MICROGAIA
BIOTECH

phytAlert® Servicio de detección molecular de microorganismos en muestras ambientales

Applus+ ISO 9001 EC-9505/18 Systems Certification

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Microorganismos Fitopatógenos

Hongos

Acremonium cucurbitacearum
Alternaria spp.
Alternaria radicina
Armillaria mellea
Botrytis allii
Botrytis cinerea
Botryosphaera dothidea
Bremia lactucae
Cladosporium cucumerinum
Cladosporium variabile
Colletotrichum spp. I
Colletotrichum spp. II
Colletotrichum coccodes
Colletotrichum dematium f. spinaciae
Colletotrichum gloeosporioides Grupo
Corynespora cassiicola
Cylindrocarpon destructans
Didymella bryoniae
Didymella lycopersici
Erysiphe spp.
Erysiphe polygoni
Fusarium spp.
Fusarium equiseti
Fusarium oxysporum
Fusarium oxysporum f. sp. cepae
Fusarium oxysporum f. sp. melonis
Fusarium oxysporum f. sp. cucumerinum
Fusarium oxysporum f. sp. radicis-cucumerinum
Fusarium oxysporum f. sp. radicis-lycopersici
Fusarium oxysporum f. sp. lactucae
Fusarium oxysporum f. sp. lycopersici
Fusarium solani
Fusarium proliferatum
Fusarium verticillioides
Geotrichum candidum
Helminthosporium solani
Itersonilia pastinaceae
Leveillula spp.
Macrophomina phaseolina
Monilinia fructicola
Monilinia fructigena
Monilinia laxa
Monosporascus cannonballus
Mycosphaerella citri (spp)
Mycosphaerella nawae
Mycosphaerella africana
Neofussiccocum spp.
Olpidium bornovanus
Olpidium brassicae
Penicillium spp.
Peronospora destructor
Phoma tracheiphila
Phytophthora spp.
Phytophthora cactorum
Phytophthora capsici
Phytophthora citrophthora
Phytophthora cryptogea
Phytophthora infestans
Phytophthora inundata
Phytophthora parasítica
Phytophthora porri
Podosphaera fuliginea
Pseudoperonospora cubensis
Pyrenochaeta lycopersici Raza 1
Pyrenochaeta lycopersici Raza 2
Pythium spp. (grupo 1)
Pythium spp. (grupo 2)
Pythium aphanidermatum
Pythium irregulare
Pythium tracheiphilum
Pythium ultimum
Rhizoctonia carotae
Rhizoctonia solani (menos AG8 y AG1)
Rhizopus stolonifer
Rhizopycnis vagum
Rosellinia necatrix
Sclerotinia minor
Sclerotinia sclerotiorum
Sclerotium rolfsii
Septoria apiicola
Septoria lactucae
Stemphylium botryosum
Thielaviopsis basicola
Uncinula necator
Verticillium spp.
Verticillium alboatrum
Verticillum dahliae

Bacterias

Acidovorax avenae subsp. citrulli
Agrobacterium tumefaciens
Candidatus liberibacter subs. solanacearum
Clavibacter michiganensis ssp. michiganensis
Erwinia atroseptica
Erwinia amylovora
Erwinia carotovora subsp. carotovora
Erwinia tracheiphila
Pseudomonas cichorii
Pseudomonas corrugata
Pseudomonas marginalis
Pseudomonas savastanoi pv. nerii
Pseudomonas savastanoi pv. savastanoi
Pseudomona syringae pv. tomato
Pseudomonas syringae pv. syringae
Ralstonia solanacearum
Rhizomonas suberifaciens
Xanthomonas arboricola pv. pruni
Xanthomonas campestris pv. campestris
Xanthomonas fragariae
Xylella fastidiosa - XF (basado EPPO)
Xylella fastidiosa - HL (basado EPPO)

