Supplementary Table 1. List of published LAMP assays developed for the detection of plant pathogenic fungi. SOP stands for several other species.

Reference	*Pathogen species*	*Disease caused*	*Host plants*	*Common name of host plants*	*Target locus*	*Sensitivity compared to PCR*	*Analytical sensitivity*	*Method of results detection*
Tomlinson et al. 2007	*Phytophthora ramorum*	sudden oak death, dieback, blight	*Lithocarpus densiflorus, Quercus* spp., SOP	tanoaks, oaks, several other species	rDNA ITS		~10 pg	RT/fluorescent (EvaGreen); PicoGreen
Niessen & Vogel 2010	*Fusarium graminearum*	head blight	*Hordeum vulgare* , *Triticum aestivum*	barley, common wheat	*gaoA*		1 pg	calcein
Tomlinson et al. 2010a	*Botrytis cinerea*	grey mould	*Rosa* spp., *Pelargonium* spp.	rose, pelargonium, several other species	rDNA IGS		6.5 pg/µl	RT/fluorescent
Tomlinson et al. 2010b	*Phytophthora ramorum*	sudden oak death, dieback, blight	*Lithocarpus densiflorus, Quercus* spp., SOP	tanoaks, oaks, several other species	rDNA ITS			lateral flow device
Tomlinson et al. 2010b	*Phytophthora kernoviae*	dieback, blight	*Rhododendron* spp., *Fagus* spp.	rhododendron, beech	rDNA ITS			lateral flow device
Huang et al. 2011	*Puccinia striiformis* f. sp. *tritici*	stripe (yellow) rust	*Triticum aestivum*	common wheat	β-tubulin		2 pg/µl	SYBR Green
Dai et al. 2012	*Phytophthora sojae*	damping off, root rot	*Glycine max,* other species	soybean, other species	*A3aPro*		10 pg/µl	HNB
Niessen et al. 2012	*Fusarium tricinctum* species complex	head blight		cereals	ATP citrate lyase 1		0.95 pg	calcein
Almasi et al. 2013	*Fusarium oxysporum* f. sp. *lycopersici*	fusarium wilt	*Solanum lycopersicum*	tomato	rDNA 28S	5×	50 ng/µl	several methods
Chen et al. 2013	*Phytophthora melonis*	blight, dieback, rot		several species	*Ypt1*	1000×	10 fg	SYBR Green
Fukuta et al. 2013	*Pythium ephanidermatum*	damping-off	*Solanum lycopersicum*	tomato	rDNA ITS	10×	10 fg	RT/turbidity, turbidity
Jędryczka et al. 2013	*Leptosphaeria maculans*	blackleg or stem canker	*Brassica napus* subsp. *napus*	oilseed rape				RT/fluorescent
Jędryczka et al. 2013	*Leptosphaeria biglobosa*	blackleg or stem canker	*Brassica napus* subsp. *napus*	oilseed rape				RT/fluorescent
Li B et al. 2013	*Fusarium oxysporum* f. sp. *cubense* race 4	fusarium wilt	*Musa* sp.	banana	specific SCAR marker		10 fg	SYBR Green
Peng et al. 2013	*Fusarium oxysporum* f. sp. *niveum*	fusarium wilt	*Citrullus* spp.	watermelon	specific RAPD marker	100×	1.2 pg/µl	RT/fluorescent, SYBR Green
Tao & Cai 2013	*Colletotrichum kahawae*	berry disease	*Coffea arabica*	coffee	Apn2/MAT		80 fg/µl	calcein
Tomlinson et al. 2013	*Guignardia citricarpa*	black spot disease	*Citrus* spp.	lemon	rDNA ITS		60-600 fg	RT/fluorescent
Zhang et al. 2013	*Fusarium oxysporum* f. sp. *cubense*	fusarium wilt	*Musa* sp., *Heliconia* sp.	banana, lobster-claws (toucan beak)	rDNA IGS		0.43 pg/µl	RT/fluorescent, SYBR Green
Duan et al. 2014a	*Sclerotinia sclerotiorum*	white mould	*Brassica napus* subsp. *napus* , SOP	rapeseed, SOP	*Ssos5*	1000×	0.1 fg/µl	HNB
Duan et al. 2014c	*Botrytis cinerea*	grey mould	*Fragaria ananassa, Apium graveolens, Solanum lycopersicum, Cucumus sativus,* SOP	strawberry, celery, tomato, cucumber, SOP	*Bcos5*	10×	1 pg/µl	HNB
Fukuta et al. 2014	*Pythium myriotylum*	root rot		several species	rDNA ITS	equal	100 fg	RT/fluorescent
Moradi et al. 2014	*Verticillium dahliae*	wilt	*Olea europaea,* SOP	olive, several other species	RAPD marker	10×	50 fg, 500 fg	turbidity, HNB, GeneFinder, EtBr, SYBR Premix Ex Taq II dye
Peng et al. 2014	*Fusarium oxysporum* f. sp. *cubense* race 4	wilt	*Musa* sp.	banana	RAPD marker		1000 spores	RT/fluorescent, SYBR Green
