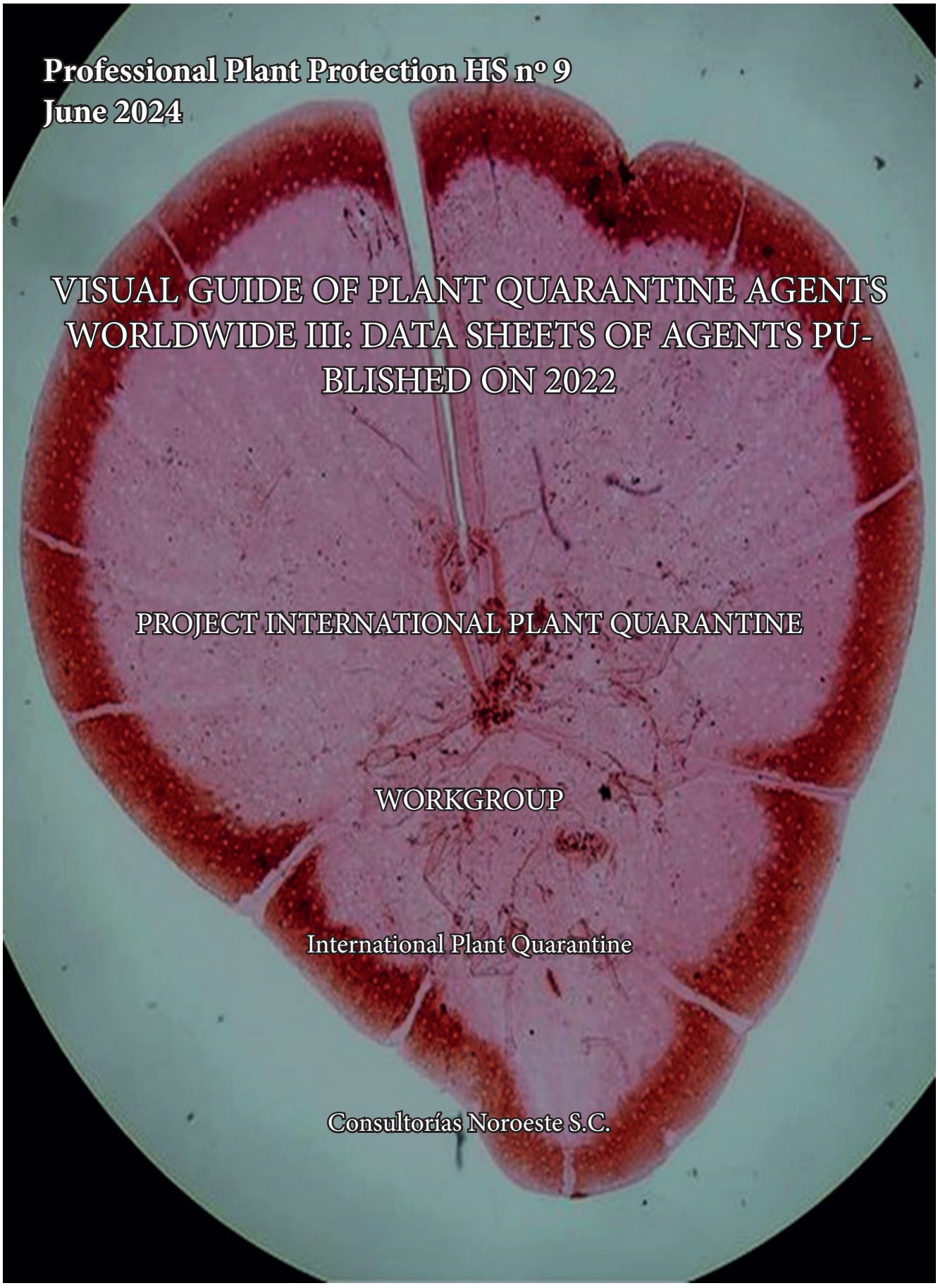
Professional Plant Protection HS nº 9
June 2024



VISUAL GUIDE OF PLANT QUARANTINE AGENTS WORLDWIDE III: DATA SHEETS OF AGENTS PUBLISHED ON 2022

PROJECT INTERNATIONAL PLANT QUARANTINE

WORKGROUP

International Plant Quarantine

Consultorías Noroeste S.C.

