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# **A World List of Chickpea and Pigeonpea Pathogens**

**Fifth edition**

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## Introduction

Chickpea (*Cicer arietinum* L.) and (*Cajanus cajan* (L.) Millsp.) are mandate pulses of ICRISAT. The first world list of chickpea and pigeonpea pathogens was published in 1978 (ICRISAT Pulse Pathology Progress Report-3) and was revised in 1980 (ICRISAT Pulse Pathology Progress Report-8), in 1984 (ICRISAT Pulse Pathology Progress Report-32), and in 1989 (ICRISAT Legumes Pathology Progress Report-7).

This comprehensive list contains information available as of December 1995 and has been prepared mainly from published reports and observations by ICRISAT researchers and cooperators. Pathogens (fungi, bacteria, viruses and mycoplasma, and nematodes) and their global distribution are listed. The occurrence of the pathogens in 1978 and 1995 is briefly reviewed. Common names for the diseases of chickpea and pigeonpea are also given.

We hope that this revised list will be useful to chickpea and pigeonpea researchers and extension workers all over the world.

# World List of Pathogens

## Chickpea

Diseases/Pathogens	Distribution (Country)
<b>Fungi</b>	
<b>Damping-off, collar rots, foot rots, root rots, seed/seedling rots</b>	
<i>Aphanomyces euteiches</i> Drechsler	.. USA
<i>Aspergillus flavus</i> Link:Fries	.. India
<i>Aspergillus niger</i> van Tieghem	.. Australia
<i>Cylindrocladium clavatum</i> Hodges & May	.. Brazil
<i>Fusarium acuminatum</i> Ellis & Everhart	.. Australia
<i>Fusarium arthrosporioides</i> Sherbakoff	.. Australia
<i>Fusarium avenaceum</i> (Corda:Fries) Saccardo	.. Australia, USA
<i>Fusarium equiseti</i> (Corda) Saccardo	.. Australia, India
<i>Fusarium solani</i> (Martius) Saccardo	.. Argentina, Australia, Chile, China, Egypt, Hungary, India, Mexico, Spain, Syria, USA
<i>Fusarium solani</i> (Martius) Saccardo f. sp <i>eumartii</i> (Carpenter) Snyder & Hansen = <i>Fusarium eumartii</i> Carpenter	.. Spain
<i>Fusarium</i> spp	.. Egypt, Morocco, Pakistan, Peru, Philippines, Tunisia
<i>Macrophomina phaseolina</i> (Tassi) Goidanich = <i>Rhizoctonia bataticola</i> (Taubenhaus) Butler	.. Australia, Bangladesh, China, Egypt, Ethiopia, India, Iran, Kenya, Lebanon, Mexico, Myanmar, Pakistan, Spain, Sri Lanka, Sudan, Syria, Tanzania, Turkey, Uganda, USA, Zambia
<i>Neocosmospora vasinfecta</i> E.F. Smith	.. Ethiopia, Hungary, India
<i>Ozonium texanum</i> (Neal & Wester.) var <i>parasiticum</i> Thirumalachar	.. India
<i>Phacidiopycnis padwickii</i> (Kheswalla) B. Sutton = <i>Operculella padwickii</i> Kheswalla	.. India
<i>Phoma medicaginis</i> Malbr. & Roumeguère var <i>pinodella</i> (Jones) Boerema	.. Australia, USA