Pu et al. 2014	*Fusarium mangiferae*	mango malformation disease	*Mangifera indica*	mango	specific SCAR marker	100×	226 pg/µl	RT/fluorescent, SYBR Green
Takahashi et al. 2014	*Pythium helicoides*	root rot	*Euphorbia pulcherrima* , SOP	poinsettia, several other species	rDNA ITS	equal	100 fg	RT/turbidity, turbidity
Chandra et al. 2015	*Colletotrichum falcatum*	red rot	*Saccharum* spp.	sugarcane	specific SCAR marker	10×	5 ng	SYBR Green
Dong et al. 2015	*Phytophthora capsici*	blight, fruit rot		several species	ITS		100 fg	SYBR Green
Feng et al. 2015	*Pythium irregulare*	seed, stem, root rot, damping off	*Lactuca sativa*	lettuce	rDNA ITS	~equal	100 fg	RT/turbidity
Ghosh et al. 2015	*Fusarium oxysporum* f. sp. *ciceris*	fusarium wilt	*Cicer arietinum*	chickpea	EF-1α	10 000×	10 fg	HNB
Hieno et al. 2015	*Pyrenochaeta lycopersici*	corky root	*Lycopersicon esculentum* and other solanaceous plant species	tomato and other solanaceous plant species	rDNA ITS	equal	10 pg, 100 pg	RT/turbidity
Li B et al. 2015	*Phytophthora nicotianae*	blights, rots	*Nicotiana tabacum, Solanum lycopersicum, Citrus* spp.,	Stobacco, tomato, lemon, SOP	*Ypt1*	10×	10 fg	calcein
Lu et al. 2015a	*Fusarium oxysporum*	fusarium wilt	*Glycine max*	soybean	*CYP51C*	100×	4 conidia	SYBR Green
Lu et al. 2015b	*Macrophomina phaseolina*	charcoal rot	*Glycine max,* other species	soybean, other species	rDNA ITS		100 pg	SYBR Green
Lu et al. 2015b	*Rhizoctonia solani*	seedling blight	*Glycine max,* other species	soybean, other species	rDNA ITS		10 pg	SYBR Green
Lu et al. 2015c	*Fusarium equiseti*	root rot	*Glycine max*	soybean	CYP51C		10 pg/µl	SYBR Green
Lu et al. 2015c	*Fusarium graminearum*	root rot	*Glycine max*	soybean	CYP51C		100 pg/µl	SYBR Green
Patel et al. 2015	*Rhizoctonia zeae*	leaf and sheath lesion	*Stenotaphrum secundatum, Festuca arundinacea, Agrostis* spp., *Cynodon dactylon, Eremochloa ophiuroides*	St. Augustine grass, tall fescue, bentgrass, Bermuda grass, centipedegrass	rDNA ITS		1 pg	turbidity, SYBR Green, LFD
Patel et al. 2015	*Rhizoctonia solani*	root rot, crown rot, damping off, seed decay. blights, wilts		several species	rDNA ITS		10 fg	turbidity, SYBR Green, LFD
Zhao et al. 2015	*Phytophthora sojae*	damping-off, root rot	*Glycine max,* other species	soybean, other species	*Ypt1*		10 pg	HNB
Ayukawa et al. 2016	*Fusarium oxysporum* f. sp. *lycopersici*	fusarium wilt	*Solanum lycopersicum*	tomato	*SIX4, SIX5*	10×	300 fg	melting curve
Cao et al. 2016	*Pythium inflatum*	stalk rot	*Zea mays*	maize	rDNA ITS		0.1 pg/µl	RT/fluorescent
Chandra et al. 2016	*Puccinia kuehnii*	orange rust	*Saccharum officinarum*	sugarcane	rDNA ITS		100 pg	SYBR Green
Chen et al. 2016	*Ascochyta rabiei*	Ascochyta blight	*Cicer arietinum*	chickpea	ITS	100×	6.01 fg/µl	SYBR Green
Dai et al. 2016	*Phomopsis longicolla*	seed decay, stem blight, stem canker	*Glycine max*	soybean	*TEF1-α*		100 pg/µl	HNB
Gao et al. 2016	*Tilletia indica*	karnal bunt	*Hordeum vulgare*	barley	unique mitochondrial DNA region	equal	10 pg	calcein
Hansen et al. 2016	*Phytophthora infestans*	late blight	*Solanum tuberosum, Solanum lycopersicum*	potato, tomato	Region 86		200 pg	HNB
Kandan et al. 2016	*Colletotrichum capsici*	fruit rot	*Capsicum annuum*	pepper	β-tubulin	10 000×	10 fg/µl	SYBR Green
Katoh et al. 2016	*Colletotrichum gloeosporioides*	anthracnose		several species	rDNA ITS	100×	10 fg	fluorescent reagent, mastermix
Kong et al. 2016	*Plasmopara viticola*	downy mildew	*Vitis vinifera*	grapevine	rDNA ITS	100×	33 fg	HNB
Moghimi et al. 2016	*Alternaria alternata*	Alternaria alternata tangerine pathotype	*Citrus tangerina*	tangerine	*actts2* (enoyl reductase)		<2 pg	SYBR Green