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International Journal of Professional Plant Protection

Aims and Scope

Professional Plant Protection is an international journal on aspects of Professional Plant Protection. It publishes critical reviews, papers and short communications on the results of original research, experimentation or professional experiences related to plant protection. It is a journal carried out by plant protection professionals for the plant protection and plant production companies: all of the works to be published in the journal must be based in experiences carried out in commercial enterprises, being these horticultural, ornamental or viticultural companies. The journal will only include applied investigation. The journal will willingly accept experiences related to Plant protection described either by technicians or plant protection managers. The journal will also accept investigation carried out by formal investigation groups, either private or public, belonging to formal investigation centers or to private or public universities, but always based on experiences carried out in commercial production companies.

This journal has no impact factor.

The editorial Board

Professional Plant Protection

International Journal of Professional Plant Protection

VISUAL GUIDE OF PLANT QUARANTINE AGENT: S WORLDWIDE II: DATA SHEETS OF AGENT: S PUBLISHED BY THE PROJECT INTERNATIONAL PLANT QUARANTINE ON 2022

AGENT: DATA SHEETS CARRIED OUT WITH PHOTOGRAPHS SUPPLIED BY CONSULTORÍAS NOROESTE S.C.

All of the data sheets carried out with photographs supplied by CONSULTORÍAS NOROESTE S.C. were written by J.L. Andrés Ares.

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All of the data sheets carried out with photographs supplied by OTHER MEMBERS OF THE WORKGROUP were written by J.L. Andrés Ares.

Note: Either the data sheets of quarantine weeds as some of the data sheets that only include photographs of pathogens are not related with a specific host.

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All of the data sheets carried out with photographs supplied by CONSULTORÍAS NOROESTE S. C. were written by J. L. Andrés Ares.

