**Supplementary material**

**Supplementary figure 1.** Lenticel damage for avocado cv. Hass fruits used for the microbial-community analysis. Fruits were collected from the La Escondida and El Sinai farms during the traviesa harvest of 2020. Shown are the means and standard deviations for the severity (A) and incidence (B) of the damage for the fruits with deferent levels of affection. The points show the severity and incidence for the fruits and the asterisk denote statistic differences at the 99.0% (\*\*) and 99.9% (\*\*\*) confidence level according to the t test (n: 6).

**Supplementary figure 2.** Venn diagram showing the genera (A), families (B), order (C) and clases (D) unique and shared between theavocado cv. Hass fruits with different severities of lenticel damage (Mild (\_M) and Severe (\_S)) collected from the La Escondida (Esc) and El Sinai (Sin) farms during the traviesa harvest of 2020.

**Supplementary Table 1**. Geographic location and climatic characteristics of the La Escondida and El Sinai farms. Shown are the average daily precipitation, lowest and highest temperatures, and relative humidity. Climatic variables were measured in situ using a Davis Vantage Pro2 weather station.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **La Escondida** | | | | | |
| **Location** | Rionegro, Antioquia (Latitud: 6° 5’58.27”N; Longitude:75°26’ 30.8”O) | | | | |
| **AMSLa** | 2200 | | | | |
| **Harvest** | **Weatherb** | | | |
| **Precipitation (mm)** | **lowest temperature (⁰C)** | **Highest temperature (⁰C)** | **Maximun relative humidity (%)** | |
| 2019\_mc | 4.9 ± 2.0 | 12.6 ± 0.2 | 22.5 ± 0.3 | 82.2 ± 5.9 | |
| 2020\_t | 7.2 ± 2.3 | 12.9 ± 0.1 | 22.1 ± 0.2 | 88.4 ± 3.9 | |
| 2020\_m | 3.9 ± 2.0 | 12.9 ± 0.2 | 22.5 ± 0.2 | 86.4 ± 7.7 | |
| 2021\_t | 7.4 ± 3.9 | 15.8± 1.8 | 20.8 ± 1.4 | 75.2 ± 6.3 | |
| **El Sinai** | | | | | |
| **Location** | Anserma, Caldas (Latitud: 5°16’57.12"N; Longitude:75°47’59.23"O) | | | | |
| **AMSL** | 2000 | | | | |
| **Harvest weather** | **Precipitation (mm)** | **lowest temperature (⁰C)** | **Highest temperatura (⁰C)** | **Maximun relative humidity (%)** | |
| 2019\_m | 5.9 ± 3.7 | 15.0 ± 1.1 | 22.5 ± 1.4 | 81.6 ± 7.8 | |
| 2020\_t | 8.6 ± 2.9 | 13.9 ± 0.12 | 21.6 ± 0.7 | 90.9 ± 3.8 | |
| 2020\_m | 4.7 ± 1.7 | 14.2 ± 0.52 | 22.6 ± 0.8 | 83.5 ± 5.6 | |
| 2021\_t | 10.0 ± 8.2 | 14.6 ± 0.83 | 22.5 ± 0.6 | 86.2 ± 9.4 | |

aAMSL: Hight above mean see level

b Shown are the means and standard deviation for the climatic variables measured during the six-month period comprising each harvest

c The letter after the year denotes main (m) and traviesa (t) harvest

**Supplementary Table 2**. Plots, trees, and fruits of avocado cv. Hass use for the lenticel damage assessment for each farm during the study.

|  |  |  |  |
| --- | --- | --- | --- |
| **La Escondida** | **Plot** | Trees | Fruits |
|  | 1 | 5 | 50 |
|  | 3 | 5 | 50 |
|  | 4 | 2 | 20 |
|  | 5 | 9 | 90 |
|  | 6 | 9 | 90 |
| **Total** | 5 | n = 30 | n = 300 |
| **El Sinai** | **Plot** | Trees | Fruits |
|  | Bosque | 7 | 70 |
|  | Tanque | 2 | 20 |
|  | Eucalipto | 7 | 70 |
|  | Costa Rica | 3 | 30 |
|  | Fuego Verde | 2 | 20 |
|  | Topacio | 5 | 50 |
|  | Entre Carreteras | 1 | 10 |
|  | Frijolera | 3 | 30 |
| **Total** | 8 | 30 | 300 |