Microorganismos beneficiosos

Hongos

Trichoderma asperellum
Trichoderma harzianum

Bacterias

Azospirillum brasilense
Bacillus amyloliquefaciens (grupo)
Bacillus licheniformis
Bacillus paralicheniformis
Bacillus pumilus (grupo)
Bacillus sonorensis
Bacillus subtilis
Bacillus thuringiensis
Herbaspirillum seropedicae
Pantoea agglomerans
Pantoea dispersa

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Solanáceas (16)

Fusarium spp.	Phytophthora capsici
Fusarium oxysporum	Phytophthora cryptogea
Fusarium oxysporum f. sp. lycopersici	Pythium spp. (I)
Fusarium oxysporum f. sp. radicis-lycopersici	Pythium spp. (II)
Fusarium solani	Pythium aphanidermatum
Phytophthora spp.	Pythium irregulare
Phytophthora infestans	Pythium ultimum
Phytophthora parasitica	Rhizoctonia solani

Solanáceas Básico (24)

Fusarium spp.	Phytophthora capsici	Verticillium albo-atrum
Fusarium oxysporum	Phytophthora cryptogea	Verticillium dahliae
Fusarium oxysporum f. sp. lycopersici	Pythium spp. (I)	Pyrenochaeta lycopersici Raza 1
Fusarium oxysporum f. sp. radicis-lycopersici	Pythium spp. (II)	Pyrenochaeta lycopersici Raza 2
Fusarium solani	Pythium aphanidermatum	Thielaviopsis basicola
Phytophthora spp.	Pythium irregulare	Colletotrichum spp.
Phytophthora infestans	Pythium ultimum	Colletotrichum coccodes
Phytophthora parasitica	Rhizoctonia solani	Corynespora casiicola

Solanáceas Ampliado (40)

Fusarium spp.	Phytophthora capsici	Verticillium albo-atrum	Didymella lycopersici	Pseudomonas syringae pv. tomato
Fusarium oxysporum	Phytophthora cryptogea	Verticillium dahliae	Alternaria spp.	Pseudomonas corrugata
Fusarium oxysporum f. sp. lycopersici	Pythium spp. (I)	Pyrenochaeta lycopersici Raza 1	Botrytis cinerea	Erwinia carotovora subs. carotovora
Fusarium oxysporum f. sp. radicis-lycopersici	Pythium spp. (II)	Pyrenochaeta lycopersici Raza 2	Stemphylium botriosum	Erwinia carotovora subs. atroseptica
Fusarium solani	Pythium aphanidermatum	Thielaviopsis basicola	Leveillula taurica	Sclerotinia sclerotioum
Phytophthora spp.	Pythium irregulare	Colletotrichum spp.	Sclerotium rolfsii	Sclerotinia minor
Phytophthora infestans	Pythium ultimum	Colletotrichum coccodes	Ralstonia solanacearum	Colletotrichum gloeosporioides
Phytophthora parasitica	Rhizoctonia solani	Corynespora casiicola	Clavibacter michiganensis subs. michiganensis	Olpidium brassicae

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Cucurbitáceas (16)

Alternaria spp.	Olpidium bornovanus
Botrytis cinerea	Olpidium brassicae
Colletotrichum spp.	Phytophthora spp.
Dydimella bryoniae	Pythium spp. (I)
Erysiphe spp.	Pythium spp. (II)
Fusarium spp.	Podosphaera fuliginea (spp)
Fusarium solani	Verticillium spp.
Monosporascus cannonballus	Pseudoperonospora cubensis

Cucurbitáceas Básico (24)

Alternaria spp.	Olpidium bornovanus	Rhizopycnis vagum
Botrytis cinerea	Olpidium brassicae	Cladosporium cucumerinum
Colletotrichum spp.	Phytophthora spp.	Pythium irregulare
Dydimella bryoniae	Pythium spp. (I)	Pythium ultimum
Erysiphe spp.	Pythium spp. (II)	Rhizoctonia solani
Fusarium spp.	Podosphaera fuliginea (spp)	Acremonium cucurbitacearum
Fusarium solani	Verticillium spp.	Sclerotinia sclerotiorum
Monosporascus cannonballus	Pseudoperonospora cubensis	Sclerotium rolfsii

Cucurbitáceas Ampliado (40)

