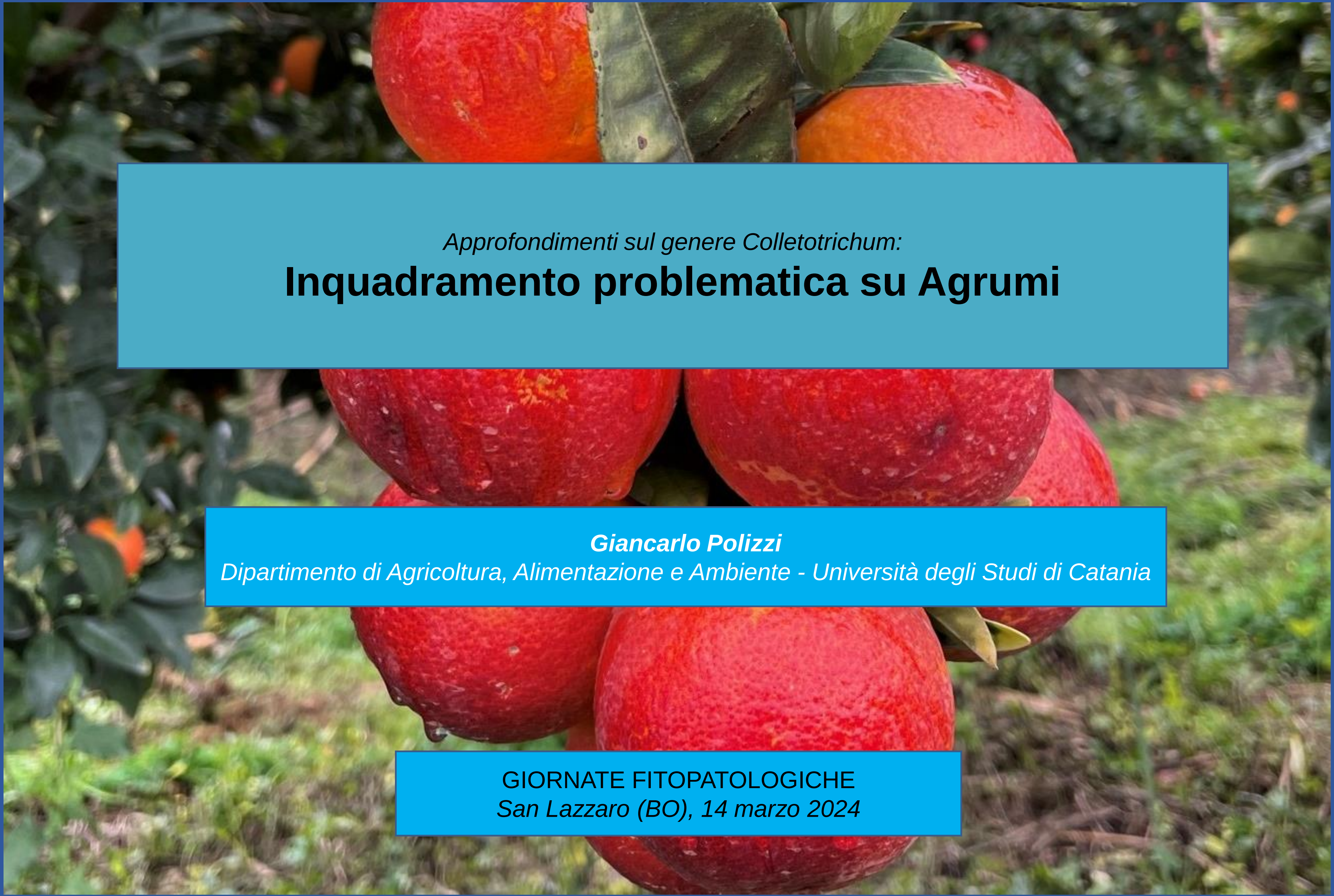


Approfondimenti sul genere Colletotrichum:

Inquadramento problematica su Agrumi

Giancarlo Polizzi
Dipartimento di Agricoltura, Alimentazione e Ambiente - Università degli Studi di Catania

GIORNATE FITOPATOLOGICHE
San Lazzaro (BO), 14 marzo 2024

Antracnosi: malattia in post-raccolta, ma adesso…

- In citrus, postharvest anthracnose of fruit is caused by C. gloeosporioides (Penz.) Penz. & Sacc. in Penz. This species, which is a common saprobe in citrus groves, invades dead and senescent leaves, twigs, and fruit and produces acervuli with abundant conidia on dead tissues of citrus. Conidia are splash-dispersed to living leaves, twigs, and fruit, where they germinate to produce appressoria and quiescent infections. Once the tissue dies, it is rapidly colonized and acervuli are formed, completing the life cycle. When fruit with immature rinds with high numbers of appressoria of C. gloeosporioides are exposed to stress, the rind collapses and is colonized by the fungus, producing postharvest anthracnose. Early-season fruit is especially susceptible to anthracnose, and disease severity is greatly increased by exposure to high levels of ethylene for degreening. Washing of the fruit prior to degreening removes many appressoria and reduces disease incidence.

TIMMER et al., 1998

Pompelmo, Valencia e occasionalmente limone

Journal of Phytopathology / Volume 163, Issue 3 / p. 168-177

Original Article

Characterization and Pathogenicity of *Colletotrichum gloeosporioides* and *C. karstii* Causing Preharvest Disease on *Citrus sinensis* in Italy

Dalia Aiello, Raffaele Carrieri, Vladimiro Guarnaccia, Alessandro Vitale, Ernesto Lahoz, Giancarlo Polizzi

First published: 24 July 2014
https://doi.org/10.1111/jph.12299

Anni 2010-2013

Persoonia 39, 2017: 32–50
www.ingentaconnect.com/content/nhn/pimj

RESEARCH ARTICLE

High species diversity in *Colletotrichum* associated with citrus diseases in Europe