<i>Phytophthora citrophthora</i> (R.E. Sm. & E.H. Sm.) Leonian	.. Argentina
<i>Phytophthora cryptogea</i> Pethybr. & Lafferty	.. USA
<i>Phytophthora drechsleri</i> Tucker	.. Argentina, Chile, Iran
<i>Phytophthora megasperma</i> Drechsler	.. Argentina, Australia, India, Pakistan, Spain
<i>Phytophthora parasitica</i> Dastur	.. USA
<i>Pythium debaryanum</i> Hesse	.. Argentina
<i>Pythium irregulare</i> Buisman	.. Australia, USA
<i>Pythium ultimum</i> Trow	.. India, Iran, Turkey, USA
<i>Pythium</i> sp	.. Australia, Chile, Iran, USA
<i>Rhizoctonia crocorum</i> (Persoon) DC. ex Fries	.. Italy
<i>Rhizoctonia solani</i> Kühn	.. Argentina, Australia, Bangladesh, Chile, Egypt, Ethiopia, India, Iran, Mexico, Morocco, Pakistan, Philippines, Sudan, Syria, USA
<i>Rhizoctonia</i> sp	.. Sri Lanka, Sudan
<i>Sclerotium rolfsii</i> Saccardo (teleomorph: <i>Athelia rolfsii</i> (Curzi) Tu & Kimbrough = <i>Corticium rolfsii</i> Curzi)	.. Bangladesh, Colombia, Egypt, Ethiopia, India, Kenya, Mexico, Nepal, Pakistan, Philippines, Sudan, Syria, Uganda, Zambia
<i>Thielaviopsis basicola</i> (Berk. & Broome) Ferraris	.. USA
<i>Trichoderma harzianum</i> Rifai	.. India
<i>Trichothecium roseum</i> (Persoon:Fries) Link	.. Hungary
<b>Leaf/stem blights</b>	
<i>Alternaria alternata</i> (Fries:Fries) Keissler	.. Australia, Bangladesh, Hungary, India, Sri Lanka
<i>Alternaria brassicicola</i> (Schwein.) Wiltshire	.. India
<i>Alternaria tenuissima</i> (Kunze:Fries) Wiltshire	.. India
<i>Alternaria</i> sp	.. Nepal
<i>Ascochyta pinodes</i> L.K. Jones (teleomorph: <i>Mycosphaerella pinodes</i> (Berk. & Bloxam) Vestergr.)	.. Australia, Hungary, India
<i>Ascochyta pisi</i> Lib.	.. Australia
<i>Ascochyta rabiei</i> (Passerini) Labrousse (races 1, 2, 3, 4, 5, and 6) (teleomorph: <i>Mycosphaerella rabiei</i> Kovachevski = <i>Didymella rabiei</i> (Kovachevski) v. Arx)	.. Algeria, Australia, Bangladesh, Bulgaria, Canada, China, Colombia, Cyprus, Egypt, Ethiopia, France, Greece, Hungary, India, Iran, Iraq, Israel, Italy, Jordan, Kenya, Lebanon, Libya, Mexico, Morocco, Pakistan, Portugal, Romania, Spain, Sudan, Syria,

<i>Botrytis cinerea</i> Persoon:Fries	.. Tanzania, Tunisia, Turkey, USA, former USSR
	.. Argentina, Australia, Bangladesh, Canada, Colombia, Hungary, India, Mexico, Myanmar, Nepal, Pakistan, Spain, Turkey, USA, Vietnam
<i>Colletotrichum capsici</i> (Sydow) Butler & Bisby	.. India
<i>Colletotrichum dematium</i> (Persoon) Grove	.. India, Sri Lanka
<i>Colletotrichum trifolii</i> Bain & Essary	.. Australia, Germany
<i>Colletotrichum</i> sp	.. Mexico
<i>Myrothecium roridum</i> Tode:Fries	.. Hungary
<i>Mystrosporium</i> sp	.. India
<i>Phoma medicaginis</i> Malbr. & Roumeguère	.. Australia, Bangladesh, India, USA
	.. Hungary, Tunisia
<i>Pleospora herbarum</i> (Persoon:Fries) Rabenhorst (anamorph: <i>Stemphylium herbarum</i> Simmons)	
<i>Pleospora tarda</i> Simmons	.. Australia, Hungary
(anamorph: <i>Stemphylium botryosum</i> Wallroth)	
<i>Sclerotinia sclerotiorum</i> (Lib.) de Bary	.. Algeria, Australia, Bangladesh, Chile, Egypt, Hungary, India, Iran, Morocco, Myanmar, Nepal, Pakistan, Syria, Tunisia, USA
	.. Australia
<i>Sclerotinia trifoliorum</i> Eriksson	.. Mexico
<i>Sclerotinia</i> sp	.. India
<i>Scopulariopsis brevicaulis</i> (Saccardo) Bainier	.. Bangladesh, India, Iran, Syria
<i>Stemphylium sarciniforme</i> (Cavara) Wiltshire	.. Australia
<i>Stemphylium</i> spp	
<b>Downy mildew</b>	
<i>Peronospora</i> sp	.. Israel, Mexico
<b>Powdery mildews</b>	
<i>Leveillula taurica</i> (Léveillé) Arnaud (anamorph: <i>Oidiopsis taurica</i> (Léveillé) Salmon)	.. Ethiopia, India, Mexico, Morocco, Pakistan, Sudan, USA, Zambia
<i>Erysiphe</i> sp	.. Iran
<b>Rusts</b>	
<i>Uromyces appendiculatus</i> (Persoon) Unger	.. Tanzania
<i>Uromyces ciceris-arietini</i> Jaczewski in Boyer & Jaczewski	.. Algeria, Afghanistan, Australia, Bangladesh, Bulgaria, Chile, Cyprus, Ethiopia, France,