**Supplementary Table 3.** Estimates for the linear mixed model and general linear mixed model evaluating the differences between the severity and incidences of the lenticel damage for fruits of avocado cv. Hass collected from La Escondida and El Siani farm between 2019 and 2021 at harvest time (0 days post-harvest). The letter after the year denotes main (m) and traviesa (t) harvest.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Analysis of the lenticel damage severity** | | | | |
| **Model** | Lineal mixed model (lmer) | | | |
| **Equation** | log (severity+1) ~ Farm \* Harvest + (1 | plot) + (1| pt) | | | |
|  |  | **Estimate** | **SE** | **T-val** |
| **Fixed effects** | Intercept | 0.13 | 0.04 | 3.53 |
|  | Sinai | 0.23 | 0.05 | 4.60 |
|  | 2020\_t | 0.47 | 0.02 | 19.20 |
|  | 2020\_m | 0.13 | 0.02 | 5.23 |
|  | 2021\_t | 0.06 | 0.04 | 1.34 |
|  | Sinai\*2020\_t | 0.09 | 0.03 | 2.57 |
|  | Sinai\*2020\_m | -0.32 | 0.03 | -9.48 |
|  | Sinai\*2021\_t | 0.40 | 0.05 | 8.06 |
|  |  |  | **Variance** | **SD** |
| **Random effects\*** | 1 | pt | Intercept | 0.006 | 0.074 |
|  | 1 | plot | Intercept | 0.004 | 0.064 |
|  | Residual |  | 0.076 | 0.276 |
| **Analysis of the lenticel damage incidence** | | | | |
| **Model** | Generalized lineal mixed model (glmer), family: poisson (log) | | | |
| **Equation** | Incidence ~ Farm \* Harvest + (1 | plot) + (1| pt) | | | |
|  |  | **Estimate** | **SE** | **Z-val** |
| **Fixed effects** | Intercept | 2.94 | 0.09 | 32.75 |
|  | Sinai | 1.30 | 0.12 | 10.98 |
|  | 2020\_t | 1.37 | 0.02 | 88.07 |
|  | 2020\_m | 0.60 | 0.02 | 35.12 |
|  | 2021\_t | 0.43 | 0.03 | 15.40 |
|  | Sinai\*2020\_t | -0.81 | 0.02 | -45.19 |
|  | Sinai\*2020\_m | -1.33 | 0.02 | -65.51 |
|  | Sinai\*2021\_t | -0.13 | 0.03 | -4.31 |
|  |  |  | **Variance** | **SD** |
| **Random effects** | 1 | pt | Intercept | 0.062 | 0.250 |
|  | 1 | plot | Intercept | 0.029 | 0.170 |

* 1|pt: Nested effect of tree in plot

**Supplementary Table 4.** Estimates for the linear mixed model and general linear mixed model evaluating the difference between the severity and incidences of the lenticel damage at harvest time (0 days post-harvest) and 21 days of cold store at 6⁰C (21 dph) for fruits of avocado cv. Hass collected from La Escondida and El Siani farm between 2019 and 2021.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Analysis of the lenticel damage severity** | | | | | |
| **Model** | | Lineal mixed model (lmer) | | | |
| **Equation** | | log (severity+1) ~ measurement \* Farm + (1 | harvest) + (1| fruit) | | | |
|  | |  | **Estimate** | **SE** | **T-val** |
| **Fixed effects** | | Intercept | 0.36 | 0.10 | 3.59 |
|  | | 21dph | 0.40 | 0.02 | 20.89 |
|  | | Siani | 0.20 | 0.02 | 9.28 |
|  | | 21dph \* Siani | 0.48 | 0.03 | 18.07 |
|  | |  |  | **Variance** | **SD** |
| **Random effects\*** | | 1 | harvest | Intercept | 0.039 | 0.198 |
|  | | 1 | fruit | Intercept | 0.031 | 0.177 |
|  | | Residual |  | 0.132 | 0.363 |
| **Analysis of the lenticel damage incidence** | | | | | |
| **Model** | Generalized lineal mixed model (glmer), family: poisson (log) | | | | |
| **Equation** | | Incidence ~ measurement \* Farm + (1 | harvest) + (1| fruit) | | | |
|  | |  | **Estimate** | **SE** | **Z-val** |
| **Fixed effects** | | Intercept | 3.58 | 0.13 | 28.25 |
|  | | 21dph | 0.80 | 0.01 | 118.85 |
|  | | Siani | 0.69 | 0.03 | 21.45 |
|  | | 21dph \* Siani | 0.14 | 0.01 | 18.05 |
|  | |  |  | **Variance** | **SD** |
| **Random effects** | | 1 | harvest | Intercept | 0.336 | 0.580 |
|  | | 1 | fruit | Intercept | 0.062 | 0.250 |