V. Guarnaccia[1], J.Z. Groenewald[1], G. Polizzi[2], P.W. Crous[1,3,4]

Key words

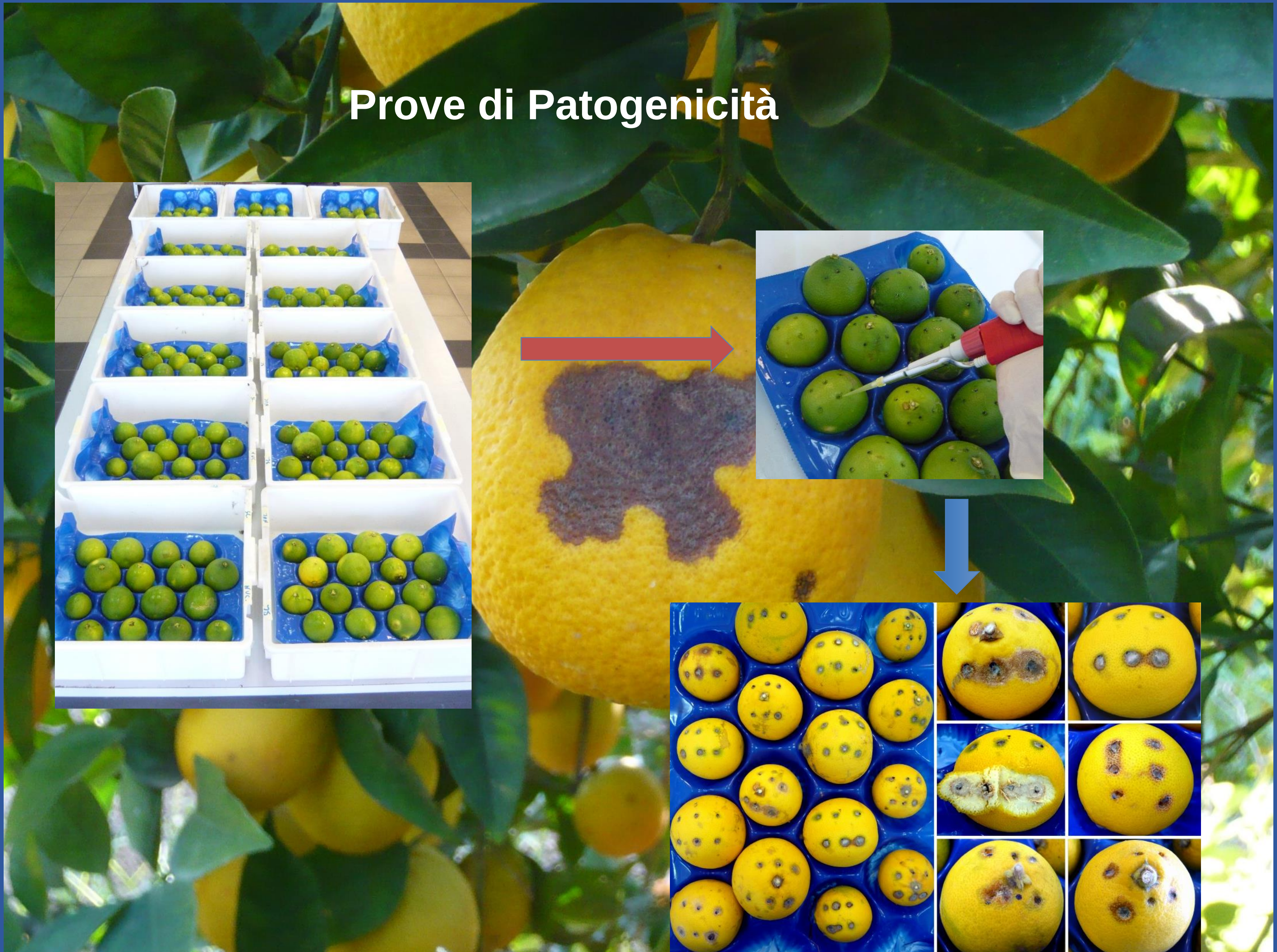
Anthracnose
Citrus
multi-locus sequence typing
pathogenicity

Abstract Species of *Colletotrichum* are considered importa
range of plant hosts. Several species are well-known on ci
such as anthracnose, postbloom fruit drop, tear stain and st
we explored the occurrence, diversity and pathogenicity o
genera in European orchards, nurseries and gardens. Sur
Italy, Malta, Portugal and Spain. A total of 174 *Colletotrichu*
petals and twigs. A multi-locus phylogeny was established

- 2015-2016: Greece, Italy, Malta, Portugal, Spain
    - 174 isolates from 17 *Citrus* spp.

➢ 67 from leaves
➢ 72 from twigs
➢ 28 from fruits
➢ 7 from petals

Prove di Patogenicità



RISULTATI

- *C. helleniense* e *C. hystricis:*

Nuove specie descritte nel complesso di specie *C. gloeosporioides*

- *C. catinaense* and *C. limonicola*:

Nuove specie descritte nel complesso di specie *C. boninense*

Colletotrichum gloeosporioides e ***C. karsti*** **le specie predominanti**

Prima segnalazione di *C. abscissum* su agrumi in Europe e prima segnalazione di *C. novae-zelandiae* al di fuori della Nuova Zelanda

European Journal of Plant Pathology > Article

Colletotrichum gloeosporioides associated with anthracnose symptoms on citrus, a new report for Tunisia

Published: 16 March 2016

Volume 146, pages 219–224, (2016)

Phytoparasitica > Article

Characterization of *Colletotrichum gloeosporioides*, as the main causal agent of citrus anthracnose, and *C. karstii* as species preferentially associated with lemon twig dieback in Portugal

Published: 13 September 2016

Volume 44, pages 549–561, (2016)

Phytopathologia Mediterranea
The international journal of the Mediterranean Phytopathological Union

Firenze University Press
www.fupress.com/pm

OPEN ACCESS

Citation: Ben Hadj Daoud H., Baraldi E., Iotti M., Leonardi P., Boughalleb-M'Hamdi N. (2019) Characterization and pathogenicity of *Colletotrichum* spp. causing citrus anthracnose in Tunisia. *Phytopathologia Mediterranea* 58(1): 175-185. doi: 10.13128/Phytopathol_Mediterr-23762