<i>Uromyces striatus</i> Schroeter	.. Hungary, India, Iran, Italy, Lebanon, Libya, Malawi, Mexico, Morocco, Nepal, Pakistan, Peru, Portugal, Syria, Tunisia, USA
<i>Uromyces viciae-fabae</i> (Persoon) Schroeter	.. Australia, India
	.. India
<b>Wilts</b>	
<i>Acrophialophora fusicpora</i> (Saksena) M.B. Ellis	.. India
<i>Fusarium oxysporum</i> Schlecht.:Fries emend. Snyder & Hansen f. sp <i>ciceris</i> (Padwick) Matuo & Sato (races 0, 1, 2, 3, 4, 5, and 6)	.. Algeria, Argentina, Australia, Bangladesh, Chile, China, Colombia, Egypt, Ethiopia, Hungary, India, Iran, Iraq, Italy, Kenya, Malawi, Mexico, Morocco, Myanmar, Nepal, Pakistan, Peru, Spain, Sri Lanka, Sudan, Syria, Tunisia, Turkey, Uganda, USA, former USSR, Zambia
<i>Verticillium albo-atrum</i> Reinke & Berth.	.. India, Pakistan, Tunisia, USA
<i>Verticillium dahliae</i> Klebahn	.. Italy, Syria, USA
<i>Verticillium</i> sp	.. Chile
<b>Bacteria</b>	
<b>Seedling rot/blight, leaf spot</b>	
<i>Pseudomonas andropogonis</i> (Smith) Stapp	.. Australia, Italy, USA
<i>Xanthomonas campestris</i> pv <i>cassiae</i> (Kulkarni, Patel & Dhande) Dye	.. India
<i>Xanthomonas</i> sp	.. Philippines
<b>Viruses and mycoplasma</b>	
<b>Stunting, chlorosis, wilting, proliferation</b>	
Alfalfa mosaic virus	.. Algeria, Australia, India, Iran, Morocco, Myanmar, New Zealand, Turkey, USA
Bean (pea) leaf roll virus	.. Algeria, Bangladesh, China, Ethiopia, India, Iran, Kenya, Lebanon, Mexico, Morocco, Myanmar, Nepal, Netherlands, New Zealand, Pakistan, Russia, Spain, Sudan, Syria, Tunisia, Turkey, USA, Zambia



Bean yellow mosaic virus	..	India, Iran, USA
Beet western yellows virus	..	Australia, India, Spain, Syria, USA
Broad bean mottle virus	..	Morocco
Chickpea bushy stunt (dwarf) virus	..	India
Chickpea chlorotic dwarf virus	..	India
Chickpea distortion mosaic virus	..	India
Chickpea filiform virus	..	USA
Cucumber mosaic virus	..	Australia, Bulgaria, Colombia, India, Iran, Morocco, Spain, USA, former USSR
Faba bean necrotic yellows virus	..	Syria, Turkey
Legume yellows virus	..	USA
Lettuce mosaic virus	..	USA
Lettuce necrotic yellows virus	..	Australia
Pea enation mosaic virus	..	Italy, USA
Pea seedborne mosaic virus	..	Egypt, USA
Pea streak virus	..	USA
Phyllody (mycoplasma-like organism)	..	Ethiopia, India, Myanmar, Zambia
Red clover vein mosaic virus	..	USA
Subterranean clover red leaf virus	..	Australia, USA
Tobacco ring spot virus	..	India
Tobacco streak virus	..	USA

### Parasitic nematodes

#### Stunting, root-knot, root lesion, pearly root, dirty root, etc

<i>Amplimerlinius magnistylus</i>	..	Spain
Castillo, Barcina, Vovlas, Navas		
<i>Aphelenchoides graminis</i> Basanowskaja & Hange	..	Sudan
<i>Aphelenchoides</i> sp	..	India, Sudan, Syria
<i>Basiria</i> sp	..	India
<i>Boleodorus</i> sp	..	India
<i>Criconema</i> sp	..	India
<i>Ditylenchus dipsaci</i> (Kühn) Filipjev	..	Syria
<i>Ditylenchus</i> sp	..	India, Sudan
<i>Helicotylenchus abunaamai</i> Siddiqi	..	India
<i>Helicotylenchus dihystera</i> (Cobb) Sher	..	India
<i>Helicotylenchus indicus</i> Siddiqi	..	India
<i>Helicotylenchus pseudorobustus</i> (Steiner) Golden	..	Spain
<i>Helicotylenchus retusus</i> Siddiqi & Brown	..	India
<i>Helicotylenchus sharafati</i> Mulk & Jairajpuri	..	India
<i>Helicotylenchus tunisiensis</i> Siddiqi	..	Spain
<i>Helicotylenchus</i> sp	..	Syria, Zimbabwe