**Supplementary Table 5.** Taxonomy and relative abundance of the amplicon sequence variants (ASVs) enriched (p-value < 0.05) in the fungal communities of avocado cv. Hass fruits with different severities of lenticel damage (Mild and Severe) collected from the La Escondida during the traviesa harvest of 2020. In Black are the ASVs enriched in fruits with severe lenticel damage and Clade refers to the phylogeny shown in Fig 6.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Sequence variant** | **Relative abundance (%)** | | **Taxonomy** | | | | **Clade** |
| **Mild damage** | **Severe damage** | **Class** | **Order** | **Family** | **Genus** |
| ASV\_80 | 0.30 | 0.10 | Unidentified | Unidentified | Unidentified | Unidentified | X |
| ASV\_22 | 1.60 | 1.30 | Unidentified | Unidentified | Unidentified | Unidentified |
| ASV\_76 | 0.40 | 0.10 | Unidentified | Unidentified | Unidentified | Unidentified |
| ASV\_150 | 0.15 | 0.01 | Unidentified | Unidentified | Unidentified | Unidentified |
| ***Basidiomycota*** | | | | | | | |
| ASV\_87 | 0.26 | 0.18 | Unidentified | Unidentified | Unidentified | Unidentified | IX |
| ASV\_184 | 0.08 | 0.03 | Unidentified | Unidentified | Unidentified | Unidentified | XIII |
| ASV\_57 | 0.86 | 0.10 | *Cystobasidiomycetes* | *Erythrobasidiales* | *Erythrobasidiaceae* | *Erythrobasidium* |
| **ASV\_31** | **0.64** | **0.70** | ***Cystobasidiomycetes*** | **Unidentified** | **Unidentified** | **Unidentified** |
| ASV\_250 | 0.07 | 0.01 | *Cystobasidiomycetes* | *Cystobasidiales* | *Cystobasidiaceae* | *Cystobasidium* |
| **ASV\_30** | **0.97** | **1.10** | ***Cystobasidiomycetes*** | ***Cystobasidiales*** | ***Cystobasidiaceae*** | ***Cystobasidium*** |
| ASV\_177 | 0.06 | 0.01 | Unidentified | Unidentified | Unidentified | Unidentified |
| ASV\_95 | 0.31 | 0.08 | *Exobasidiomycetes* | *Golubeviales* | *Golubeviaceae* | *Golubevia* |
| ASV\_53 | 0.86 | 0.17 | *Exobasidiomycetes* | *Golubeviales* | *Golubeviaceae* | *Golubevia* |
| ASV\_194 | 0.09 | 0.00 | *Exobasidiomycetes* | *Golubeviales* | *Golubeviaceae* | *Golubevia* |
| ASV\_25 | 1.50 | 0.90 | *Exobasidiomycetes* | *Exobasidiales* | *Brachybasidiaceae* | *Meira* |
| ASV\_75 | 0.62 | 0.02 | *Tremellomycetes* | *Tremellales* | *Bulleribasidiaceae* | *Vishniacozyma* | XII |
| ASV\_156 | 0.14 | 0.01 | *Tremellomycetes* | *Tremellales* | *Bulleribasidiaceae* | *Vishniacozyma* |
| ASV\_11 | 5.40 | 0.72 | *Tremellomycetes* | *Tremellales* | *Bulleribasidiaceae* | *Vishniacozyma* |