Quarantine Agent–Host

114. *Neonectria ditissima –Platanus hispanica.*

115. *Phytophthora cinnamomi –Rhododendron.*

116. *Wilsonomyces carpophilus –Sorbus sp.*

117. *Phytophthora cinnamomi –Thuja plicata.*

118. *Rhizoctonia solani –Raphis sp.*

422. *Autographa gamma –Cyclamen persicum.*

423. *Otyorrhinchus sulcatus –Cyclamen persicum.*

424. *Polyphagotarsonemus latus –Argyranthemum.*

425. *Macrosiphoniella sambornii –Argyranthemum.*

426. *Autographa gamma –Argyranthemum.*

427. *Frankliniella occidentallis –Dahlia coccinea.*

428. *Polyphagotarsonemus latus –Dahlia coccinea.*

429. *Tetranychus urticae –Dahlia coccinea.*

430. *Tetranychus urticae –Dianthus caryophyllus.*

431. *Frankliniella occidentalis –Dianthus caryophillus.*

432. *Autographa gamma –Fuchsia sp.*

433. *Polyphagotarsonemus latus –Gazania splendens.*

434. *Tetranychus urticae –Gazania splendens.*

435. *Polyphagotasonemus latus –Impatiens hawkerii.*

436. *Tetranychus urticae –Impatiens hawkerii.*

437. *Autographa gama –Impatiens hawkerii.*

438. *Tetranychus urticae –Lantana sp.*

439. *Tetranychus urticae –Passiflora edulis.*

440. *Polyphagotarsonemus latus –Osteospermum friticosum.*

441. *Autographa gamma –Siolanum bataceum.*

443. *Autographa gamma –Pelargonium hortorum.*

445. *Autographa gamma –Viola × wittrockiana.*

447. *Autographa gamma –Primula acaulis.*

448. *Frankliniella occidentalis –Primula obconica.*

449. *Autographa gamma –Petunia hybrida.*

450. *Frankliniella occidentalis –Petunia hybrida.*

451. *Phytonemus pallidus –Petunia hybrida.*

452. *Tetranychus urticae –Petunia hybrida.*

453. *Frankliniella occidentalis –Tagetes erecta.*

454. *Autographa gamma –Verbena hybrida.*

455. *Xanthomonas hortorum* pv. *pelargonii –Pelargonium hortorum.*

457. *Frankliniella occidentalis –Impatiens walleriana.*

458. *Polyphagotarsonemus latus –Begonia semperflorens.*

459. *Autographa gamma –Bellis perennis.*

460. *Frankliniella occidentalis –Bellis perennis.*

461. *Aleyrodes proletella –Brassica sp.*

462. *Brevicoryne brassicae –Brassica sp.*

463. *Mamestra brassicae –Brassica sp.*

464. *Plutella xylostlla –Brassica sp.*

465. *Autographa gamma –Calceolaria helbeohybrida.*

466. *Autographa gamma –Calendula officinalis.*

467. *Autographa gamma –Calybrachoa hybrida.*

468. *Frankliniella occidentalis –Calybrachoa hybrida.*

469. *Frankliniella occidentalis –Campanula sp.*

470. *Phytonemus pallidus –Cyclamen persicum.*

472. *Autographa gamma –Impatiens walleriana.*

International Plant Quarantine Agents Data sheets:

International Plant Quarantine Workgroup.

Agent 117

Name: *Phytophthora cinnamomi*

Host: *Thuja sp.*

Geographical zone: Atlantic Europe (Galicia)

Author: J.L. Andrés Ares

Year of the photograph: 2002 & 2015

Quarantine Zone: Morocco, Tunisia, Mexico, Bahrain, Israel, EU (RNQP) (EPPO).

Morocco, Tunisia, Mauritania, Burundi, Madagascar, Argelia, Saudi Arabia, Bahrain, Iran, Qatar, Mexico, Canada, Seychelles, New Caledonia, French Polynesia (Andrés, not published data).

Copyright of the photographs: J.L. Andrés Ares

International Plant Quarantine Agents Data sheets:

International Plant Quarantine Workgroup.

Agent 431

Name: *Frankliniella occidentalis* Pergande

Synonyms:

- *Frankliniella californica*
- *Frankliniella helianthi*
- *Frankliniella moultoni*
- *Frankliniella trehernei*

Host: *Dianthus caryophyllus*

Geographical zone: Atlantic Europe (Galicia)

Author: J.L. Andrés Ares

Year of the photograph: 2001 & 2019

Quarantine Zone: Morocco, Tunisia, Paraguay, Uruguay, Bahrain, Jordan, Kazakhstan, Georgia, Russia, Turkey, Ukraine, EAEU, Madagascar, Ghana, Saudi Arabia, Philipinnes, Indonesia, Qatar, Macedonia, Cuba, Mexico, Seychelles, Haiti (Andrés & International Plant Quarantine Work Group, 2021).

Copyright of the photographs: J.L. Andrés Ares

Reference:

Andrés, J.L. & International Plant Quarantine Work Group. 2021. Quarantine *thysanoptera* of the world on 2021: Taxonomy, referenced Hosts and Quarantine Zones. Professional Plant Protection 11: 67-94.

International Plant Quarantine Agents Data sheets:

International Plant Quarantine Workgroup.

Agent 462

Name: *Brevicoryne brassicae*

Host: *Brassica sp.* (ornamental *Brassica)*

Geographical zone: Atlantic Europe (Galicia)

Author: J.L. Andrés Ares

Year of the photograph: 2019

Quarantine Zone: Moldavia, Paraguay, Iraq (Andrés & International Plant Quarantine Work Group, 2021).

Copyright of the photographs: J.L. Andrés Ares

Reference:

Andrés, J.L. & International Plant Quarantine Work Group. 2021. Quarantine *Hemiptera* of the world on 2021: Taxonomy, referenced Hosts and Quarantine Zones. Professional Plant Protection 10: 109-150.