<i>Hemicriconemoides cocophillus</i>	..	India
(Loos) Chitwood & Birchfield		
<i>Heterodera cajani</i> Koshy	..	India
<i>Heterodera ciceri</i> Vovlas, Greco & Di Vito <sup>1</sup>	..	Jordan, Lebanon, Syria
<i>Heterodera goettingiana</i> Liebscher	..	Spain, USA
<i>Heterodera rosii</i> Duggan & Brennan <sup>1</sup>	..	Syria
<i>Heterodera schachtii</i> Schmidt	..	Germany
<i>Heterodera</i> sp	..	India, Nepal, Spain
<i>Hirschmanniella mucronata</i> Das	..	India
<i>Hirschmanniella oryzae</i>	..	India
(van Breda de Haan) Luc & Goodey		
<i>Hirschmanniella</i> spp	..	India
<i>Hoplolaimus dimorphicus</i> Mulk & Jairajpuri	..	India
<i>Hoplolaimus indicus</i> Sher	..	India
<i>Hoplolaimus seinhorsti</i> Luc	..	India
<i>Longidorus</i> spp	..	India, Mexico
<i>Macroposthonia ornata</i>	..	India
(Raski) De Grisse & Loof		
<i>Malenchus</i> sp	..	India
<i>Meloidogyne arenaria</i> (Neal) Chitwood	..	India
<i>Meloidogyne artiellia</i> Franklin <sup>1</sup>	..	Italy, Spain, Syria
<i>Meloidogyne incognita</i>	..	Bangladesh, India, Nepal,
(Kofoid & White) Chitwood <sup>1</sup>		Pakistan
<i>Meloidogyne incognita acrita</i> Chitwood	..	Egypt
<i>Meloidogyne javanica</i> (Treub) Chitwood <sup>1</sup>	..	Bangladesh, Brazil, Egypt,
		India, Malawi, Nepal,
		Pakistan
<i>Meloidogyne thamesi</i>	..	Australia
Chitwood in Chitwood, Specht & Havis		
<i>Meloidogyne</i> sp	..	Bangladesh, Cuba, Ethiopia,
		Malawi, Myanmar, Pakistan,
		Syria, Uganda, USA, Zambia,
		Zimbabwe
<i>Merlinius</i> sp	..	India
<i>Nothocriconemella</i> sp	..	India
<i>Paratylenchus</i> sp	..	India
<i>Pratylenchoides</i> sp	..	Syria
<i>Pratylenchus alkani</i> Yuksel	..	Syria
<i>Pratylenchus brachyurus</i> (Godfrey) Goodey <sup>1</sup>	..	Australia, Brazil
<i>Pratylenchus coffeae</i>	..	India
(Zimmerman) Filipjev & Schuurmans Stekhoven		
<i>Pratylenchus leiocauda</i> Sher	..	Algeria
<i>Pratylenchus mediterraneus</i> Corbett	..	Algeria, Morocco, Syria, Tunisia
<i>Pratylenchus minyus</i> Sher & Allen	..	Spain

<i>Pratylenchus mulchandi</i> Nandakumar & Khera	.. India
<i>Pratylenchus neglectus</i> (Rensch) Chitwood & Oteifa	.. Algeria, USA
<i>Pratylenchus penetrans</i> (Cobb) Filipjev & Schuurmans Stekhoven	.. Algeria, Morocco, Spain, Tunisia
<i>Pratylenchus ritteri</i> Sher	.. Algeria, Tunisia
<i>Pratylenchus thornei</i> Sher & Allen <sup>1</sup>	.. Australia, India, Myanmar, Syria
<i>Pratylenchus zae</i> Graham	.. India
<i>Rotylenchulus macrosoma</i> Dasgupta, Raski & Sher	.. Syria
<i>Rotylenchulus reniformis</i> Linford & Oliveira <sup>1</sup>	.. Ghana, India
<i>Rotylenchulus</i> sp	.. Tunisia
<i>Rotylenchus</i> spp	.. India
<i>Scutellonema brachyurum</i> (Steiner) Andrassy	.. India
<i>Scutellonema</i> spp	.. India
<i>Trichodorus</i> sp	.. Bangladesh
<i>Trophurus imperialis</i> Loof	.. Spain
<i>Trophurus</i> sp	.. Syria
<i>Tylenchorhynchus annulatus</i> (Cassidy) Golden	.. Pakistan
<i>Tylenchorhynchus brassicae</i> Siddiqi	.. India
<i>Tylenchorhynchus brevidens</i> Allen	.. India
<i>Tylenchorhynchus brevilineatus</i> Williams	.. India
<i>Tylenchorhynchus clarus</i> Allen	.. Spain
<i>Tylenchorhynchus dubius</i> (Butschli) Filipjev	.. Netherlands
<i>Tylenchorhynchus mashhoodi</i> Siddiqi & Basir	.. India
<i>Tylenchorhynchus vulgaris</i> Upadhyay, Swarup & Sethi	.. India
<i>Tylenchorhynchus</i> sp	.. India, Morocco, Syria, Tunisia
<i>Tylenchus</i> spp	.. India, Morocco, Spain, Syria, Tunisia
<i>Xiphinema americanum</i> Cobb	.. USA
<i>Xiphinema basiri</i> Siddiqi	.. India
<i>Xiphinema pachaicum</i> (Tulaganou) Kirjanova	.. Morocco, Syria
<i>Xiphinema</i> sp	.. India, Syria
<i>Zygotylenchus guevarai</i> (Tober Jimenez) Braun & Loof	.. Spain