| ASV\_15 | 4.50 | 0.91 | *Tremellomycetes* | *Tremellales* | *Bulleribasidiaceae* | *Vishniacozyma* |
| ***Ascomycota*** | | | | | | | |
| **ASV\_24** | **0.02** | **2.60** | ***Dothideomycetes*** | ***Pleosporales*** | ***Phaeosphaeriaceae*** | ***Setophoma*** | VI |
| ASV\_34 | 1.00 | 0.62 | *Lecanoromycetes* | *Lecanorales* | *Ramalinaceae* | *Bacidina* | V |
| **ASV\_18** | **1.60** | **2.30** | ***Lecanoromycetes*** | ***Lecanorales*** | ***Ramalinaceae*** | ***Bacidina*** |
| ASV\_6 | 4.90 | 2.60 | *Leotiomycetes* | *Thelebolales* | *Pseudeurotiaceae* | *Hyphozyma* |
| **ASV\_243** | **0.01** | **0.07** | ***Sordariomycetes*** | ***Xylariales*** | ***Sporocadaceae*** | ***Neopestalotiopsis*** |
| **ASV\_146** | **0.00** | **0.16** | **Unidentified** | **Unidentified** | **Unidentified** | **Unidentified** | IV |
| ASV\_106 | 0.18 | 0.11 | *Dothideomycetes* | *Capnodiales* | *Mycosphaerellaceae* | *Zasmidium* | III |
| ASV\_4 | 4.60 | 3.00 | *Dothideomycetes* | *Capnodiales* | *Cladosporiaceae* | *Cladosporium* |
| **ASV\_1** | **17.00** | **18.00** | **Unidentified** | **Unidentified** | **Unidentified** | **Unidentified** |
| ASV\_2 | 3.60 | 1.20 | Unidentified | Unidentified | Unidentified | Unidentified |
| ASV\_51 | 0.29 | 0.05 | Unidentified | Unidentified | Unidentified | Unidentified |
| ASV\_12 | 0.80 | 0.47 | Unidentified | Unidentified | Unidentified | Unidentified |
| ASV\_3 | 6.20 | 2.90 | Unidentified | Unidentified | Unidentified | Unidentified |
| ASV\_7 | 2.10 | 0.94 | Unidentified | Unidentified | Unidentified | Unidentified |
| **ASV\_42** | **0.64** | **0.81** | **Unidentified** | **Unidentified** | **Unidentified** | **Unidentified** |
| **ASV\_41** | **0.72** | **0.74** | **Unidentified** | **Unidentified** | **Unidentified** | **Unidentified** |
| ASV\_122 | 0.12 | 0.10 | Unidentified | Unidentified | Unidentified | Unidentified |
| ASV\_60 | 0.51 | 0.35 | *Dothideomycetes* | *Capnodiales* | *Neodevriesiaceae* | *Neodevriesia* |
| ASV\_221 | 0.06 | 0.03 | Unidentified | Unidentified | Unidentified | Unidentified | II |
| ASV\_190 | 0.05 | 0.02 | Unidentified | Unidentified | Unidentified | Unidentified |
| ASV\_9 | 0.65 | 0.37 | Unidentified | Unidentified | Unidentified | Unidentified |
| ASV\_260 | 0.05 | 0.02 | Unidentified | Unidentified | Unidentified | Unidentified |
| ASV\_10 | 3.90 | 2.10 | *Eurotiomycetes* | *Chaetothyriales* | Unidentified | Unidentified | I |
| ASV\_13 | 3.40 | 2.30 | Unidentified | Unidentified | Unidentified | Unidentified |