Accepted: December 10, 2018

Research Papers

Characterization and pathogenicity of *Colletotrichum* spp. causing citrus anthracnose in Tunisia

HAÏFA BEN HADJ DAOUD[1], ELENA BARALDI[2], MIRCO IOTTI[3], PAMELA LEONARDI[2], NAIMA BOUGHALLEB-M'HAMDI[1,*]

[1] *Department of Biological Sciences and Plant Protection, High Institute of Agronomy of Chott Mariem, 4042 Sousse, UR13AGR03, University of Sousse, Tunisia*

RESEARCH |

Identification, Pathogenicity, and Spore Trapping of *Colletotrichum karstii* Associated with Twig and Shoot Dieback in California

Joey S. Mayorquin, Mohamed T.
Beth B. Peacock, Florent P. Trou
Greg W. Douhan, Craig Kallsen,

Affiliations

Published Online: 17 Apr 2019

Colletotrichum Species Causing Anthracnose of Citrus in Australia

by Weixia Wang [1], Dilani D. de Silva [1,2], Azin Moslemi [1], Jacqueline Edwards [2,3], Peter K. Ades [4], Pedro W. Crous [5] and Paul W. J. Taylor [1,*]

European Journal of Plant Pathol

Distribution and characterization of *Colletotrichum* species associated with Citrus anthracnose in eastern Mediterranean region of Turkey

Published: 14 February 2022

Volume 163, pages 125–141, (2022)

JOURNAL ARTICLE

First report of *Colletotrichum gloeosporioides* on citrus in Algeria

Djamel MAHIOUT, Boubekeur Seddik BENDAHMANE, Mokhtar YOUCEF BENKADA, Hanane MEKOUAR, Nabil BERRAHAL and Martina RICKAUER

Phytopathologia Mediterranea

Vol. 57, No. 2 (August 2018), pp. 355-359 (5 pages)

Ecology and Epidemiology |

Characterization of *Colletotrichum* Isolates Causing Colletotrichum Dieback of Citrus in California

Boris X. Camiletti, Paulo S. F. Lichtemberg, Juan A. Paredes, Thiago A. Carraro, Jhordan Velascos, and Themis J. Michailides

Affiliations

Published Online: 15 Jun 2022

DISEASE NOTE |

First Report of Grapefruit Rot Caused by *Colletotrichum gloeosporioides* and *C. karsti* in France

P. Nodet, D. Da Lio, N. Dubreuil, A. Leboulanger, and G. Le Floch

Affiliations

Published Online: 21 Aug 2023

Received: 18 November 2023 | Accepted: 7 February 2024

DOI: 10.1111/ppa.13888

Plant Pathology WILEY

ORIGINAL ARTICLE

Identification and pathogenicity of *Colletotrichum* species associated with twig dieback of citrus in Western Australia

Weixia Wang[1] | Andrew S. Taylor[2] | Eden Tongson[1] | Jacqueline Edwards[3] | Niloofar Vaghefi[1] | Peter K. Ades[1] | Pedro W. Crous[4] | Paul W. J. Taylor[1]

An Eleven-Year Survey on Field Disease Susceptibility of Citrus Accessions to *Colletotrichum* and *Alternaria* Species

by Alessandro Vitale [1,*,†], Dalia Aiello [1,†], Antonino Azzaro [1], Vladimiro Guarnaccia [2,3] and Giancarlo Polizzi [1]

1 Department of Agriculture, Food and Environment, University of Catania, Via Santa Sofia 100, 95123 Catania, Italy

2 Department of Agricultural, Forest and Food Sciences (DISAFA), University of Torino, Largo Braccini 2, 10095 Grugliasco, TO, Italy

3 Centre for Innovation in the Agro-Environmental Sector, AGROINNOVA, University of Torino, Largo Braccini 2, 10095 Grugliasco, TO, Italy

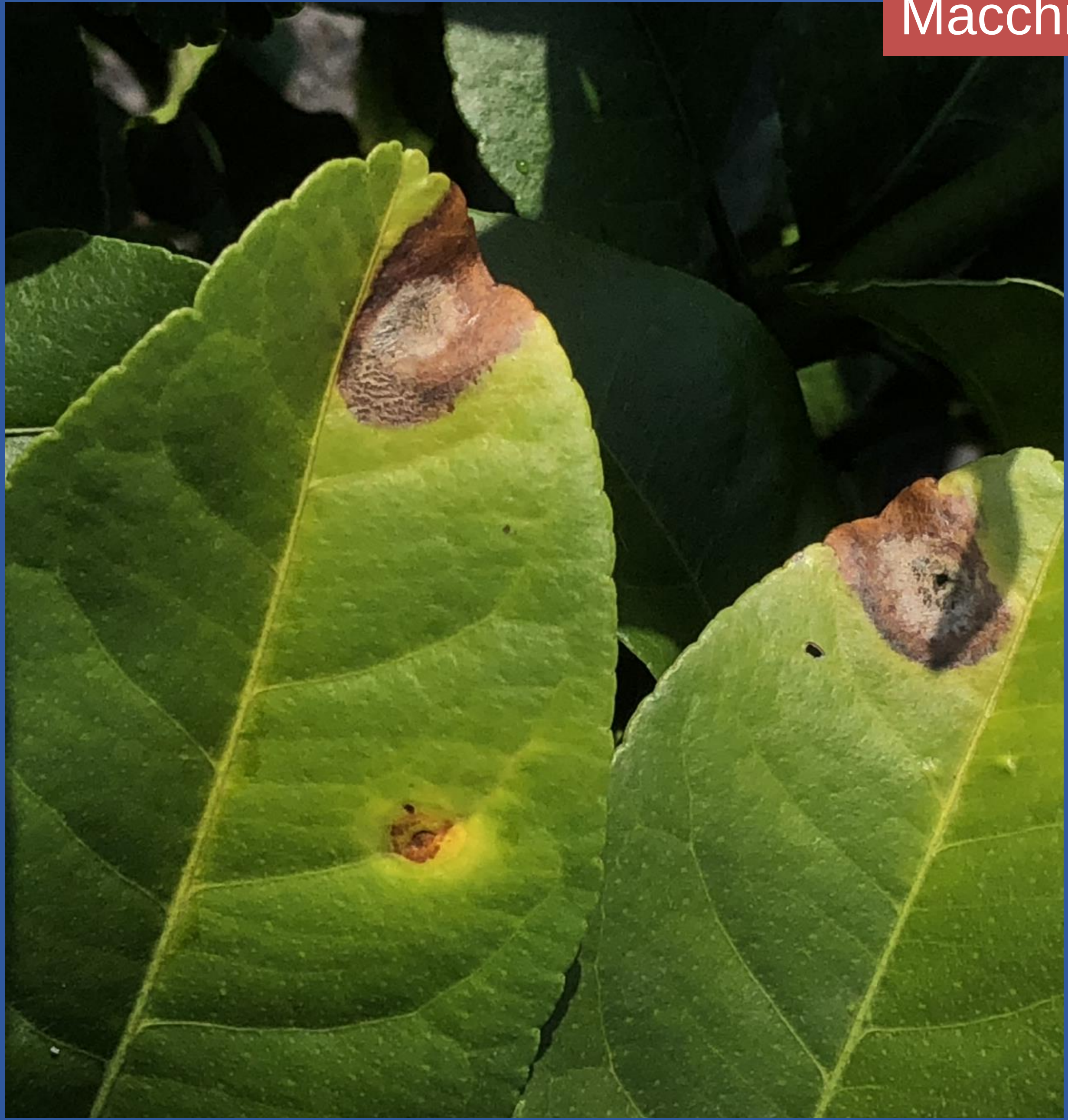
* Author to whom correspondence should be addressed.