AGENT DATA SHEETS CARRIED OUT WITH PHOTOGRAPHS SUPPLIED BY OTHER MEMBERS OF THE WORKGROUP

All of the data sheets carried out with photographs supplied by OTHER MEMBERS OF THE WORKGROUP were written by J. L. Andrés Ares.

Quarantine Agent –Host –Author of the photographs

Note: Either the data sheets of quarantine weeds as some of the data sheets that only include photographs of pathogens are not related with a specific host.

413. *Frankliniella schutzei* –Laboratorio Agronomica.

414. *Helicoverpa armiger* –Thiago Sampaio.

415. *Monochamus agroprovincialis* –Laboratorio Agronomica.

416. *Pythium aphanidermatum* –Laboratorio Agronomica.

417. *Meloidogyne graminicola –Oryza sativa–* Cristiano Belle.

418. *Thrips palmi –Citrullus lunatus–* Laboratorio Agronomica.

419. GLRaV2: Grapevine leafroll-associated virus –Laboratorio Agronomica

420. *Meloidogyne javanica –Glycine max* –Cristiano Bellé.

471. *Acidovorax avenae* subsp. *Avenae –Saccharum officinarum–* Laboratorio Agronomica.

473. *Phytophthora sojae –Glycine max–* Laboratorio Agronomica.

474. *Botrytis fabae –Vicia faba–* Miguel Sicilia.

475. *Puccinia asparagui –Asparagus* –Rojas.

476. *Scyphophora acupunctatus –Rhynchophorus ferrugineus–* Sicilia.

477. *Phytophthora nicotienae –Kalanchoe–* Laboratorio Agronomica.

478. *Heterodera glycines –Glycine max–* Aline Ferreira.

479. *Meloidogyne entgerolobii –Glycine max–* Cristiano Bellé.

480. *Dytilenchus dipsaci –Allium cepa–* Laboratorio Agronomica.

481. *Pieris brassicae* –Miguel Sicilia.

482. *Radopholus similis –Musa paradisiaca–* Aline Ferreira.

483. *Oxalis pes-caprae* –Miguel Sicilia.

484. *Dickeya fanghongday* –Laboratorio Agronomica.

485. *Hyaloperonospora parasitica* –Cinthia Martínez .

486. *Oidium carica-papayae –Carica papaya*–Miguel Sicilia.

487. *Phymatotrychopsis omnivora –Persea americana–* Cinthia Martínez.

488. *Spodoptera littoralis* –Miguel Sicilia.

489. *Tuta absoluta –Solanum lycopersicum–* Miguel Sicilia.

490. *Clavibacter michiganensis –Solanum lycopersicum–* Laboratorio Agronomica.

491. *Pythium sp.* –Cinthia Martínez .

492. *Pythium aphanidermatum –Zea mays–* Laboratorio Agronomica.

493. *Fusarium oxysporum –Coriandrum sp.–* Laboratorio Agronomica.

494. *Neonectria ditissima –Malus domestica–* Laboratorio Agronomica.

495. *Armillaria mellea –Prunus persica–* Laboratorio Agronomica.

496. *Spodoptera frugiperda –Zea mays–*Thiago Sampaio.

497. *Pseudomonas cichorii –Brassica oleracea* var. *botrytis–* Laboratorio Agronomica.

498. *Cylindrocarpon destructans –Fragaria vesca–*Cinthia Martínez.

500. *Cenchus echinatus* and *Digitaria danguinalis –Zea mays–* Laboratorio Agronomica.

501. *Colletotrichum –Manilkara zapota–* Cinthia Martínez.

502. *Hemileia vastatrix –Cercospora coffeicola & Mycena citricolor–* Rojas.

503. *Pseudococus longispinus–Persea americana–* Miguel Sicilia.

504. *Meloidogyne javanica –triticum aestivum–* Cristiano Bellé

505. *Fusarium greminearum –Zea mays–* Cinthia Martínez

506. *Erwinia carotovora –Hylocereus undatus–* Miguel Sicilia.

507. *Icerya seychellarum –Ficus bengalensis–* Miguel Sicilia.

508. *Icerya purchasi –Dizygotheca elegantissima–* Miguel Sicilia.