Qiao et al. 2016	*Cylindrocladium scoparium*	dieback	*Eucalyptus* spp.	eucalypts	beta-tubulin	1000×	5 fg	SYBR Green
Shen et al. 2016	*Sporisorium scitamineum*	smut	*Saccharum* spp.	sugarcane	rDNA ITS	100×	2 fg	SYBR Green
Su et al. 2016	*Sporisorium scitamineum*	smut	*Saccharum* spp.	sugarcane	*pep1*	100×	10^4 copies	SYBR Green
Thiessen et al. 2016	*Erysiphe necator*	powdery mildew	*Vitis vinifera*	grapevine	rDNA ITS2		1-10 conidia	turbidity
Yao et al. 2016	*Didymella bryoniae*	gummy stem blight	Cucurbitaceae	cucurbits	specific SCAR marker	1000×	0.1 fg	calcein
Zhang et al. 2016	*CColletotrichum fragariae*	anthracnose fruit rot	*Fragaria ananassa*	strawberry	rDNA ITS		20 pg	PicoGreen
Zhang et al. 2016	*Colletotrichum gloeosporioides*	anthracnose fruit rot	*Fragaria ananassa*	strawberry	rDNA ITS		20 pg	PicoGreen
Zhang et al. 2016	*Colletotrichum acutatum*	anthracnose fruit rot	*Fragaria ananassa, Citrus* spp., SOP	strawberry, citrus, SOP	β-tubulin 2		200 pg	PicoGreen
Zhang et al. 2016	*Colletotrichum acutatum*	anthracnose fruit rot	*Fragaria ananassa, Citrus* spp., SOP	strawberry, citrus, SOP	rDNA ITS		20 pg	PicoGreen
Aggarwal et al. 2017	*Puccinia striiformis* f. sp. *tritici*	stripe (yellow) rust	*Triticum aestivum*	common wheat	Ketopantoate reductase	10×	1 pg	HNB
Aslani et al. 2017	*Verticillium dahliae*	wilt	*Olea europaea*	olive tree				EtBr
Cao et al. 2017	*Ustilago maydis*	smut	*Zea mays*	corn	Pep1	200×	44 fg/µl	RT/fluorescent, SYBR Green
Chen et al. 2017	*Colletotrichum gloeosporioides*	anthracnose	*Anoectochilus roxburghii*	marbled jewel orchid	rDNA ITS	1000×	10 fg	calcein
Fukuta et al. 2017	*Fomitiporia torreyae*	leaf malformation, leaf dwarfism	*Pyrus pyrifolia* var. *culta*	pear	rDNA ITS		100 fg	turbidity, precipitate fluorescence
Fukuta et al. 2017	*Fulviformes umbrinellus*	leaf malformation, leaf dwarfism	*Pyrus pyrifolia* var. *culta*	pear	rDNA ITS		100 fg	turbidity, precipitate fluorescence
Ghosh et al. 2017	*Rhizoctonia bataticola*	dry root rot	*Cicer arietinum*	chickpea	rDNA ITS	100×	10 fg	SYBR Green
Khan et al. 2017	*Phytophthora infestans*	late blight	*Solanum tuberosum, Solanum lycopersicum*	potato, tomato	Ypt1	1000×	128 fg	calcein
Rocha et al. 2017	*Macrophomina phaseolina*	charcoal rot	*Phaseolus vulgaris,* SOP	common bean, SOP	specific SCAR marker		1 pg	HNB
Shen et al. 2017	*Pythium ultimum*	root rot, damping-off	*Triticum aestivum, Glycine max, Cucumis sativus, Nicotiana tabacum,* SOP	wheat, soybean, cucumber, tobacco, SOP	unique spore wall protein gene	1000×	1 pg	HNB
Si Ammour et al. 2017	*Phytophthora infestans*	late blight	*Solanum* spp.	potato, solanaceous plants	rDNA ITS		50 fg/µl	RT/fluorescent
Tian et al. 2017a	*Colletotrichum truncatum*	anthracnose	*Glycine max*	soybean	RPB1		100 pg/µl	SYBR Green
Tian et al. 2017b	*Didymella bryoniae*	gummy stem blight	Cucurbitaceae	cucurbits	*RPB2*		10 pg	calcein
Tomlinson & Boonham 2015, Harrison et al. 2017	*Hymenoscyphus fraxineus* (syn. *Chalara fraxinea*)	ash dieback	*Fraxinus excelsior*	common ash			7 pg	RT/fluorescent
Villari et al. 2017	*Magnaporthe oryzae*	gray leaf spot	*Lolium perenne*	ryegrass	specific marker			RT/fluorescent
Wang et al. 2017	*Colletotrichum gloeosporioides*	anthracnose		cereals, legumes, vegetables, perennial crops, tree fruits	glutamine synthetase		1 pg	SYBR Green
Xu et al. 2017	*Fusarium asiaticum*	head blight	*Triticum* sp., other Poaceae species	wheat and other cereals	CYP51C		100 pg/µl	HNB
Zeng et al. 2017	*Fusarium culmorum*	head blight, ear rot, crown rot	*Glycine max* , Poaceae, SOP	soybean, cereals and several other species	*CYP51C*		100 pg	HNB
Akul et al. 2018	*Ganoderma boninense*	basal stem rot	*Elaeis guineensis*	oil palm	MnSOD			agarose gel