† A.V. and D.A. contributed equally to this work.

Agriculture **2021**, *11*(6), 536;

Cascola post-fioritura

Macchie fogliari

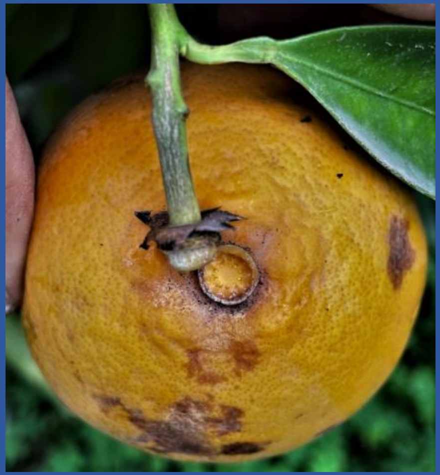


Defogliazione

Macchie sui frutti

Macchie sui frutti

Cascola pre-raccolta



Infezioni latenti e necrosi del peduncolo

Disseccamenti e gommosi

Phytopathologia Mediterranea
The international journal of the
Mediterranean Phytopathological Union

Firenze University Press
www.fupress.com/pm

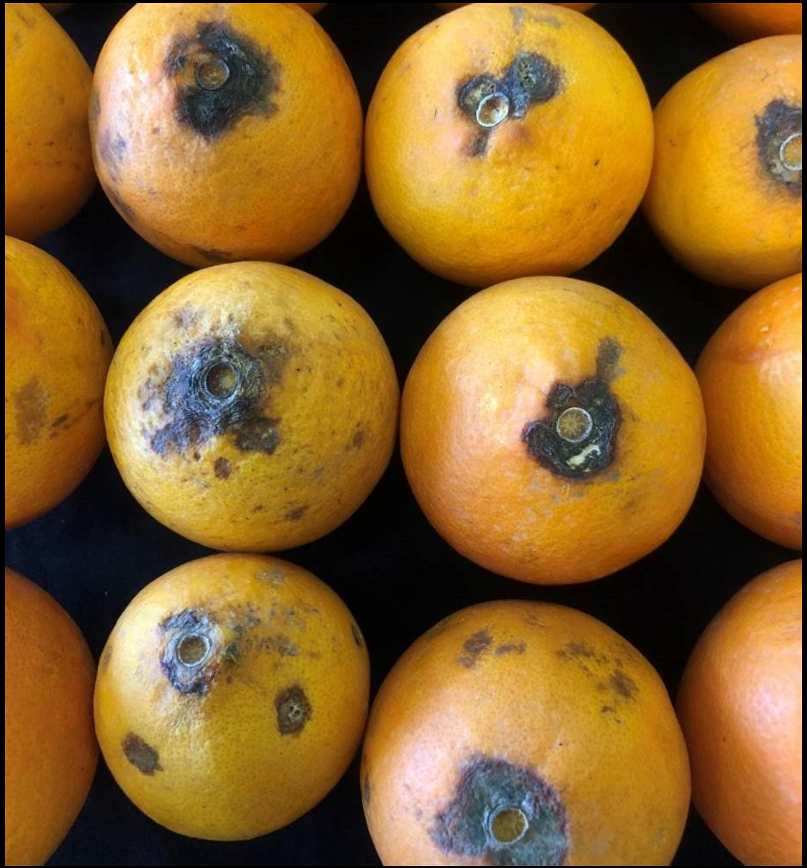
Research Papers

OPEN ACCESS

Citation: G.R. Leonardi, D. Aiello, G. Camilleri, V. Piattino, G. Polizzi, V. Guarnaccia (2023) A new disease of kumquat (*Fortunella margarita*) caused by *Colletotrichum karsti*: twig and branch dieback. *Phytopathologia Mediterranea* 62(3): 333-348. doi: 10.36253/phyto-14544