509. *Icerya seychellarum –Eriobotrya japonica–* Miguel Sicilia.

510. *Rhodococcus fascians –Nicotiana tabacum–* Laboratorio Agronomica.

511. *Oidium mangiferae –Mangifera indica–* Miguel Sicilia.

512. *Melanaphis sacchari –Sorgum halepense–* Santiago Guerra.

513. *Protopulvinaria pyriformis –Persea americana–* Miguel Sicilia.

514. *Oidium mangiferae –Mangifera indica–* Miguel Sicilia.

515. *Fusicladium eriobotryae –Eriobotrya japonica–* Miguel Sicilia.

516. *Icerya purchasi –Citrus × limon–* Miguel Sicilia.

517. *Parasaissetia nigra –Annona cherimola–* Miguel Sicilia.

518. *Rhizoctonia solani, Sclerotium rolfsii –Solanum lycopersicum–* Cinthia Martínez.

519. *Icerya purchasi –Citrus × sinensis–* Laboratorio Agronomica.

521. *Icerya purchasi –Citrus × sinensis–* Laboratorio Agronomica.

522. *Hibiscus trionum* –Laboratorio Agronomica.

523. *Lasiodiplodia theobromae –Mangifera indica–* Laboratorio Agronomica.

524. *Meloidogyne spp. –Lactuca sativa–* Cristiano Bellé.

525. *Clycaspis grimblecombei –Eucalyptus globulus–* Miguel Sicilia.

526. *Icerya seychellarum* –*Ceratonia siliqua*– Miguel Sicilia.

527. *Meloidogyne javanica* –*Glycine max*– Cristiano Bellé.

528. *Phthorimaea operculella* –*Solanum tuberosum*– Laboratorio Agronomica.

529. *Aulacaspis tubercularis* –*Mangifera indica*– Miguel Sicilia.

530. *Oidium mangiferae* –*Mangifera indica*– Miguel Sicilia.

531. *Spermacoce latifolia* –Laboratorio Agronomica.

532. *Agrobacterium tumefaciens* –*Malus domestica*– Laboratorio Agronomica.

533. *Helicotylenchus multicinctus* –Laboratorio Agronomica.

534. *Dickeya chrysanthemo* –*Zea mays*– Laboratorio Agronomica.

535. *Helicotylenchus multicinctus* –*Musa paradisiaca*– Laboratorio Agronomica.

536. *Aulacaspis tubercularis* –*Mangifera indica*– Miguel Sicilia.

537. *Mugantia histrionica* –*Brassica oleracea*– Cinthia Martínez.

538. *Colletotrichum truncatum* –*Glycine max*– Aline Ferreira.

539. *Aphelenchoides fragariae* –*Fragaria vesca*– Laboratorio Agronomica.

540. *Pantoea annantis* –Laboratorio Agronomica.

541. *Keiferia lycopersicella* –Cinthia Martínez.

543. *Copitarsa decolora* –Cinthia Martínez.

544. *Meloidogyne spp.* –Sandoval.

545. *Fusarium graminearum* –*Zea mays*– Laboratorio Agronomica.

546. *Xanthomonas campestris* pv. *viticola* –Laboratorio Agronomica.

547. *Lipaphis erysimi* –Cinthia Martínez.

548. *Meloidogyne graminicola* –*Oryza sativa*– Cristiano Bellé.

549. *Sclerotinia sclerotiorum* –*Glycine max*– Laboratorio Agronomica.

550. *Pythium aphanidermatum* –*zea mays*– Laboratorio Agronomica.

551. *Meloidogyne graminicola* –*Oryza sativa*– Cristiano Bellé.

552. *Xanthomonas axonopodis* pv. *malvacearum* –*Gossypium hirsutum*– Laboratorio Agronomica.

553. *Xanthomonas axonopodis* pv. *phaseoli* –Laboratorio Agronomica.

554. *Pseudomonas syringae* pv. *atrofaciens* –Laboratorio Agronomica.

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Agent 414

Name: *Helicoverpa armigera* (Hübner)

Host: not specified.