Karakkat et al. 2018a (method) and 2018b (primers)	*Gaeummanomyces avenae*	take-all patch	*Agrostis stolonifera, Festuca* spp., *Poa* spp.	creeping bentgrass, fescues, meadow-grasses	18S rDNA		1 pg	colorimetric mastermix
Karakkat et al. 2018a (method) and 2018b (primers)	*Ophiosphaerella korrae*	necrotic ring spot	*Poa pratensis, P. annua, Festuca* spp.	common meadow-grass, annual meadow-grass, fescues	18S rDNA		1 fg	colorimetric mastermix
Karakkat et al. 2018a (method) and 2018b (primers)	*Magnaporthiopsis poae*	summer patch	*Poa pratensis, P. annua, Festuca* spp., *Agrostis stolonifera*	common meadow-grass, annual meadow-grass, fescues, creeping bentgrass	18S rDNA		100 fg	colorimetric mastermix
Khan et al. 2018	*Alternaria solani*	early blight	*Solanum tuberosum, Solanum lycopersicum*	potato, tomato	histidine kinase HK1	10×	10 pg	SYBR Green
King et al. 2018	*Pyrenopeziza brassicae*	light leaf spot	*Brassica* spp.	brassicas	ITS		1 pg	RT/fluorescent
King et al. 2018	*Pyrenopeziza brassicae*	light leaf spot	*Brassica* spp.	brassicas	β-tubulin		10 pg	RT/fluorescent
Lan et al. 2018	*Fusarium oxysporum* f. sp. *cucumerinum*	fusarium wilt	*Cucumis sativus*	cucumber	specific RAPD marker	1000×	100 fg	SYBR Green
Madihah et al. 2018	*Ganoderma boninense, G. zonatum, G. miniatocinctum*	basal stem rot	*Elaeis guineensis*	oil palm	*BUG1*	10×	2 pg	RT/fluorescent
Malapi-Wight et al. 2018	*Calonectria henricotiae, C. pseudonaviculata*	boxwood blight	*Buxus* spp.	boxwood	unique non-coding sequence		100 pg	capillary gel electrophoresis
Malapi-Wight et al. 2018	*Calonectria henricotiae, C. pseudonaviculata*	boxwood blight	*Buxus* spp.	boxwood	patatin-like phospholipase		100 pg	capillary gel electrophoresis
Manjunatha et al. 2018	*Puccinia triticina*	leaf rust	*Triticum aestivum*	wheat	specific SCAR marker	500×	100 fg	HNB, EtBr
Ortega et al. 2018a	*Fusarium oxysporum* f. sp. *lactucae*	fusarium wilt	*Lactuca sativa*	lettuce	specific SCAR marker		≤999 pg	RT/fluorescent
Ortega et al. 2018b	*Fusarium fujikuroi*	bakanae disease	*Oryza sativa*	rice	elongation factor 1-α		100-999 fg	RT/fluorescent
Ortega et al. 2018b	*Magnaporthe oryzae*	rice blast	*Oryza sativa*	rice	calmodulin		10-99 pg	RT/fluorescent
Pieczul et al. 2018	*Tilletia caries*	common bunt	*Triticum aestivum*	wheat	rDNA IGS (IGS 2)		1 pg	RT/fluorescent, Evagreen
Pieczul et al. 2018	*Tilletia controversa*	dwarf bunt	*Triticum aestivum*	wheat	rDNA IGS (IGS 2)		1 pg	RT/fluorescent, Evagreen
Pieczul et al. 2018	*Tilletia laevis*	common bunt	*Triticum aestivum*	wheat	rDNA IGS (IGS 2)		1 pg	RT/fluorescent, Evagreen
Rong et al. 2018	*Fusarium proliferatum*	bakanae disease	*Oryza sativa*	rice	RED1		1 ng	HNB
Rong et al. 2018	*Fusarium fujikuroi*	bakanae disease	*Oryza sativa*	rice	rDNA IGS		100 pg	HNB
Sillo et al. 2018	*Heterobasidion irregulare*	root rot	*Pinus sylvestris* and other conifers	pine trees and other conifers	unique sequence (Cytochrome P450 monooxygenase)		~20 pg	RT/fluorescent
Thangavelu & Devi 2018	*Pseudocercospora eumusae*	leaf spot	*Musa* sp.	banana	specific SCAR marker	100×	10 pg	SYBR Green
Thiessen et al. 2018	*Erysiphe necator*	powdery mildew	*Vitis vinifera*	grapevine	rDNA ITS2		1 conidium	RT/fluorescent
Yang et al. 2018	*Ustilaginoidea virens*	false smut (green smut)	*Oryza sativa*	rice	UvG-β1	1000×	1 pg	HNB, SYBR Green
Yasuhara-Bell et al. 2018	*Magnaporthe oryzae*	blast	Poaceae	grasses	PoT2 transposon		5 pg	RT/fluorescent
Yasuhara-Bell et al. 2018	*Magnaporthe oryzae* pathotype *Triticum*	wheat blast	*Triticum aestivum*	wheat	MoT3 retinol dehydrogenase		5 pg	RT/fluorescent
Aglietti et al. 2019	*Ceratocystis platani*	canker stain disease	*Platanus* sp.	plane trees	rDNA ITS		0.02 pg/µl	RT/fluorescent