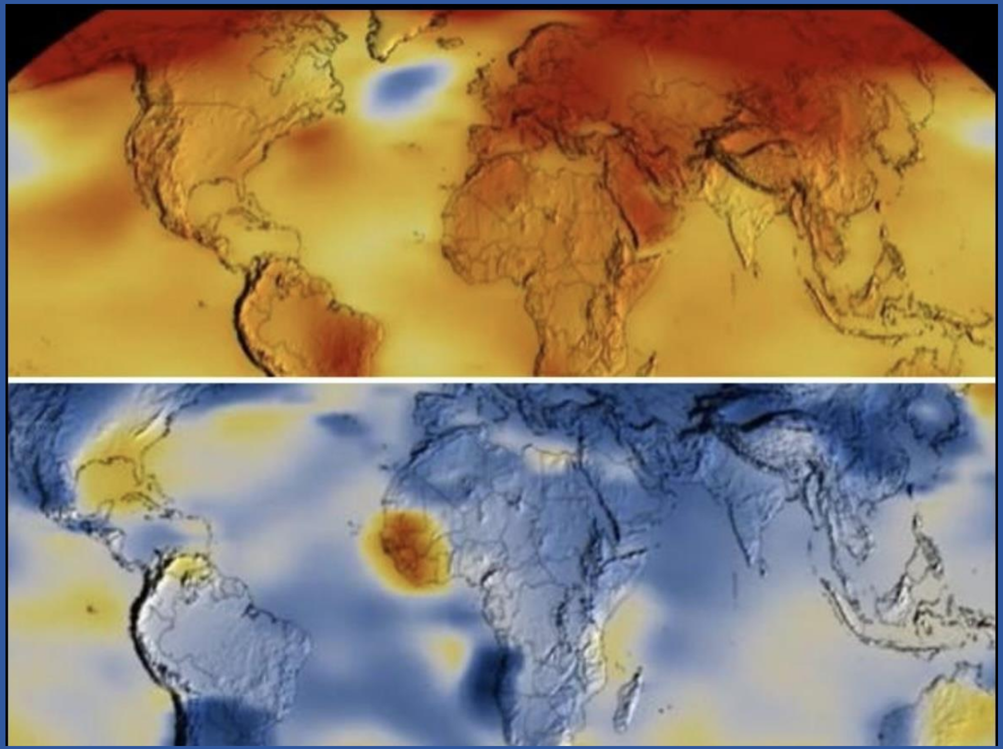
A new disease of kumquat (*Fortunella margarita*) caused by *Colletotrichum karsti*: twig and branch dieback

Giuseppa Rosaria LEONARDI[1], Dalia AIELLO[1,*], Gaetano CAMILLERI[2], Valeria PIATTINO[3], Giancarlo POLIZZI[1], Vladimiro GUARNACCIA[3,4]



Perché registriamo un aumento delle infezioni?

Dal 1961 al 2020 la temperatura media è cresciuta poco meno di 2°C



2020

1961

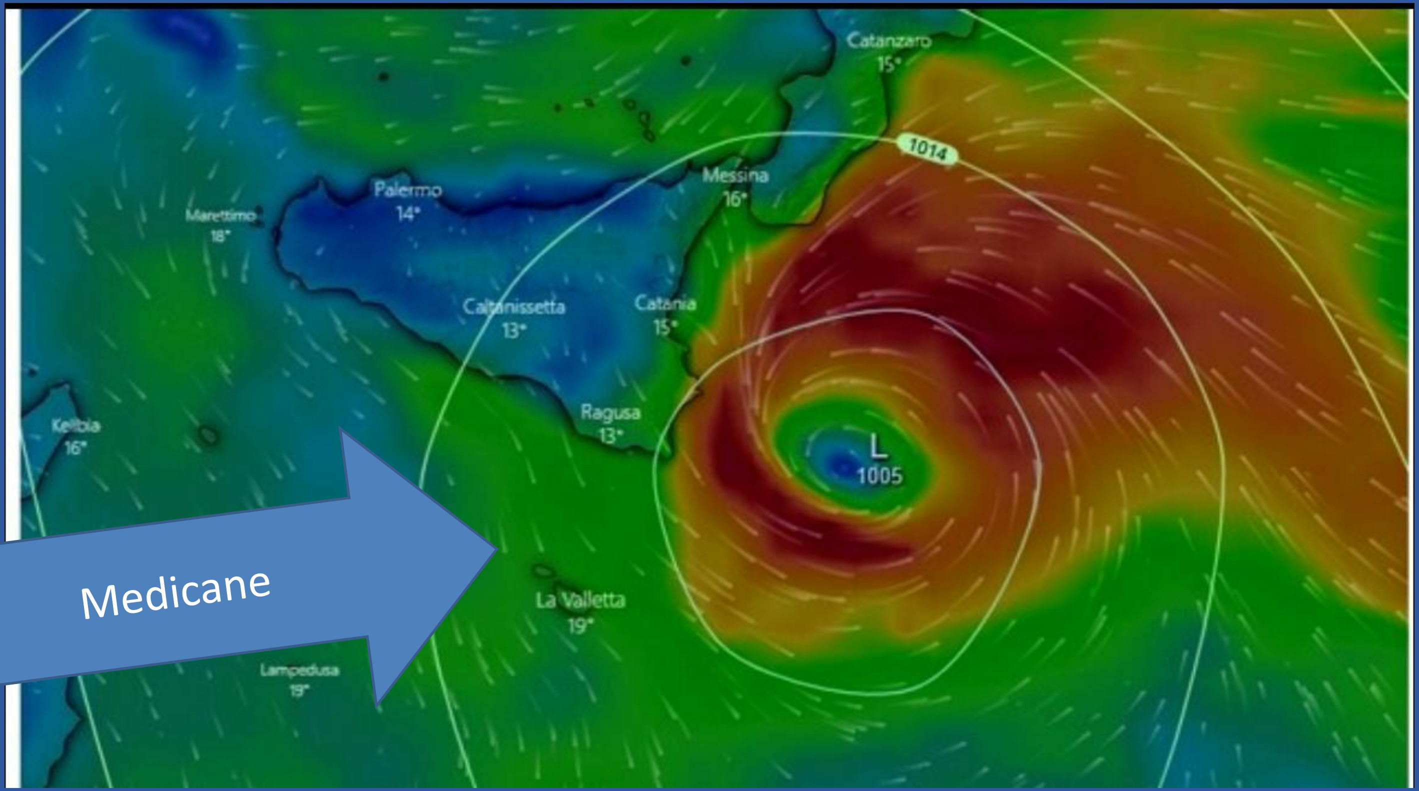
Gli attuali modelli climatici predicono un **riscaldamento** del **pianeta da qui al 2100 di 1°-3,5° C**

E’ noto già da tempo…..e i giorni nostri lo confermano

Eventi estremi più frequenti
(medicane, alluvioni, grandinate, ecc.)