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1. These nematodes have been responsible for disease situations in fields.

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# Pigeonpea

Diseases/Pathogens	Distribution (Country)
<b>Fungi</b>	
<b>Damping-off, seed/seedling rots, root rots, collar rots, stem blights/cankers/galls/rots</b>	
<i>Armillaria mellea</i> (Vahl.:Fries) Kummer	.. Malawi
<i>Aspergillus flavus</i> Link:Fries	.. India, Trinidad and Tobago
<i>Aspergillus niger</i> van Tieghem	.. Trinidad and Tobago
<i>Botryosphaeria xanthocephala</i> (Sydow, P. Sydow & Butler) Theissen (anamorph: <i>Fusicoccum cajani</i> (Sydow, P. Sydow & Butler) Samuel & Singh)	.. Australia, Fiji, India, Puerto Rico
<i>Cercospora canescens</i> Ellis & Martin	.. Zambia
<i>Colletotrichum capsici</i> (Sydow) Butler & Bisby	.. India
<i>Colletotrichum crassipes</i> (Spegazzini) v. Arx	.. Zambia
<i>Colletotrichum truncatum</i> (Schweinitz) Andrus & Moore	.. India
<i>Colletotrichum</i> sp	.. Barbados, Puerto Rico
<i>Corticium salmonicolor</i> Berk. & Broome	.. New Caledonia
<i>Dendrochium gigasporum</i> Bresadola & Saccardo	.. Uganda
<i>Diplodia cajani</i> Raychaudhuri	.. India
<i>Diplodia</i> sp	.. Zambia
<i>Fusarium avenaceum</i> (Corda:Fries) Saccardo	.. Trinidad and Tobago
<i>Fusarium equiseti</i> (Corda) Saccardo	.. India
<i>Lasiodiplodia theobromae</i> (Patouillard) Griffon & Maublanc = <i>Botryodiplodia theobromae</i> Patouillard	.. Puerto Rico
<i>Macrophomina phaseolina</i> (Tassi) Goidanich = <i>Rhizoctonia bataticola</i> (Taubenhaus) Butler	.. Australia, India, Jamaica, Malawi, Myanmar, Nepal, Sri Lanka, Trinidad and Tobago, USA, Vietnam, Zambia
<i>Neocosmospora vasinfecta</i> E.F. Smith	.. India
<i>Phellinus noxius</i> (Corner) G.H. Cunningham	.. Niger, Papua New Guinea
<i>Phoma cajani</i> (Rangel) Khune & Kapoor	.. Brazil, India
<i>Phoma sorghina</i> (Saccardo) Boerema <i>et al.</i>	.. Trinidad and Tobago, Zambia
<i>Phoma</i> sp	.. Puerto Rico, Trinidad and Tobago