Aglietti et al. 2019	*Phytophthora ramorum*	sudden oak death	*Quercus* sp., *Larix kaempferi*	oaks, Japanese larch	rDNA ITS		0.128 pg/µl	RT/fluorescent
Almasi 2019	*Fusarium oxysporum* f. sp. *melonis*	fusarium wilt	*Citrullus* spp.	watermelon	elongation factor 1 alpha	100×		agarose gel, HNB
Dai et al. 2019	*Phytophthora cinnamomi*	root rot, crown rot, dieback	*Cedrus deodara, SOP*	deodar cedar, SOP	unique gene *Pcinn100006*	10×	0.1 ng	turbidity, HNB
Feng H et al. 2019	*Pythium spinosum*	seed, seedling and root rot	*Glycine max, Arachis hypogaea, Triticum aestivum*	soybean, peanut, wheat	ITS (ITS2)		100 pg	HNB
Feng W et al. 2019a	*Phytophthora speudolactucae*	wilt	*Lactuca sativa*	lettuce	*cox1*	~equal	100 fg	RT/turbidity
Feng W et al. 2019a	*Pythium spinosum*	damping off	*Lactuca sativa*	lettuce	rDNA ITS	~equal	10 fg	RT/turbidity
Feng W et al. 2019a	*Pythium uncinulatum*	damping off	*Lactuca sativa*	lettuce	rDNA ITS	~equal	100 fg	RT/turbidity
Feng W et al. 2019b	*Phytophthora colocasiae*	leaf blight	*Colocasia esculenta*	taro	*Ypt1*		100 fg	RT/turbidity, SYBR Green
Kaczmarek et al. 2019	*Uromyces betae*	rust	*Beta vulgaris*	sugar beet	cytochrome b		10 pg	RT/fluorescent
Lau et al. 2019	*Pyricularia oryzae*	rice blast	*Oryza sativa*	rice	Pot2 unique transposon		0.5 pg	agarose gel
Li GR et al. 2019	*Phytophthora cambivora*	wilt, root, stem and fruit rot	several species		*Ypt1*	10000×	20 ag	turbidity, SYBR Green
Li GR et al. 2019	*Phytophthora syringae*	wilt, root, stem and fruit rot	several species		rDNA ITS	10000×	20 ag	turbidity, SYBR Green
Li GR et al. 2019	*Phytophthora hibernalis*	wilt, root, stem and fruit rot	several species		*Enol*	10000×	20 ag	turbidity, SYBR Green
Li L et al. 2019	*Magnaporthe oryzae*	rice blast	*Oryza sativa*	rice	MGG_04322		10 pg	HNB, RT detection
Ordóñez et al. 2019	*Fusarium odoratissimum (Fusarium oxysporum f. sp. cubense tropical race 4)*	wilt	*Musa* sp.	banana species	unique sequence (SeqA)		1 pg	RT/fluorescent
Ortega et al. 2019	*Monilinia fructicola*	blight, brown rot	*Prunus, Malus* and *Pyrus* species	plums, cherries, and allies, apple and pear trees	cytochrome b		≤ 999 fg	RT/fluorescent
Ortega et al. 2019	*Monilinia laxa*	blight, brown rot	*Prunus, Malus* and *Pyrus* species	plums, cherries, and allies, apple and pear trees	specific SCAR marker		≤ 99 fg	RT/fluorescent
Parkinson et al. 2019	*Calonectria ilicicola*	black root rot	*Persea americana*	avocado	beta-tubulin		1 pg	RT/fluorescent
Parkinson et al. 2019	*Dactylonectria macrodidyma*	black root rot	*Persea americana*	avocado	histone H3		0.01 ng	RT/fluorescent
Parkinson et al. 2019	*Dactylonectria sp.*	black root rot	*Persea americana*	avocado	histone H3		0.1 ng	RT/fluorescent
Shan et al. 2019	*Fusarium temperatum*	ear and stalk rot	*Zea mays*	maize	28S rDNA		10 pg	SYBR Green
Sunani et al. 2019	*Fusarium fujikuroi*	bakanae disease	*Oryza sativa*	rice	NRPS31		10 pg/µl	HNB
Verma et al. 2019	*Phytophthora infestans*	late blight	*Solanum tuberosum, Solanum lycopersicum*	potato, tomato	rDNA ITS	100×	1 pg/µl	SYBR Green
Wu et al. 2019	*Colletotrichum gloeosporioides*	anthracnose	*Fragaria ananassa,* SOP	stawberry/several species	beta-tubulin	10×	0.1 pg; 1 pg	agarose gel, HNB
Yan et al. 2019	*Ustilago tritici*	loose smut	*Triticum* sp.	wheat	rDNA ITS, rDNA LSU		100 fg	SYBR Green
Yang et al. 2019	*Alternaria alternata*	black spot disease	*Pyrus* sp.	pear	*cytb*	1000×	1 pg	SYBR Green
Zhang et al. 2019	*Fusarium fujikuroi*	bakanae disease	*Oryza sativa*	rice	NRPS31	100×	10 fg	HNB
Chen et al. 2020	*Colletotrichum gloeosporioides*	anthracnose	*Canarium album*	Chinese olive	translation elongation factor alpha 1		0.4 fg	SYBR Green