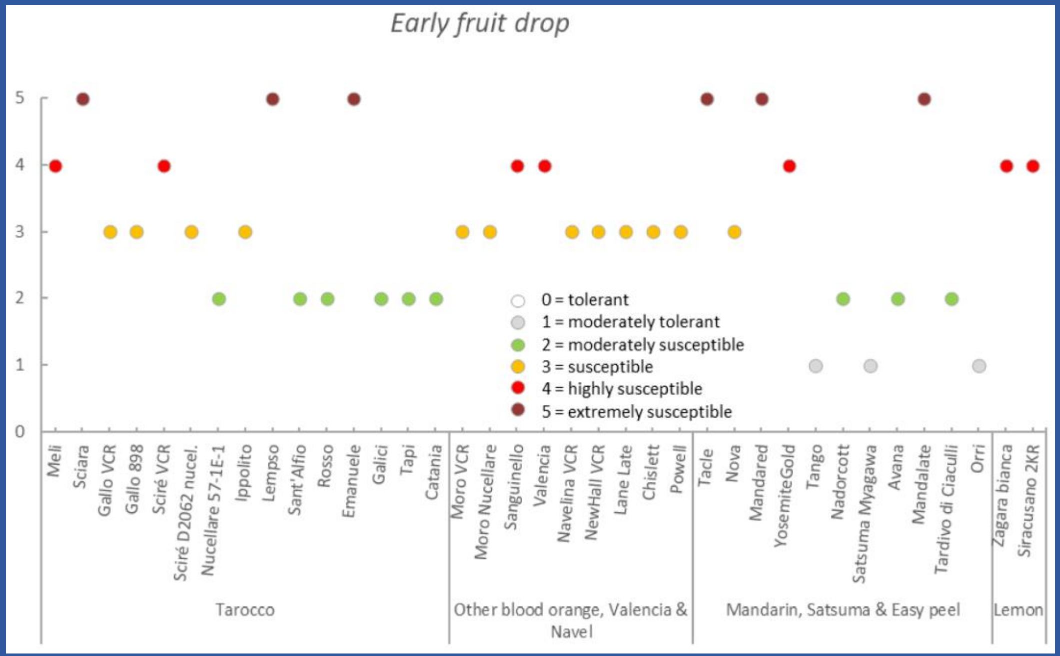
Cicloni tropicali mediterranei

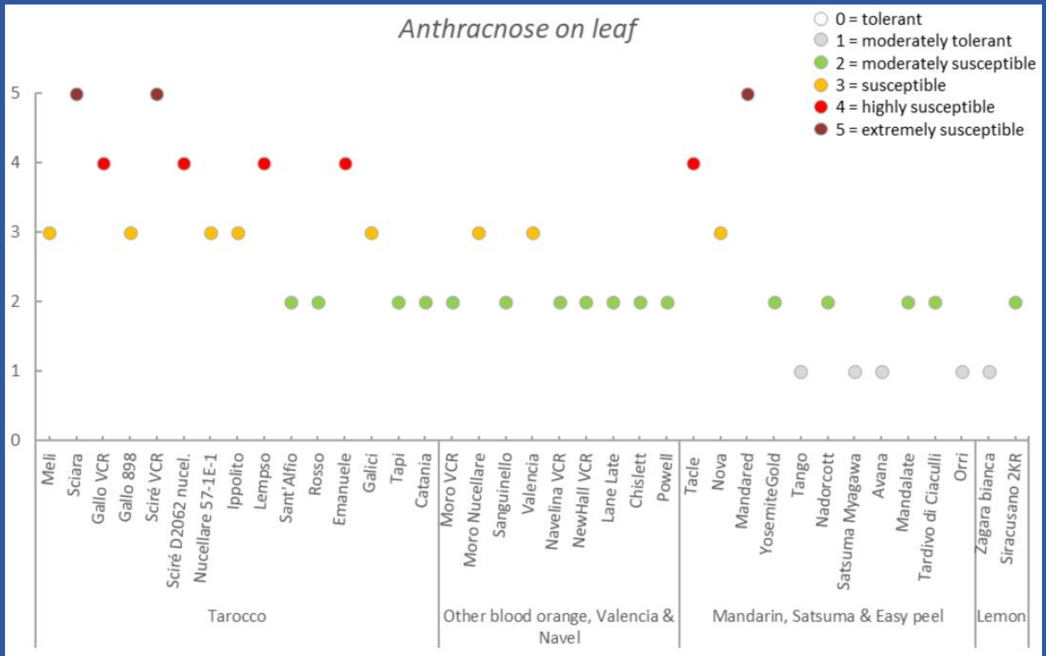
Medicane

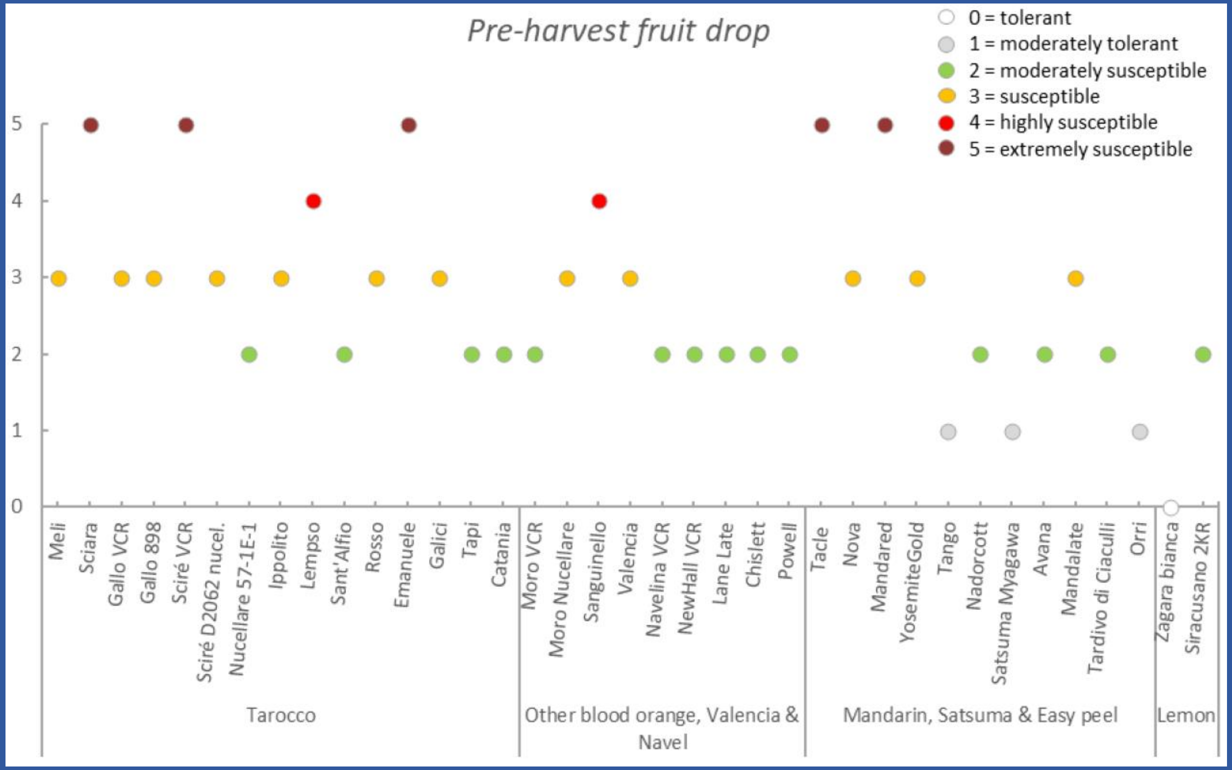


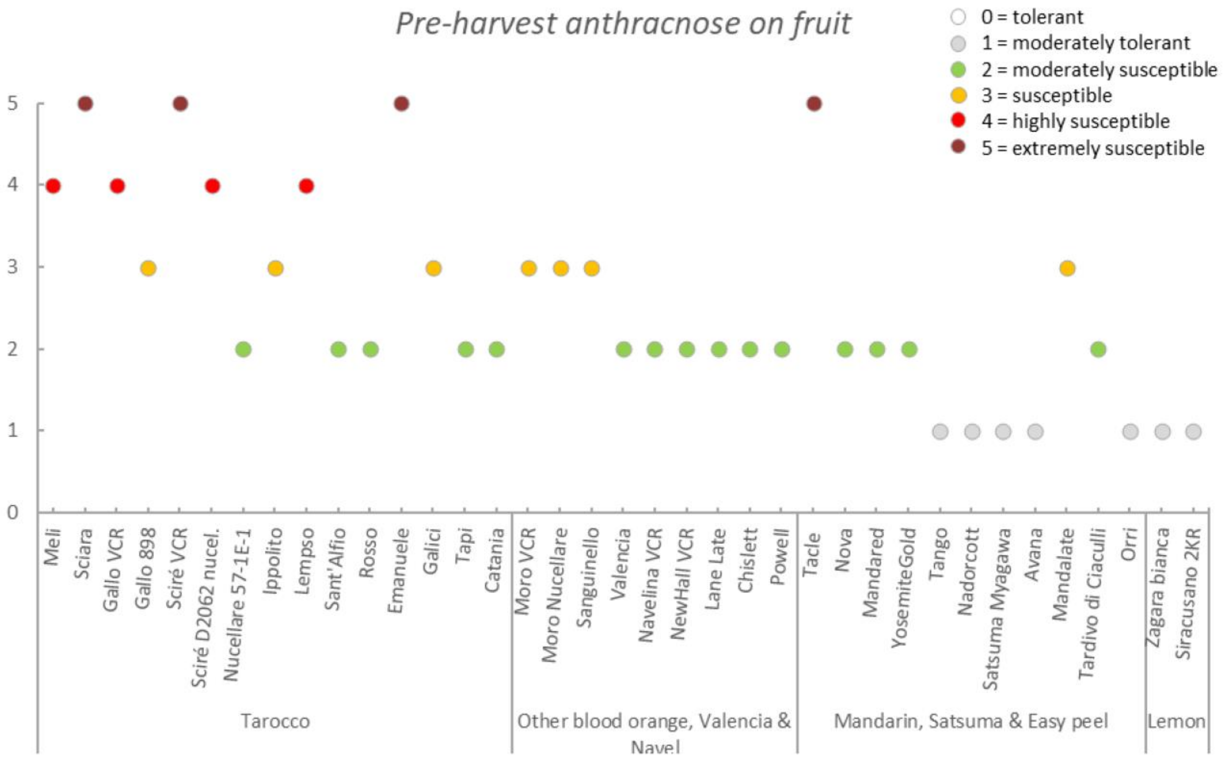
L’European academies’ science advisory council (Easac), ha pubblicato il rapporto “Extreme weather events in Europe Preparing for climate change adaptation: an update on EASAC’s 2013 study” che contiene nuovi dati che dimostrano che «negli ultimi 36 anni gli eventi meteorologici estremi sono diventati più frequenti», con un significativo aumento delle inondazioni e di altri eventi idrologici rispetto a cinque anni fa

