternata*, on detached leaf with different concentrations of essential oil (2, 4, 8 and 16  $\mu\text{L mL}^{-1}$ ) means of unripe and ripe fruits of mandarins, grafted on Rangpur lime. (\*) means followed by different lowercase letters, in the column, indicate significant differences between the doses within each variety and different uppercase letters, in the row, indicate significant differences between the varieties at the same dose (Tukey, 5%). n=12.

Doses	Preventive			
	Fremont	Maria	Murcott	Late
0	57.5aA*	57.5aA	57.5aA	57.5aA
2	3.0 bA	3.5 bA	2.7 bA	2.2 bA
4	2.5 bA	2.4 bA	2.3 bA	1.9 bA
8	1.5 bA	1.3 bA	1.6 bA	1.4 bA
16	0.4 cA	0.1 cB	0.4 cA	0.3 cA
Coefficient of Variation = 34.05%				
Standard Error (column) = 0.1952				
Standard Error (row) = 0.0868				

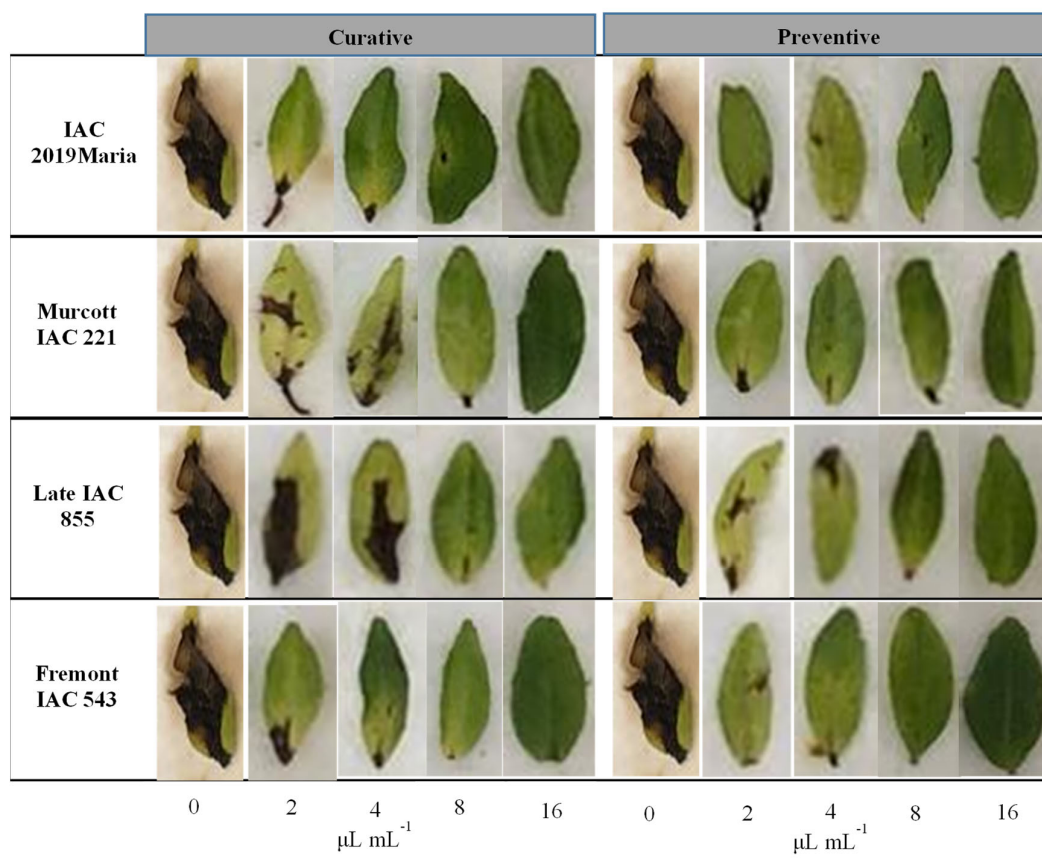


Figure S3: Alternaria brown spot symptoms on detached leaves after 168h, where 0 = control and different concentrations 2, 4, 8 and 16  $\mu\text{L mL}^{-1}$  of mandarin essential oils, in curative and preventive control.

Table S3: Severity (%) in the curative treatment, *in vitro*, of *Alternaria alternata*, in leaf detached with different concentrations of essential oil (2, 4, 8 and 16  $\mu\text{L mL}^{-1}$ ) means of unripe and ripe fruits of mandarins, grafted on Rangpur lime. (\*) means followed by different lowercase letters, in the column, indicate significant differences between the doses within each variety and different uppercase letters, in the row, indicate significant differences between the varieties at the same dose (Tukey, 5%). n=12.

Doses	Curative			
	Fremont	Maria	Murcott	Late
0	57.5aA*	57.5aA	57.5aA	57.5aA
2	10.0 bA	5.8 bB	7.5 bAB	12.0 bA
4	6.4 bA	3.7 bB	3.8 bB	8.3 bA
8	4.2 bA	2.4 bB	2.5 bcB	3.5 bcA
16	1.8 cA	0.6 cB	1.7 cA	1.5 cA
Coefficient of Variation = 27.18%				
Standard Error = 0.4407				
Standard Error = 0.0745				