Choudhary et al. 2020	*Rhizoctonia solani* AG-1 IA	sheath blight	*Oryza sativa, Zea mays,* Poaceae, SOP	rice, maize, gramineous plants, other hosts	polygalacturonase		1.65 fg/µl	colorimetric mastermix
Gupta et al. 2020	*Fusarium graminearum*	head blight	*Triticum aestivum*	wheat	unique sequence	equal	100 fg	HNB, EtBr
Hamilton et al. 2020	*Raffaelea lauricola*	laurel vascular wilt	Lauraceae	lauraceous hosts	β-tubulin		0.5 pg	RT/fluorescent
Kong et al. 2020	*Phytophthora infestans*	late blight	*Solanum tuberosum*	potato	specific multiple copy DNA sequences		1 pg	HNB
Lan et al. 2020	*Colletotrichum gloeosporioides*	anthracnose	*Psidium guajava*	guava	β-tubulin 2	~1000×	10 fg	SYBR Green
Lee et al. 2020	*Rosellinia necatrix*	white root rot	*Pyrus* sp.	pear, various other hosts	unique sequence		10 fg	RT/fluorescent
Marimuthu et al. 2020	*Plasmopara viticola*	downy mildew	*Vitis vinifera*	grapevine	*CesA4*		20 fg	HNB
Omer & Wallenhammar 2020	*Leptosphaeria biglobosa*	blackleg	*Brassica napus* subsp. *napus*	winter oil seed rape	polyketide synthase*PKS21*		100 fg	RT/fluorescent, colorimetric mastermix
Omer & Wallenhammar 2020	*Leptosphaeria maculans*	blackleg	*Brassica napus* subsp. *napus*	winter oil seed rape	non-ribosomal peptide synthase gene*irP*		180 fg	RT/fluorescent, colorimetric mastermix
Omer & Wallenhammar 2020	*Leptosphaeria maculans*	blackleg	*Brassica napus* subsp. *napus*	winter oil seed rape	polyketide synthase*PKS5*		30 pg	RT/fluorescent, colorimetric mastermix
Ristaino et al. 2020	*Phytophthora infestans*	late blight	*Solanum tuberosum, Solanum lycopersicum*	potato, tomato	rDNA ITS	10×	1 pg/µl	HNB, Eva Green, LFD
Shrestha et al. 2020	*Cercospora beticola*	leaf spot	*Beta vulgaris*	sugar beet	rDNA ITS		100 fg	colorimetric mastermix
Stehlíková et al. 2020	*Fusarium circinatum*	pitch canker	Pinaceae	conifers	EF1α		0.5 pg	RT/fluorescent with mastermix and probe
Wang et al. 2020	*Fusarium proliferatum*	ear and kernel rot	*Zea mays* , SOP	maize/ several additional species	TEF-1α		10 pg	SYBR Green
Winkworth et al. 2020	*Phytophthora agathidicida*	root rot, bleeding cankers	*Agathis australis*	kauri	apocytochrome b		1 fg	RT/fluorescent
Yang et al. 2020	*Coniella granati*	twig blight, crown rot	*Punica granatum*	pomegranate	EF1α		1 pg	SYBR Green

Zou et al. 2020	*Fusarium oxysporum* f. sp. *conglutinans*	fusarium wilt	Brassicaceae	cruciferous crops	endopolygalacturonase		100 pg	RT/fluorescent
Feng et al. 2021	*Pythium terrestris*	damping-off, root rot	*Glycine max*	soybean	*M90* Puf family RNA-binding protein gene		100 pg/ul	SYBR Green
Feng et al. 2021	*Candidatus Pythium huanghuaiense*	seed and root rot	*Glycine max*	soybean	*M90* Puf family RNA-binding protein gene		100 pg/ul	SYBR Green
Feng et al. 2021	*Pythium spinosum*	wilt, dieback, damping-off, root rot	*Glycine max* , SOP	soybean, other plants	*M90* Puf family RNA-binding protein gene		100 pg/ul	SYBR Green
Katoh et al. 2021	*Fusarium oxysporum f. sp. fragariae*	vascular wilt	*Fragaria ananassa*	strawberry	unique sequence		100 pg	colorimetric mastermix (containing calcein)
King et al. 2021	*Oculimacula yallundae*	eyespot	*Triticum aestivum, Hordeum vulgare, Avena sativa*	wheat, barley, rye	β-tubulin, MAT1-1, MAT1-2		1 pg	colorimetric mastermix
King et al. 2021	*Oculimacula acuformis*	eyespot	*Triticum aestivum, Hordeum vulgare, Avena sativa*	wheat, barley, rye	β-tubulin, MAT1-1, MAT1-2		1 pg	colorimetric mastermix
Kong et al. 2021	*Peronophythora litchii*	downy blight	*Litchi chinensis*	lychee	M90	100×	10 pg	SYBR Green
Liu Y et al. 2021	*Colletotrichum* spp.	anthracnose	*Fragaria ananassa* , SOP	strawberry/several hosts	β-tubulin 2		100 pg	HNB