**Supplementary Table 6.** Taxonomy and relative abundance of the amplicon sequence variants (ASVs) enriched (p-value < 0.05) in the fungal communities of avocado cv. Hass fruits with different severities of lenticel damage (Mild and Severe) collected from the La Sinai during the traviesa harvest of 2020. In Black are the ASVs enriched in fruits with severe lenticel damage and Clade refers to the phylogeny shown in Fig 7.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Sequence variant** | **Relative abundance (%)** | | **Taxonomy** | | | | **Clade** |
| **Mild damage** | **Severe damage** | **Class** | **Order** | **Family** | **Genus** |
| ASV\_270 | 0.12 | 0.00 | Unidentified | Unidentified | Unidentified | Unidentified | **X** |
| ASV\_37 | 2.00 | 0.73 | Unidentified | Unidentified | Unidentified | Unidentified |
| **ASV\_96** | **0.09** | **0.57** | **Unidentified** | **Unidentified** | **Unidentified** | **Unidentified** |
| ***Basidiomycota*** | | | | | | | |
| ASV\_351 | 0.06 | 0.00 | *Microbotryomycetes* | *Sporidiobolales* | *Sporidiobolaceae* | *Sporobolomyces* | **IX** |
| ASV\_281 | 0.10 | 0.00 | *Microbotryomycetes* | *Sporidiobolales* | *Sporidiobolaceae* | *Sporobolomyces* |
| ASV\_202 | 0.18 | 0.00 | *Microbotryomycetes* | *Sporidiobolales* | *Sporidiobolaceae* | *Sporobolomyces* |
| ASV\_201 | 0.16 | 0.02 | *Cystobasidiomycetes* | *Erythrobasidiales* | *Erythrobasidiaceae* | *Erythrobasidium* |
| ASV\_140 | 0.27 | 0.06 | *Cystobasidiomycetes* | *Erythrobasidiales* | *Erythrobasidiaceae* | *Erythrobasidium* |
| ASV\_117 | 0.32 | 0.02 | *Cystobasidiomycetes* | *Erythrobasidiales* | *Erythrobasidiaceae* | *Erythrobasidium* |
| ASV\_380 | 0.06 | 0.00 | *Cystobasidiomycetes* | *Cystobasidiomycetes* | *Symmetrosporaceae* | *Symmetrospora* |
| ASV\_33 | 2.30 | 0.03 | *Cystobasidiomycetes* | *Cystobasidiomycetes* | *Symmetrosporaceae* | *Symmetrospora* |
| ASV\_20 | 5.80 | 0.60 | *Cystobasidiomycetes* | *Cystobasidiomycetes* | *Symmetrosporaceae* | *Symmetrospora* |
| ASV\_32 | 0.30 | 0.01 | *Cystobasidiomycetes* | *Cystobasidiomycetes* | *Symmetrosporaceae* | *Symmetrospora* |
| ASV\_31 | 1.30 | 0.05 | *Cystobasidiomycetes* | Unidentified | Unidentified | Unidentified |
| ASV\_174 | 0.07 | 0.01 | *Cystobasidiomycetes* | Unidentified | Unidentified | Unidentified |
| ASV\_54 | 1.10 | 0.01 | *Cystobasidiomycetes* | Unidentified | Unidentified | Unidentified |
| ASV\_280 | 0.06 | 0.00 | *Cystobasidiomycetes* | Unidentified | Unidentified | Unidentified |
| ASV\_123 | 0.31 | 0.09 | *Spiculogloeomycetes* | *Spiculogloeales* | *Spiculogloeaceae* | *Phyllozyma* |
| ASV\_182 | 0.21 | 0.01 | *Agaricomycetes* | Unidentified | Unidentified | Unidentified |
| ASV\_242 | 0.12 | 0.02 | *Exobasidiomycetes* | *Microstromatales* | *Microstromataceae* | *Microstroma* |
| **ASV\_343** | **0.00** | **0.08** | **Unidentified** | **Unidentified** | **Unidentified** | **Unidentified** |
| **ASV\_179** | **0.01** | **0.21** | **Unidentified** | **Unidentified** | **Unidentified** | **Unidentified** |
| **ASV\_145** | **0.02** | **0.30** | **Unidentified** | **Unidentified** | **Unidentified** | **Unidentified** |