<i>Phomopsis cajani</i> Sydow & Sydow	..	Zambia
<i>Phomopsis</i> sp	..	India, Puerto Rico, Trinidad and Tobago
<i>Phytophthora cinnamomi</i> Rands	..	USA
<i>Phytophthora drechsleri</i> Tucker	..	Australia, USA
<i>Phytophthora drechsleri</i> Tucker f. sp <i>cajani</i> (Mahendra Pal, Grewal & Sarbhoy) Kannaiyan, Ribeiro, Erwin & Nene	..	Dominican Republic, India, Kenya, Panama, Puerto Rico
<i>Phytophthora nicotianae</i> Breda de Haan var <i>parasitica</i> (Dastur) Waterhouse = <i>Phytophthora parasitica</i> Dastur	..	Puerto Rico, USA
<i>Phytophthora palmivora</i> (Butler) Butler	..	USA
<i>Phytophthora</i> spp	..	Dominican Republic, Kenya, Nepal, Sri Lanka, Trinidad and Tobago
<i>Pythium aphanidermatum</i> (Edson) Fitzpatrick	..	India
<i>Pythium arrhenomanes</i> Drechsler	..	USA
<i>Pythium debaryanum</i> Hesse	..	USA
<i>Pythium irregulare</i> Buisman	..	USA
<i>Pythium splendens</i> Braun var <i>hawaiianum</i> Sideris	..	USA
<i>Pythium</i> sp	..	Australia
<i>Rhizoctonia crocorum</i> (Persoon) DC. ex Fries	..	Trinidad and Tobago, Zambia
<i>Rhizoctonia solani</i> Kühn (teleomorph: <i>Thanatephorus cucumeris</i> (Frank) Donk)	..	India, Malaysia, Philippines, Puerto Rico, Sierra Leone, Trinidad and Tobago, Uganda, Zambia
<i>Rhizoctonia</i> sp	..	Philippines, Puerto Rico, USA
<i>Sclerotinia sclerotiorum</i> (Lib.) de Bary	..	Australia, Bermuda, Malaysia, Zambia
<i>Sclerotium rolfsii</i> Saccardo (teleomorph: <i>Athelia rolfsii</i> (Curzi) Tu & Kimbrough = <i>Corticium rolfsii</i> Curzi)	..	Australia, India, Pakistan, Puerto Rico, Sri Lanka, Trinidad and Tobago, USA, Venezuela, Zambia
<i>Sclerotium</i> sp	..	Puerto Rico
<i>Synchytrium phaseoli-radiati</i> Sinha & Gupta	..	India
<i>Synchytrium umbilicatum</i> (Berk. & Broome) Karling	..	India, Sri Lanka
<i>Thanatephorus cucumeris</i> (Frank) Donk (anamorph: <i>Rhizoctonia solani</i> Kühn)	..	India, Sri Lanka, Trinidad and Tobago, Zambia
<b>Leaf spots/blights/rots</b>		
<i>Alternaria alternata</i> (Fries:Fries) Keissler	..	Australia, India
<i>Alternaria tenuissima</i> (Kunze:Fries) Wiltshire	..	India, Puerto Rico, USA, Zambia
<i>Alternaria</i> sp	..	Kenya, Malawi, Sri Lanka

<i>Botrytis cinerea</i> Persoon:Fries	.. Bangladesh, India, Nepal, Sri Lanka
<i>Ceratocystis fimbriata</i> (Ellis & Halsted)	.. Brazil
<i>Cercoseptoria cajanicola</i> Pavgi & Singh	.. India, Zambia
<i>Cercospora canescens</i> Ellis & Martin	.. Philippines
<i>Cercospora instabilis</i> Rangel	.. Brazil, India, Philippines, Puerto Rico, USA
<i>Cercospora thirumalacharii</i> Sharma & Mishra	.. India
<i>Chaetoseptoria wellmani</i> Stevenson	.. Guatemala
<i>Choanephora cucurbitarum</i> (Berk. & Ravenel) Thaxter	.. India
<i>Choanephora</i> sp	.. Trinidad and Tobago
<i>Cladosporium cladosporioides</i> (Fresenius) de Vries	.. India
<i>Cladosporium oxysporum</i> Berk. & Curtis	.. Zambia
<i>Colletotrichum cajani</i> Rangel	.. Brazil, India, Puerto Rico, USA, Venezuela, Zambia
<i>Colletotrichum graminicola</i> (de Cesati) Wilson	.. India
<i>Curvularia lunata</i> (Walker) Boedijn	.. India
<i>Fusarium pallidoroseum</i> (Cooke) Saccardo = <i>Fusarium semitectum</i> Berk. & Ravenel	.. India, Puerto Rico
<i>Leptosphaerulina briosiana</i> (Poll.) Graham & Luttrell	.. India
<i>Macrophoma cajanicola</i> Pavgi & Singh	.. India, Tanzania
<i>Mycovellosiella cajani</i> (Hennings) Rangel ex. Trotter = <i>Cercospora cajani</i> Hennings	.. Bangladesh, Brazil, Colombia, Dominican Republic, Ethiopia, Fiji, Guatemala, Haiti, India, Jamaica, Kenya, Malawi, Mauritius, Nepal, Nigeria, Puerto Rico, Sierra Leone, Sri Lanka, Sudan, Taiwan, Tanzania, Trinidad and Tobago, Uganda, USA, Venezuela, Zambia, Zimbabwe
<i>Mycovellosiella cajani</i> var <i>indica</i> (Singh) Deighton = <i>Cercospora indica</i> Singh	.. Fiji, India
<i>Mycovellosiella cajani</i> var <i>tricophila</i> (Curzi) Deighton	.. Kenya, Somalia, Taiwan
<i>Myrothecium gramineum</i> Lib.	.. India
<i>Myrothecium roridum</i> Tode:Fries	.. India
<i>Periconia byssoides</i> Persoon	.. India
<i>Phaeoisariopsis griseola</i> (Saccardo) Ferraris	.. Zambia
<i>Phoma</i> sp	.. Dominican Republic, India,