Liu Z et al. 2021	*Cercospora canescens*	leaf spot	*Vigna radiata*	mungbean	cytb		100 pg	SYBR Green, EvaGreen fluorescence
Myrholm et al. 2021	*Dothistroma septosporum*	needle blight	*Pinus* sp.	pine trees	β-tubulin 2		1 pg	RT/fluorescent
Prasannakumar et al. 2021	*Magnaporthe oryzae*	blast	*Oryza sativa*	rice	RNA polymerase II largest subunit	10000×	100 fg	EtBr, basic fuchsin
Prasannakumar et al. 2021	*Sarocladium oryzae*	sheat rot	*Oryza sativa*	rice	RNA polymerase II largest subunit	10000×	100 fg	EtBr, basic fuchsin
Ren et al. 2021	*Marssonina coronaria*	blotch	*Malus domestica*	apple	ITS		100 fg	HNB
Sanna et al. 2021	*Fusarium fujikuroi*	bakanae disease	*Oryza sativa*	rice	EF1α		100 fg	RT/fluorescent
Sedaghatjoo et al. 2021	*Tilletia controversa*	dwarf bunt	*Triticum aestivum*	wheat	species-specific genome region		5 pg	neutral red
Siegieda et al. 2021	*Phytophthora cactorum*	crown rot, leather rot	*Fragaria ananassa* , other berry fruits	strawberry, other berry fruits	EF1α		300 fg	RT/fluorescent, SYBR Green
Siegieda et al. 2021	*Phytophthora* sp.	crown rot, leather rot	*Fragaria ananassa* , other berry fruits	strawberry, other berry fruits	EF1α		0.3 ng	RT/fluorescent, SYBR Green
Tong et al. 2021	*Phytophthora cinnamomi*	dieback, basal stem necrosis, stem canker	*Carya cathayensis*	chinese hickory	unique gene *Pcinn100006* (Dai *et al.* 2019)		80 pg	HNB
Wang et al. 2021	*Phytopythium vexans*	seedling damping-off, brown root rot, crown rot	*Ginkgo biloba, Citrus* spp., *Prunus* spp., *Vitis vinifera, Acer rubrum* , SOP	gingko, lemon, kiwifruit, cherry, grapevine, red maple, SOP	rDNA ITS	100×	1 pg	HNB
Wang et al. 2021	*Ustilaginoidea virens*	false smut (green smut)	*Oryza sativa*	rice	*APN1* aminopeptidase	10×	100 pg	HNB
Xiao & Li 2021	*Fusarium oxysporum*	soft rot	*Dendrobium officinale*	dendrobium	EF1α		5 fg	SYBR Green
Xiong et al. 2021	*Marssonina brunnea*	black spot disease	*Populus* spp.	poplars	rDNA ITS	100×	10 pg	HNB
Xu L et al. 2021	*Valsa mali*	Valsa canker	*Malus domestica*	apple	elongation factor 1α		1 ng	SYBR Green, EvaGreen fluorescence
Zhou et al. 2021	*Venturia carpophila*	scab	*Prunus persica*	peach	rDNA ITS	100×	56.6 fg	colorimetric mastermix
Choudhary et al. 2022	*Sarocladium oryzae*	sheath rot	*Oryza sativa*	rice	actin		1.6 fg/µl	colorimetric mastermix
Hu et al. 2022	*Pyrenophora graminea*	leaf stripe	*Hordeum vulgare*	barley	pig 14	10×	10 pg/µl	SYBR Green
Lakshmi et al. 2022	*Bipolaris oryzae*	brown spot	*Oryza sativa*	rice	glycoside hydrolase family 13 protein		100 fg	HNB
Lan et al. 2022	*Mycocentrospora acerina*	round leaf spot	*Panax notoginseng*	notoginseng	rDNA ITS		10 fg	SYBR Green
Liu et al. 2022	*Alternaria alternata*	blotch	*Malus domestica*	apple	*aapg-1* endopolygalacturonase	equal	1 fg	SYBR Green
Logeshwari et al. 2022	*Sarocladium oryzae*	sheath rot	*Oryza sativa*	rice	β-tubulin		10 fg	HNB
Rizzo et al. 2022	*Geosmithia morbida*	thousand cankers disease	*Juglans nigra*	walnut	kinesin		3.2 pg/µl	HNB, RT/fluorescent
Sadallah et al. 2022	*Pleurostoma richardsiae*	dieback, cankers, wilting	*Olea europaea, Vitis vinifera*	olive tree, grapevine	rDNA IGS		75 pg/µl	RT/fluorescent
Sun et al. 2022	*Phoma macdonaldii*	black stem	*Helianthus annuus*	sunflower	rDNA ITS		100 fg	colorimetric mastermix
Tonka et al. 2022	*Armillaria ostoyae*	decline	*Picea abies*	Norway spruce	*TEF-1α*		1 pg	RT/fluorescent with mastermix and probe
Wang et al. 2022	*Fusarium acuminatum*	root rot	*Astragalus membranaceus*	Mongolian milkvetch	*TEF-1α*		100 fg/µl	SYBR Green
Wang et al. 2022	*Fusarium solani*	root rot	*Astragalus membranaceus*	Mongolian milkvetch	*TEF-1α*		1 pg/µl	SYBR Green