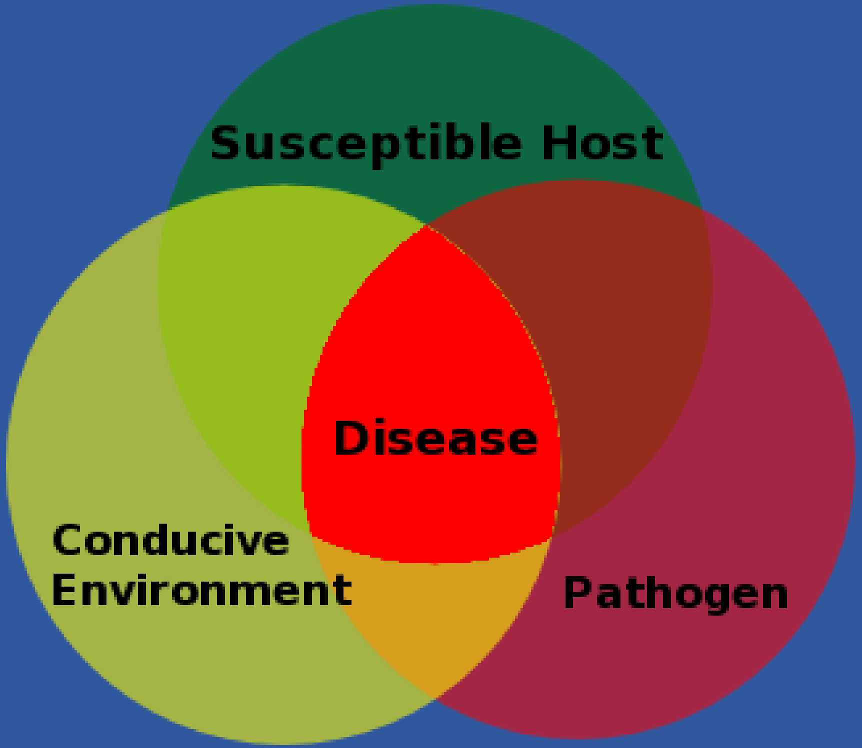
Suscettibilità di specie e accessioni di agrumi

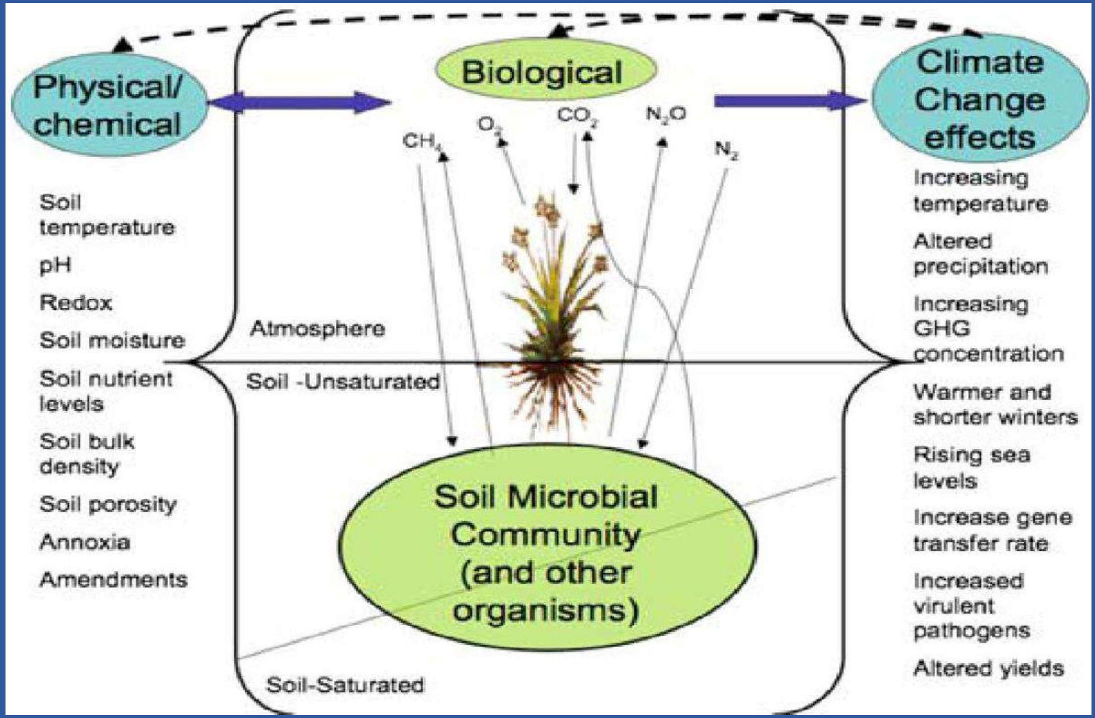












Combinato disposto: accessioni + suscettibili e cambiamento climatico

- EFFETTI FITOPATOLOGICI DEL CAMBIAMENTO CLIMATICO

FUNGICIDI AUTORIZZATI PER ANTRACNOSI SU AGRUMI

BIO

COMPOSTI DEL RAME

Rame - idrossido di rame
RAME DA IDROSSIDO
Rame - ossicloruro di rame
RAME DA OSSICLORURO
Rame - solfato di rame neutralizzato
RAME DA SOLFATO NEUTRALIZZATO
Rame - solfato tribasico di rame
RAME DA SOLFATO TRIBASICO

Dilavamento + limiti di efficacia e legislativi

Crop Protection
Volume 176, February 2024, 106520

Copper-alternative products to control anthracnose and Alternaria Brown spot on fruit of Tarocco sweet oranges and lemon in Italy

M.F. Lombardo, S. Panebianco, A. Azzaro, G. Timpanaro, G. Polizzi, G. Cirvilleri

Olio di arancio, Chitosano, Equiseto

ANALOGHI DELLE STROBILURINE

CABRIO WG Pyraclostrobin
4 trattamenti annui

RESISTENZA AI QoI

Scientia Horticulturae
Volume 236, 16 June 2018, Pages 90-95

In vitro and *in vivo* activity of QoI fungicides against *Colletotrichum gloeosporioides* causing fruit anthracnose in *Citrus sinensis*

Giulio Piccirillo [a], Raffaele Carrieri [a], Giancarlo Polizzi [b], Antonino Azzaro [c], Ernesto Lahoz [a], Dolores Fernández-Ortuño [d], Alessandro Vitale [b]

AUTORIZZAZIONI IN DEROGA

- **Geoxe (Fludioxonil)**
dal 13 settembre 2023 al 10 gennaio 2024
- **Syllit 544 SC (Dodina)**
dal 11 dicembre al 8 aprile 2024

Necessaria autorizzazione stabile per la gestione della resistenza

Impiego di varietà e cloni meno suscettibili nelle aree a maggiore rischio