Alternaria spp.	Olpidium bornovanus	Rhizopycnis vagum	Acidovorax avenae subs. Citrulli	Erwinia carotovora subs. Atroseptica
Botrytis cinerea	Olpidium brassicae	Cladosporium cucumerinum	Erwinia carotovora sb. Carotovora	Erwinia tracheiphila
Colletotrichum spp.	Phytophthora spp.	Pythium irregulare	Pythium aphanidermatum	Fusarium oxysporum f. sp. melonis
Dydimella bryoniae	Pythium spp. (I)	Pythium ultimum	Fusarium oxysporum	Pyrenochaeta lycopersici Raza 1
Erysiphe spp.	Pythium spp. (II)	Rhizoctonia solani	Macrophomina phaseolina	Pyrenochaeta lycopersici Raza 2
Fusarium spp.	Podosphaera fuliginea (spp)	Acremonium cucurbitacearum	Phytophthora capsici	Verticillum dahliae
Fusarium solani	Verticillium spp.	Sclerotinia sclerotiorum	Verticillium albo-atrum	Fusarium oxysporum f. sp. cucumerinum
Monosporascus cannonballus	Pseudoperonospora cubensis	Sclerotium rolfsii	Leveillula spp.	Fusarium oxysporum f. sp. radicis-cucumerinum

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Lechuga (16)

Botrytis cinerea	Pseudomonas cichorii
Erwinia carotovora subs. carotovora	Pythium aphanidermatum
Colletotrichum spp.	Pythium irregulare
Erysiphe cichoracearum	Pythium ultimum
Fusarium oxysporum	Rhizoctonia Solani
Phytophthora spp.	Sclerotinia minor
Pyrenochaeta lycopersici Raza 1	Sclerotinia sclerotiorum
Pyrenochaeta lycopersici Raza 2	Sclerotium rolfsii

Lechuga Básico (24)

Botrytis cinerea	Pseudomonas cichorii	Stemphylium botryosum
Erwinia carotovora subs. carotovora	Pythium aphanidermatum	Verticillium dahliae
Colletotrichum spp.	Pythium irregulare	Rhizomonas suberifaciens
Erysiphe cichoracearum	Pythium ultimum	Bremia lactucae
Fusarium oxysporum	Rhizoctonia Solani	Pseudomonas marginallis
Phytophthora spp.	Sclerotinia minor	Olpidium brassicae
Pyrenochaeta lycopersici Raza 1	Sclerotinia sclerotiorum	Pythium tracheiphilum
Pyrenochaeta lycopersici Raza 2	Sclerotium rolfsii	Septoria lactucae

Lechuga Ampliado (32)

Botrytis cinerea	Pseudomonas cichorii	Stemphylium botryosum	Fusarium oxysporum f. sp. lactucae
Erwinia carotovora subs. carotovora	Pythium aphanidermatum	Verticillium dahliae	Fusarium spp.
Colletotrichum spp.	Pythium irregulare	Rhizomonas suberifaciens	Erwinia carotovora subs. atroseptica
Erysiphe cichoracearum	Pythium ultimum	Bremia lactucae	Cladosporium variabile
Fusarium oxysporum	Rhizoctonia Solani	Pseudomonas marginallis	Colletotrichum dematium sb spinaciae
Phytophthora spp.	Sclerotinia minor	Olpidium brassicae	Alternaria spp.
Pyrenochaeta lycopersici Raza 1	Sclerotinia sclerotiorum	Pythium tracheiphilum	Fusarium solani
Pyrenochaeta lycopersici Raza 2	Sclerotium rolfsii	Septoria lactucae	Verticillium albo-atrum

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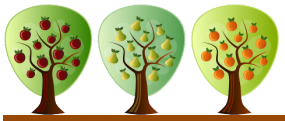
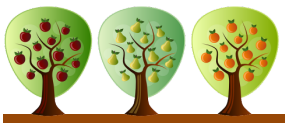
Frutal (16)