Yang L et al. 2022	*Phomopsis amygdali*	shoot blight	*Prunus persica*	peach	*GME6801* (species-specific gene)	100×	50 pg	SYBR Green
Yang X et al. 2022	*Plasmodiophora brassicae*	clubroot	Brassicaceae	cruciferous crops	partial rDNA 18S-ITS1	100×	1 fg	colorimetric mastermix
Zhang Han et al. 2022	*Arthrinium phaeospermum*	wilting, blight	*Bambusa pervariabilis* x *Dendrocalamopsis grandis*	(a cultivated bamboo hybrid)	*APZ1300015*	10×	10 pg/µl	HNB
Zhang Hao et al. 2022	*Phellinus noxius*	brown root rot	*Acacia confusa* , *Ficus microcarpa* , *Prunus persica* , urban trees	acacia petit feuille, Indian laurel, pear, urban trees				
Achari et al. 2023	*Fusarium oxysporum* f. sp. *ciceris*	fusarium wilt	*Cicer arietinum*	chickpea	forma specialis-specific genomic region		9 pg/µl	RT/fluorescent
Ghimire et al. 2023	*Phytopythium vexans*	seedling damping-off, brown root rot, crown rot	*Ginkgo biloba, Citrus* spp., *Prunus* spp., *Vitis vinifera, Acer rubrum* , SOP	gingko, lemon, kiwifruit, cherry, grapevine, red maple, SOP	rDNA LSU		102 fg	RT/fluorescent, colorimetric mastermix
Hong-min et al. 2023	*Heterobasidion annosum*	root rot, butt rot	*Pinus* sp.	pine trees	GAPDH		100 pg/µl	HNB
Huang et al. 2023	*Clarireedia* spp.	dollar spot	Poaceae	grasses	beta-tubulin	100×	2×10^4 copies/µl	HNB
Ouyang et al. 2023	*Phakopsora pachyrhizi*	rust	*Glycine max*	soybean	*Phapa_6409908* (species-specific gene)		10 pg	SYBR Green
Vielba-Fernández et al. 2023	*Botrytis fragariae*	gray mold	*Fragaria ananassa*	strawberry	*NEP2* (species-specific gene)	equal	210 pg/µl	RT/fluorescent
Zhang J et al. 2023	*Globisporangium sylvaticum*	root rot, wilt, blight, tuber rot	*Zea mays, Lactuca sativa, S. tuberosum* , SOP	maize, lettuce, potato, other hosts	rDNA ITS	10×	1 pg	RT/fluorescent, SYBR Green
Zhang Y et al. 2023	*Ustilaginoidea virens*	false smut (green smut)	*Oryza sativa*	rice	ustiloxins biosynthetic gene (species-specific gene)	25×	6.4 spores/mL	RT/fluorescent
Marek et al. 2024	*Phaeoacremonium minimum*	esca	*Vitis vinifera*	grapevine	putative 14-alpha sterol demethylase protein (species-specific gene)	less sensitive	100 pg	RT/fluorescent, neutral red
Marek et al. 2024	*Phaeomoniella chlamydospora*	esca	*Vitis vinifera*	grapevine	putative carboxypeptidase s1 (species-specific gene)	1.6×	1 pg	RT/fluorescent, neutral red
Marek et al. 2024	*Fomitiporia mediterranea*	esca	*Vitis vinifera*	grapevine	WD40 repeat-like protein gene (species-specific gene)	less sensitive	100 pg	RT/fluorescent, neutral red
Zou et al. 2024	*Colletotrichum siamense*	anthracnose	*Chamelia chinensis*	tea	calmodulin	10×	1 pg	RT/fluorescent, SYBR Green
Dai et al. 2024	*Aspergillus niger*	crown rot, root rot	*Arachis hypogaea*	peanut	GOD		5.1×10^{-7} ng/µL plasmid	RT/fluorescent, SYBR Green
Tu et al. 2024	*Didymella segeticola*	tea leaf spot	*Camellia sinensis*	tea plant	zinc finger protein (species-specific sequence)		1 fg/µL	SYBR Green
Yeni et al. 2024	*Plasmopara halstedii*	downy mildew	*Helianthus annuus*	sunflower	rDNA LSU		0.5 pg/µl	HNB, SYBR Green, neutral red, thiazol green
Zhang et al. 2024	*Phytophthora infestans*	late blight	*Solanum tuberosum*	potato	extracellular protease inhibitor 12 (*Epi12*)		10 pg	SYBR Green
Zhang et al. 2024	*Alternaria solani*	early blight	*Solanum tuberosum*	potato	β-tubulin		100 fg	SYBR Green
Zhang et al. 2024	*Fusarium graminearum*	dry rot	*Solanum tuberosum*	potato	TEF 1α		1 pg	SYBR Green
Zhang et al. 2024	*Rhizoctonia solani*	black spot	*Solanum tuberosum*	potato	rDNA ITS		10 pg	SYBR Green
Palanisamy et al. 2025.	*Podosphaera xanthii*	powdery mildew	Cucurbitaceae	cucurbits	rDNA ITS		15 fg	HNB
Palanisamy et al. 2025.	*Pseudoperonospora cubensis*	downy mildew	Cucurbitaceae	cucurbits	*Ces42*		150 fg	HNB