Geographical zone: Brazil.

Author: Thiago Sampaio Guerra: Agroteste Pesquisa e Desenvolvimento

Year of the photograph: 2021

Quarantine Zone: Chile, Mexico, Norway, Turkey & United Kingdom (EPPO).

Copyright of the photographs: Thiago Sampaio Guerra: Agroteste Pesquisa e Desenvolvimento.

International Plant Quarantine Agents Data sheets:

International Plant Quarantine Workgroup.

Agent 417

Name: *Meloidogyne graminicola.*

Host: *Oryza sativa.*

Geographical zone: Brazil

Author: Cristiano Bellé

Year of the photograph: 2022

Quarantine Zone: Morocco (EPPO, 2022).

Copyright of the photographs: Cristiano Bellé

References:

Andrés.

International Plant Quarantine Agents Data sheets:

International Plant Quarantine Workgroup.

Agent 418

Name: *Thrips palmi* Karny.

Synonyms:

- *Chloethrips aureus*
- *Thrips clarus*
- *Thrips gossypicola*
- *Thrips gracilis*
- *Thrips leucadophilus*

Host: *Citrullus lunatus*.

Geographical zone: Brazil.

Author: Laboratorio Agronomica

Year of the photograph: 2022

Quarantine Zone: Egypt, Morocco, Tunisia, Argentina, Chile México, Paraguay , Uruguay, Bahrain, Israel, Jordan, Kazakhstan, Azerbaijan, Georgia, Moldova, Norway, Russia, Turkey, Ukraine, United Kingdom, New Zealand, EU, EAEU (EPPO, 2022)

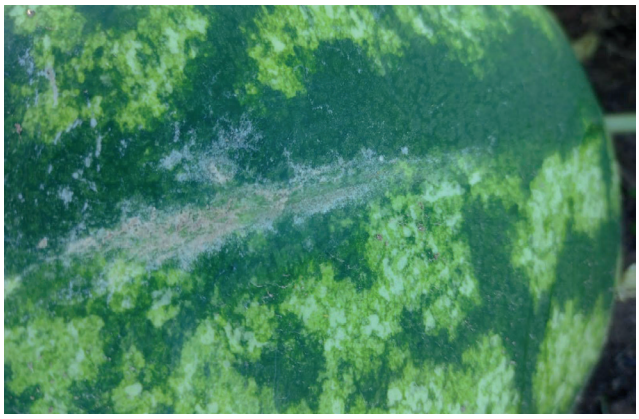
Egypt, Morocco, Tunisia, Argentina, Chile, Mexico, Paraguay, Uruguay, Bahrain, Israel, Jordan, Kazakhstan, Azerbaijan, Georgia, Moldova, Norway, Iceland, Russia, Turkey, Ukraine, New Zealand, EAEU, EU, United Kingdom, Madagascar, Ghana, Saudi Arabia, Oman, Iran, Qatar, Singapur, Macedonia, Croacia, Bielorussia, Georgia, Ukraine, Montenegro, Guatemala, Bolivia, Venezuela (Antigua & Barbuda, Granada, Haiti, Japan (Andrés & International Plant Quarantine Workgroup, 2021)

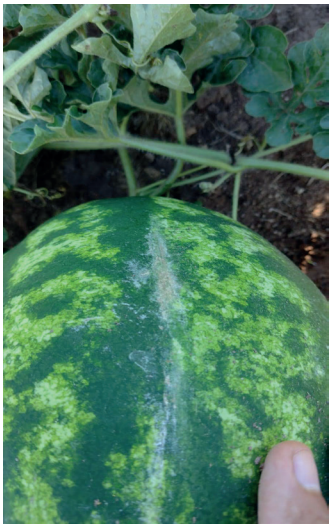
Copyright of the photographs: Laboratorio Agronomica

References:

Marchetti, M. M.; Duarte, V. 2022. *Thrips palmi*: Restrição para a exportação de frutos de melancia! Notícias Agronômica. Disponível em: ‹https://lnkd.in/dXYrVaSR

Andrés, J.L. & International Plant Quarantine Workgroup, 2021. Quarantine *thysanoptera* of the world on 2021: Taxonomy, referenced Hosts and Quarantine Zones. Professional Plant Protection 11:53-81.