Armillaria mellea	Rosellinia necatrix
Colletotrichum spp.	Verticillium dahliae
Colletotrichum gloeosporioides species	Pseudomonas syringae pv. syringae
Fusarium oxysporum	Xylella fastidiosa - XF
Monilia laxa	Phytophthora spp.
Fusarium spp.	Erwinia amylovora
Pythium spp. (I)	Mycosphaerella citri
Pythium spp. (II)	Mycosphaerella africana



Frutal Básico (24)

Alternaria spp.	Leveillula spp.	Rhizoctonia solani
Armillaria mellea	Macrophomina phaseolina	Rosellinia necatrix
Botrytis cinerea	Monilia laxa	Verticillium spp.
Colletotrichum spp.	Phytophthora spp.	Verticillium dahliae
Erysiphe spp.	Phytophthora cactorum	Agrobacterium tumefaciens
Fusarium oxysporum	Pythium spp. (I)	Phoma tracheiphila
Fusarium solani	Pythium spp. (II)	Xanthomonas arboricola pv. pruni
Fusarium spp.	Pythium ultimum	Xylella fastidiosa - XF



Frutal ampliado (40)

Alternaria spp.	Leveillula spp.	Rhizoctonia solani	Colletotrichum acutatum (Complex)	Penicillium spp.
Armillaria mellea	Macrophomina phaseolina	Rosellinia necatrix	Phytophthora parasítica	Sclerotium rolfsii
Botrytis cinerea	Monilia laxa	Verticillium spp.	Monilia fructigena	Colletotrichum gloeosporioides
Colletotrichum spp.	Phytophthora spp.	Verticillium dahliae	Monilia fructicola	Erwinia amylovora
Erysiphe spp.	Phytophthora cactorum	Agrobacterium tumefaciens	Botryosphaera dothidea	Phytophthora inundata
Fusarium oxysporum	Pythium spp. (I)	Phoma tracheiphila	Neofussicocum spp.	Mycosphaerella citri
Fusarium solani	Pythium spp. (II)	Xanthomonas arboricola pv. pruni	Phytophthora citrophthora	Mycosphaerella africana
Fusarium spp.	Pythium ultimum	Xylella fastidiosa - XF	Pythium irregulare	Mycosphaerella nawae

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Screening Olivo (16)

Armillaria mellea	Pythium spp. I
Rosellinia necatrix	Pythium spp. II
Verticillium spp.	Pseudomonas savastanoi pv. savastanoi
Fusarium spp.	Pseudomonas savastanoi pv. nerii
Fusarium oxysporum	Botrytis cinerea
Colletotrichum spp. I	Sclerotium rolfsii
Colletotrichum spp. II	Xylella fastidiosa
Phytophthora spp.	Rhizoctonia solani

Screening Olivo (24)

Armillaria mellea	Pythium spp. I	Alternaria spp.
Rosellinia necatrix	Pythium spp. II	Phytophthora inundata
Verticillium spp.	Pseudomonas savastanoi pv. savastanoi	Colletotrichum gloeosporioides
Fusarium spp.	Pseudomonas savastanoi pv. nerii	Macrophomina phaseolina
Fusarium oxysporum	Botrytis cinerea	Verticillium albo-atrum
Colletotrichum spp. I	Sclerotium rolfsii	Verticillium dahliae
Colletotrichum spp. II	Xylella fastidiosa	Pythium irregulare
Phytophthora spp.	Rhizoctonia solani	Agrobacterium tumefaciens

Screening Olivo (30)

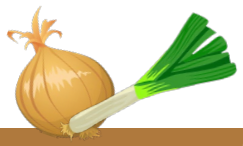
Armillaria mellea	Pythium spp. I	Alternaria spp.	Monilia laxa
Rosellinia necatrix	Pythium spp. II	Phytophthora inundata	Monilia fructigena
Verticillium spp.	Pseudomonas savastanoi pv. savastanoi	Colletotrichum gloeosporioides	Botryosphaera dothidea
Fusarium spp.	Pseudomonas savastanoi pv. nerii	Macrophomina phaseolina	Neofussicocum spp.
Fusarium oxysporum	Botrytis cinerea	Verticillium albo-atrum	Cylindrocarpon destructans
Colletotrichum spp. I	Sclerotium rolfsii	Verticillium dahliae	
Colletotrichum spp. II	Xylella fastidiosa	Pythium irregulare	
Phytophthora spp.	Rhizoctonia solani	Agrobacterium tumefaciens	