<i>Phyllosticta cajani</i> Rangel	Malawi, Panama, Puerto Rico, Trinidad and Tobago, Venezuela, Zambia
<i>Pyrenochaeta cajani</i> Singh & Pavgi	.. Brazil, Fiji, India, Jamaica, Puerto Rico, Sri Lanka, Trinidad and Tobago, USA
<i>Stemphylium</i> sp	.. India
	.. USA
<b>Powdery mildews</b>	
<i>Leveillula taurica</i> (Léveillé) Arnaud (anamorph: <i>Oidiopsis taurica</i> (Léveillé) Salmon)	.. Ethiopia, India, Kenya, Malawi, Mauritius, Sri Lanka, Sudan, Tanzania, Uganda, Zambia
<i>Ovulariopsis ellipsospora</i> Gortler	.. South Africa
<b>Rusts</b>	
<i>Phakospora pachyrhizi</i> Sydow	.. Australia, Philippines
<i>Uredo cajani</i> Sydow	.. Bermuda, Colombia, Côte d'Ivoire, Guatemala, India, Jamaica, Kenya, Nigeria, Puerto Rico, Sierra Leone, South Africa, Sri Lanka, Tanzania, Trinidad and Tobago, Uganda, USA, Venezuela
<b>Wilts</b>	
<i>Fusarium udum</i> Butler (teleomorph: <i>Gibberella indica</i> B. Rai & R.S. Upadhyay)	.. Bangladesh, Germany, Ghana, Grenada, India, Indonesia, Italy, Kenya, Malawi, Mauritius, Myanmar, Nepal, St. Kitts and Nevis, Tanzania, Thailand, Trinidad and Tobago, Uganda, Venezuela, Vietnam, Zambia
<i>Fusarium</i> sp	.. Philippines
<i>Verticillium</i> sp	.. Ecuador
<b>Bacteria</b>	
<b>Leaf spots, stem canker</b>	
<i>Pseudomonas syringae</i> pv <i>phaseolicola</i> (Burkholder) Young, Dye & Wilkie	.. Australia, Ethiopia, Zambia
<i>Pseudomonas</i> sp	.. Brazil
<i>Xanthomonas campestris</i> pv <i>cajani</i> (Kulkarni, Patel & Abhyankar) Dye	.. Australia, China, Fiji, India, Malawi, Myanmar, Panama, Puerto Rico, Sri Lanka, Sudan
<i>Xanthomonas</i> sp	.. Zambia

## Viruses/mycoplasma

### Stunting, mosaic, proliferation

Alfalfa mosaic virus	.. New Zealand
Arhar mosaic virus	.. India
Clitoria yellow vein virus	.. Kenya
Cowpea mosaic virus	.. El Salvador, Kenya, Puerto Rico, Trinidad and Tobago
Foliar vein yellowing (rhabdovirus)	.. USA
Mosaic (virus ?)	.. Kenya, Zambia
Mung bean yellow mosaic virus	.. India, Jamaica, Nepal, Philippines, Puerto Rico, Sri Lanka
Phyllody (mycoplasma-like organism)	.. India, Myanmar, Thailand, Zambia
Pigeonpea mosaic mottle (viroid)	.. India
Rhynchosia little leaf (mycoplasma-like organism)	.. Jamaica
Rhynchosia mosaic (virus)	.. Puerto Rico
Ring spot (virus ?)	.. Zambia
Rosette (mycoplasma-like organism)	.. India
Sterility mosaic (unknown/virus ?)	.. Bangladesh, India, Myanmar, Nepal, Sri Lanka, Thailand
Tobacco mosaic virus	.. India
Tobacco streak virus	.. USA
Tomato black ring virus	.. Kenya
Urd bean leaf crinkle virus	.. India
Witches' broom (mycoplasma-like organism)	.. Australia, Bangladesh, Costa Rica, Dominican Republic, El Salvador, Haiti, Jamaica, Panama, Papua New Guinea, Puerto Rico, Taiwan, Trinidad and Tobago, USA, Venezuela