| **ASV\_177** | **0.00** | **0.11** | **Unidentified** | **Unidentified** | **Unidentified** | **Unidentified** |
| **ASV\_292** | **0.00** | **0.11** | **Unidentified** | **Unidentified** | **Unidentified** | **Unidentified** |
| **ASV\_344** | **0.01** | **0.08** | ***Agaricomycetes*** | **Unidentified** | **Unidentified** | **Unidentified** |
| **ASV\_398** | **0.00** | **0.06** | ***Agaricomycetes*** | **Unidentified** | **Unidentified** | **Unidentified** |
| ASV\_136 | 0.18 | 0.05 | *Tremellomycetes* | *Tremellales* | *Bulleribasidiaceae* | *Vishniacozyma* | **VIII** |
| ASV\_11 | 1.70 | 0.57 | *Tremellomycetes* | *Tremellales* | *Bulleribasidiaceae* | *Vishniacozyma* |
| ***Ascomycota*** | | | | | | | |
| ASV\_384 | 0.06 | 0.00 | Unidentified | Unidentified | Unidentified | Unidentified | **VII** |
| ASV\_38 | 0.23 | 0.04 | *Dothideomycetes* | *Pleosporales* | *Didymellaceae* | Unidentified | **VI** |
| ASV\_164 | 0.08 | 0.02 | *Dothideomycetes* | *Pleosporales* | *Didymellaceae* | Unidentified |
| ASV\_52 | 0.07 | 0.01 | *Dothideomycetes* | *Pleosporales* | *Didymellaceae* | *Epicoccum* |
| ASV\_134 | 0.14 | 0.03 | *Dothideomycetes* | *Pleosporales* | *Didymellaceae* | *Epicoccum* |
| ASV\_67 | 0.13 | 0.02 | *Dothideomycetes* | *Pleosporales* | *Didymellaceae* | *Epicoccum* |
| ASV\_115 | 0.25 | 0.05 | *Dothideomycetes* | *Pleosporales* | *Pleosporaceae* | *Stemphylium* |
| ASV\_157 | 0.14 | 0.05 | *Dothideomycetes* | *Pleosporales* | *Periconiaceae* | *Periconia* |
| **ASV\_124** | **0.02** | **0.26** | ***Sordariomycetes*** | ***Glomerellales*** | ***Glomerellaceae*** | ***Colletotrichum*** | **V** |
| **ASV\_65** | **0.06** | **0.69** | ***Sordariomycetes*** | ***Glomerellales*** | ***Glomerellaceae*** | ***Colletotrichum*** |
| **ASV\_114** | **0.06** | **0.39** | ***Sordariomycetes*** | ***Glomerellales*** | ***Glomerellaceae*** | ***Colletotrichum*** |
| **ASV\_235** | **0.02** | **0.11** | ***Sordariomycetes*** | ***Glomerellales*** | ***Glomerellaceae*** | ***Colletotrichum*** |
| ASV\_28 | 0.41 | 0.02 | *Leotiomycetes* | *Thelebolales* | *Pseudeurotiaceae* | Unidentified | **IV** |
| ASV\_340 | 0.07 | 0.01 | *Eurotiomycetes* | *Eurotiales* | *Aspergillaceae* | *Aspergillus* |
| ASV\_297 | 0.09 | 0.01 | *Eurotiomycetes* | *Eurotiales* | *Aspergillaceae* | *Aspergillus* |
| **ASV\_241** | **0.00** | **0.15** | **Unidentified** | **Unidentified** | **Unidentified** | **Unidentified** |
| **ASV\_358** | **0.00** | **0.08** | ***Dothideomycetes*** | ***Capnodiales*** | ***Mycosphaerellaceae*** | ***Geastrumia*** |
| **ASV\_40** | **0.27** | **2.60** | ***Dothideomycetes*** | ***Capnodiales*** | ***Mycosphaerellaceae*** | ***Geastrumia*** |
| **ASV\_112** | **0.07** | **0.44** | ***Dothideomycetes*** | **Unidentified** | **Unidentified** | **Unidentified** |
| **ASV\_345** | **0.00** | **0.08** | ***Dothideomycetes*** | **Unidentified** | **Unidentified** | **Unidentified** |
| **ASV\_166** | **0.01** | **0.11** | ***Dothideomycetes*** | ***Capnodiales*** | ***Mycosphaerellaceae*** | ***Pseudocercospora*** | **III** |
| **ASV\_223** | **0.00** | **0.11** | ***Dothideomycetes*** | ***Capnodiales*** | ***Mycosphaerellaceae*** | ***Pseudocercospora*** |