Fresa (16)

Alternaria spp.	Macrophomina phaseolina
Botrytis cinerea	Sclerotinia sclerotiorum
Colletotrichum spp.	Phytophthora spp.
Colletotrichum acutatum (complex)	Phytophthora cactorum
Colletotrichum gloeosporioides (complex)	Phytophthora parasítica
Erysiphe spp.	Pyrenochaeta lycopersici Raza 1
Fusarium spp.	Pyrenochaeta lycopersici Raza 2
Fusarium oxysporum	Pythium spp. (I)

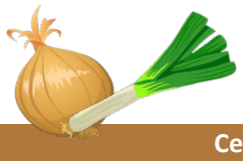
Fresa Básico (24)

Alternaria spp.	Macrophomina phaseolina	Pythium spp. (II)
Botrytis cinerea	Sclerotinia sclerotiorum	Pythium aphanidermatum
Colletotrichum spp.	Phytophthora spp.	Pythium irregulare
Colletotrichum acutatum (complex)	Phytophthora cactorum	Pythium ultimum
Colletotrichum gloeosporioides (complex)	Phytophthora parasítica	Rhizoctonia solani
Erysiphe spp.	Pyrenochaeta lycopersici Raza 1	Verticillium spp.
Fusarium spp.	Pyrenochaeta lycopersici Raza 2	Erwinia carotovora subs. atroseptica
Fusarium oxysporum	Pythium spp. (I)	Xanthomonas fragariae



Cebolla/Puerro (16)

Alternaria spp.	Fusarium spp.
Botrytis cinerea	Fusarium solani
Botrytis allii	Fusarium oxysporum
Peronospora destructor	Fusarium proliferatum
Sclerotium cepivorum	Fusarium verticilloides
Phytophthora porri	Colletotrichum spp. (I)
Septoria apiicola	Pythium spp (I)
Fusarium osysporum f. sp. cepae	Pythium spp. (II)



Cebolla/Puerro Básico (20)

Alternaria spp.	Fusarium spp.	Phytophthora spp.
Botrytis cinerea	Fusarium solani	Penicillium spp.
Botrytis allii	Fusarium oxysporum	Colletotrichum spp. (II)
Peronospora destructor	Fusarium proliferatum	
Sclerotium cepivorum	Fusarium verticilloides	
Phytophthora porri	Colletotrichum spp. (I)	
Septoria apiicola	Pythium spp (I)	
Fusarium osysporum f. sp. cepae	Pythium spp. (II)	

Zanahoria/Chirivía (16)

Alternaria spp.	Erysiphe polygoni
Leveillula spp.	Geotrichum candidum
Sclerotinia sclerotiorum	Rhizopus stolonifer
Fusarium solani	Rhizoctonia carotae
Fusarium oxysporum	Alternaria radicina
Pythium spp. I	Fusarium equiseti
Pythium spp. II	Cylindrocarpon spp.
Macrophomina phaseolina	Itersonilia pastinaceae

Zanahoria/Chirivía Básico (24)

Alternaria spp.	Erysiphe polygoni	Rhizoctonia solani
Leveillula spp.	Geotrichum candidum	Botrytis cinerea
Sclerotinia sclerotiorum	Rhizopus stolonifer	Verticillium spp.
Fusarium solani	Rhizoctonia carotae	Phytophthora spp.
Fusarium oxysporum	Alternaria radicina	Sclerotium rolfsii
Pythium spp. I	Fusarium equiseti	Candidatus liberibacter sb. solanacearum
Pythium spp. II	Cylindrocarpon spp.	Erwinia carotovora atroseptica
Macrophomina phaseolina	Itersonilia pastinaceae	Erwinia carotovora carotovora