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Agent 474

Name: *Botrytis fabae.*

Host: *Vicia faba*.

Geographical zone: Córdoba, Spain.

Author: Miguel Sicilia.

Year of the photograph: 2022

Quarantine Zone: Brazil (EPPO, 2022)

Copyright of the photographs: Miguel Sicilia.

International Plant Quarantine Workgroup.

Agent 478

Name: *Heterodera glycines*..

Host: *Glycine max*.

Geographical zone: Brazil.

Authors: Aline Ferreira Barros: Agroteste Pesquisa e Desenvolvimento.

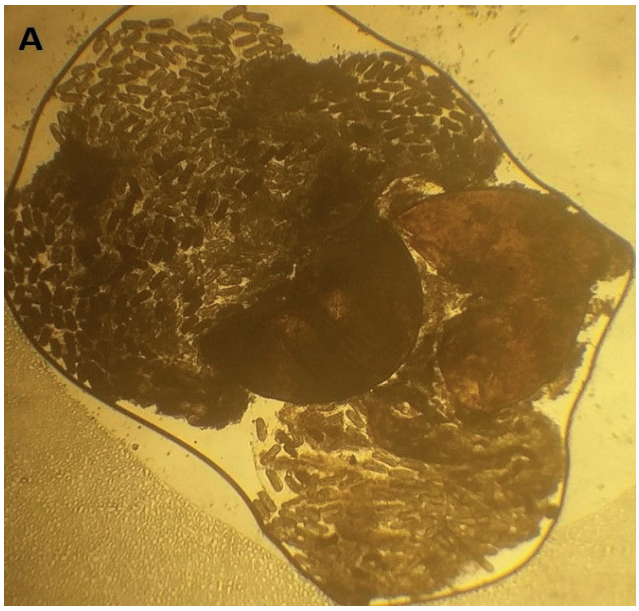
Year of the photograph: 2022

Quarantine Zone: Egypt, Morocco, Canada, Chile, Mexico, Paraguay, Uruguay, Israel, Georgia, Russia, Tirkey, Ukraine & EAEU (EPPO, 2022)..

Copyright of the photographs: Aline Ferreira Barros: Agroteste Pesquisa e Desenvolvimento.

References:

EPPO, 2022.https://https://lnkd.in/d3eJsMMt



International Plant Quarantine Workgroup.

Agent 485

Name: *Hyaloperonospora parasitica* (Pers. : Fr.) Constant.

Synonyms:

- *Botrytis parasitica*
- *Peronospora parasitica*
- *Peronospora alpestris*
- *Peronospora capparidis*
- *Peronospora cardariae-repentis*
- *Peronospora crispula*
- *Peronospora lepidii sativi*
- *Peronospora leptoclada*
- *Peronospora parasitica*
- *Botrytis parasitica* var. *armeriae*
- *Botrytis parasitica* var. *lactucae*

Host: *Brassica oleracea* var. *italica*.

Geographical zone: Mexico.

Author: Cinthia Martínez.

Year of the photograph: 2022

Quarantine Zone: Ecuador (Andrés & International Plant Quarantine Work Group. 2022).

Copyright of the photographs: Cinthia Martínez.

References:

Andrés, J.L. & International Plant Quarantine Work Group. 2022. Plant Quarantine Chromists of the world on 2022: Taxonomy, referenced Main hosts and Quarantine Zones. Professional Plant Protection 12: in press.

International Plant Quarantine Workgroup.

Agent 544

Name: *Meloidogyne sp.*

Host: not specified.

Geographical zone: Mexico.

Author: Fernanda Silva Sandoval: Altus Biopharm.

Year of the photograph: 2021

Quarantine Zone: Argentina, Bahrain (RNQP), Jordan & Turkey (EPPO, 2022).

Copyright of the photographs: Fernanda Silva Sandoval: Altus Biopharm.