| **ASV\_14** | **0.50** | **9.70** | ***Dothideomycetes*** | ***Capnodiales*** | ***Mycosphaerellaceae*** | ***Pseudocercospora*** |
| **ASV\_314** | **0.01** | **0.08** | ***Dothideomycetes*** | ***Capnodiales*** | ***Mycosphaerellaceae*** | **Unidentified** |
| **ASV\_151** | **0.06** | **0.24** | ***Dothideomycetes*** | ***Capnodiales*** | ***Mycosphaerellaceae*** | **Unidentified** |
| **ASV\_342** | **0.01** | **0.07** | ***Dothideomycetes*** | ***Capnodiales*** | ***Mycosphaerellaceae*** | **Unidentified** |
| **ASV\_125** | **0.06** | **0.34** | ***Dothideomycetes*** | ***Capnodiales*** | ***Mycosphaerellaceae*** | **Unidentified** |
| ASV\_4 | 5.10 | 1.50 | *Dothideomycetes* | *Capnodiales* | *Cladosporiaceae* | *Cladosporium* |
| ASV\_63 | 0.18 | 0.03 | *Dothideomycetes* | *Capnodiales* | *Cladosporiaceae* | *Cladosporium* |
| ASV\_2 | 21.00 | 2.30 | Unidentified | Unidentified | Unidentified | Unidentified |
| ASV\_186 | 0.20 | 0.00 | Unidentified | Unidentified | Unidentified | Unidentified |
| **ASV\_175** | **0.03** | **0.22** | **Unidentified** | **Unidentified** | **Unidentified** | **Unidentified** |
| **ASV\_3** | **2.40** | **8.40** | **Unidentified** | **Unidentified** | **Unidentified** | **Unidentified** |
| **ASV\_7** | **2.40** | **7.90** | **Unidentified** | **Unidentified** | **Unidentified** | **Unidentified** |
| **ASV\_70** | **0.08** | **1.20** | **Unidentified** | **Unidentified** | **Unidentified** | **Unidentified** |
| **ASV\_320** | **0.00** | **0.09** | **Unidentified** | **Unidentified** | **Unidentified** | **Unidentified** |
| **ASV\_261** | **0.00** | **0.13** | **Unidentified** | **Unidentified** | **Unidentified** | **Unidentified** |
| **ASV\_237** | **0.01** | **0.15** | **Unidentified** | **Unidentified** | **Unidentified** | **Unidentified** |
| **ASV\_390** | **0.01** | **0.06** | ***Dothideomycetes*** | ***Capnodiales*** | ***Capnodiales*** | ***Microcyclospora*** |
| **ASV\_308** | **0.01** | **0.09** | ***Dothideomycetes*** | ***Capnodiales*** | ***Capnodiales*** | ***Microcyclospora*** |
| **ASV\_396** | **0.00** | **0.06** | ***Dothideomycetes*** | ***Capnodiales*** | **Unidentified** | **Unidentified** |
| **ASV\_109** | **0.02** | **0.44** | ***Eurotiomycetes*** | ***Chaetothyriales*** | **Unidentified** | **Unidentified** | **II** |
| **ASV\_129** | **0.03** | **0.32** | ***Eurotiomycetes*** | ***Chaetothyriales*** | ***Trichomeriaceae*** | ***Trichomerium*** |
| **ASV\_92** | **0.04** | **0.41** | ***Eurotiomycetes*** | ***Chaetothyriales*** | ***Trichomeriaceae*** | ***Trichomerium*** |
| **ASV\_110** | **0.04** | **0.33** | ***Eurotiomycetes*** | ***Chaetothyriales*** | ***Trichomeriaceae*** | ***Trichomerium*** |
| **ASV\_10** | **0.52** | **2.10** | ***Eurotiomycetes*** | ***Chaetothyriales*** | **Unidentified** | **Unidentified** |
| **ASV\_13** | **0.02** | **1.10** | **Unidentified** | **Unidentified** | **Unidentified** | **Unidentified** |
| ASV\_26 | 4.20 | 0.19 | *Dothideomycetes* | *Dothideales* | *Aureobasidiaceae* | *Aureobasidium* | **I** |
| ASV\_246 | 0.13 | 0.01 | *Dothideomycetes* | *Dothideales* | *Aureobasidiaceae* | *Aureobasidium* |

**Tabla Suplementaria 7.** Fungal and bacteria strains isolated from healthy and necrotic lenticels of avocado cv. Hass fruits collected from the La Escondida during the principal harvest of 2019 and traviesa Harvest 2021.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Strain | Origina | Harvest | Molecular identity | | |
| Closest sequence | GB ANc | HId |
| EAFIT-F0009 | SNL | 2019 | *Diaporthe* sp. | KR812224 | 100 |
| EAFIT-F0010 | SNL | 2019 | *Phyllosticta* sp. | MT729894 | 100 |
| EAFIT-F0011 | SNL | 2019 | *Phyllosticta* sp. | MT729894 | 100 |
| EAFIT-F0012 | SNL | 2019 | *Colletotrichum* sp. | MT568600 | 100 |
| EAFIT-F0013 | SNL | 2019 | *Phyllosticta* sp. | MT729894 | 100 |
| EAFIT-F0014 | SNL | 2019 | *Colletotrichum* sp. | MT568600 | 100 |
| EAFIT-F0015 | SNL | 2019 | ND | ND | ND |
| EAFIT-F0016 | SNL | 2019 | ND | ND | ND |
| EAFIT-F0017 | SNL | 2019 | *Colletotrichum siamense* | MN296058 | 99.8 |
| EAFIT-F0018 | SNL | 2019 | *Colletotrichum fructicola* | MN296075 | 100 |
| EAFIT-F0019 | SNL | 2019 | *Colletotrichum* sp. | MT611204 | 100 |
| EAFIT-F0020 | SNL | 2019 | *Colletotrichum* sp. | MT611204 | 100 |
| EAFIT-F0022 | SNL | 2019 | *Colletotrichum siamense* | MT769246 | 100 |
| EAFIT-F0031 | ENL | 2019 | *Colletotrichum* sp. | EF672318 | 100 |
| EAFIT-F0033 | ENL | 2019 | ND | ND | ND |
| EAFIT-F0034 | ENL | 2019 | *Colletotrichum siamense* | MN296061 | 99.8 |
| EAFIT-F0035 | ENL | 2019 | *Cytospora* sp. | KT777722 | 99.4 |
| EAFIT-F0037 | ENL | 2019 | *Colletotrichum* sp. | MN744302 | 100 |
| EAFIT-F0038 | ENL | 2019 | *Neurospora* sp. | MG664722 | 99.8 |
| EAFIT-F0040 | ENL | 2019 | ND | ND | ND |
| EAFIT-F0041 | ENL | 2019 | *Neurospora* sp. | MG664722 | 99.8 |
| EAFIT-F0042 | ENL | 2019 | *Cytospora* sp. | KP133193 | 99.5 |
| EAFIT-F0044 | ENL | 2019 | ND | ND | ND |
| EAFIT-F0046 | ENL | 2019 | *Cytospora* sp. | KP133193 | 99.8 |
| EAFIT-F0047 | ENL | 2019 | ND | ND | ND |
| EAFIT-F0049 | ENL | 2019 | *Colletotrichum scovillei* | MT645274 | 100 |
| EAFIT-F0050 | ENL | 2019 | *Colletotrichum siamense* | MT434661 | 100 |
| EAFIT-F0051 | ENL | 2019 | ND | ND | ND |
| EAFIT-F0052 | ENL | 2019 | *Cytospora* sp. | JN153082 | 99.6 |
| EAFIT-F0053 | ENL | 2019 | *Alternaria* sp. | MZ701972 | 100 |
| EAFIT-F0054 | SHL | 2021 | *Colletotrichum karsti* | MW995570 | 100 |
| EAFIT-F0055 | SHL | 2021 | *Cytospora* sp. | JN153082 | 99.1 |
| EAFIT-F0056 | SHL | 2021 | *Diaporthe phaseolorum* | MN997107 | 99.8 |
| EAFIT-F0057 | SHL | 2021 | *Cytospora* sp. | KT777722 | 99.7 |
| EAFIT-F0058 | SHL | 2021 | *Cytospora* sp. | KP133194 | 99.5 |
| EAFIT-F0059 | EHL | 2021 | *Alternaria argyroxiphii* | NR136074 | 100 |
| EAFIT-F0060 | EHL | 2021 | *Colletotrichum cordylinicola* | MZ725045 | 99.2 |
| EAFIT-F0061 | EHL | 2021 | ND | ND | ND |
| EAFIT-F0062 | EHL | 2021 | *Neofusicoccum algeriense* | MW391027 | 100 |
| EAFIT-F0063 | EHL | 2021 | *Colletotrichum fructicola* | MZ724774 | 99.5 |
| EAFIT-F0064 | EHL | 2021 | *Colletotrichum karsti* | MW995519 | 100 |
| EAFIT-F0065 | EHL | 2021 | *Cytospora* sp. | MT854330 | 99.3 |
| EAFIT-F0066 | EHL | 2021 | *Colletotrichum siamense* | MZ066745 | 99.1 |
| EAFIT-F0067 | EHL | 2021 | *Colletotrichum alienum* | MK379590 | 98.8 |
| EAFIT-F0068 | ENL | 2021 | ND | ND | ND |
| EAFIT-F0069 | ENL | 2021 | *Cytospora* sp. | MG253920 | 98.4 |
| EAFIT-F0070 | ENL | 2021 | *Cytospora* sp. | KP133193 | 99.8 |
| EAFIT-F0071 | ENL | 2021 | *Colletotrichum fructicola* | MZ724774 | 100 |
| EAFIT-F0072 | SNL | 2021 | ND | ND | ND |

aFarm and vegetal tissue from which strains originated. E La Escondida, S El Sinai, NL Necrotic lentic, HL Healthy lenticel.

b Fungal strain with the highest ITS sequence similarity according to BLAST. ND not defined.

c GeneBank accession number. ND not defined.

d Highest Identity, values between 0 and 100 %. ND not defined.