## Parasitic nematodes

### Stunting, root-knot, root lesion, pearly root, dirty root, etc.

<i>Aphasmatylenchus straturatus</i> Germani <sup>1</sup>	.. Burkina Faso
<i>Aphelenchoides bicaudatus</i> (Imamura) Filipjev & Schuurmans Stekhoven	.. Fiji, Kenya
<i>Aphelenchoides</i> spp	Kenya
<i>Basiria</i> sp	Kenya
<i>Bitylenchus singularis</i> Siddiqi & Sharma	.. Kenya
<i>Criconema</i> sp	Trinidad and Tobago
<i>Criconemoides</i> sp	Burkina Faso, India, Puerto Rico, Trinidad and Tobago, USA



<i>Ditylenchus</i> sp	Fiji, India, Kenya, Sudan
<i>Duosulcius</i> sp	Kenya
<i>Filenchus</i> sp	Kenya
<i>Gracilacus peperpotti</i> Schoemaker	.. Kenya
<i>Gracilacus</i> sp	Kenya
<i>Helicotylenchus dihystra</i> (Cobb) Sher	.. Australia, Brazil, Cuba, Fiji, India, Kenya, Tonga, Trinidad and Tobago, USA
<i>Helicotylenchus elegans</i> Roman	India
<i>Helicotylenchus indicus</i> Siddiqi	Fiji, India
<i>Helicotylenchus microcephalus</i> Sher	.. Kenya, Tonga
<i>Helicotylenchus mucronatus</i> Siddiqi	.. Tonga
<i>Helicotylenchus multincinctus</i> (Cobb) Golden	.. Cuba
<i>Helicotylenchus paraplatyurus</i> Siddiqi	.. Kenya
<i>Helicotylenchus pseudorobustus</i> (Steiner) Golden	Kenya
<i>Helicotylenchus retusus</i> Siddiqi & Brown	.. India
<i>Helicotylenchus</i> sp	India, Côte d'Ivoire, Jamaica, Philippines, Puerto Rico, Sudan, Trinidad and Tobago, Zimbabwe
<i>Hemicriconemoides cocophillus</i> (Loos) Chitwood & Birchfield	Fiji, India
<i>Hemicriconemoides</i> spp	India
<i>Heterodera cajani</i> Koshy <sup>1</sup>	Egypt, India
<i>Heterodera trifolii</i> Goffart	India
<i>Hirschmanniella mucronata</i> Das	India
<i>Hirschmanniella oryzae</i> (van Breda de Haan) Luc & Goodey	India, Kenya
<i>Hirschmanniella</i> spp	India
<i>Hoplolaimus galeatus</i> (Cobb) Thorne	.. USA
<i>Hoplolaimus indicus</i> Sher	India
<i>Hoplolaimus seinhorsti</i> Luc <sup>1</sup>	Fiji, India, Kenya, Nigeria
<i>Hoplolaimus</i> sp	India, Jamaica, Puerto Rico
<i>Longidorus siddiqii</i> Aboul-Eid	India
<i>Longidorus</i> spp	India, Jamaica
<i>Macroposthonia onensis</i> (Loof) De Grisse & Loof	Fiji
<i>Macroposthonia</i> sp	Kenya, Trinidad and Tobago
<i>Meloidogyne acronea</i> Coetzee	Malawi
<i>Meloidogyne arenaria</i> (Neal) Chitwood	.. USA
<i>Meloidogyne hapla</i> Chitwood	Australia, India, USA
<i>Meloidogyne incognita</i> (Kofoid & White) Chitwood <sup>1</sup>	Australia, Bangladesh, Egypt, India, Malawi, Nepal, Philippines, Trinidad and

<i>Meloidogyne incognita acrita</i> Chitwood	.. Tobago, Uganda, USA
<i>Meloidogyne javanica</i> (Treub) Chitwood <sup>1</sup>	.. India
<i>Meloidogyne</i> sp	.. Australia, Bangladesh, Brazil, India, Kenya, Malawi, Nepal, Philippines, Puerto Rico, Zambia, Zimbabwe
	.. Ethiopia, Fiji, Kenya, Nepal, Nigeria, Tonga, USA, Zambia, Zimbabwe
<i>Merlinius</i> spp	.. India
<i>Mulkorhynchus</i> sp	.. Kenya
<i>Neoditylenchus</i> sp	.. India
<i>Neodolichorhynchus gladiolatus</i> (Fortuner & Amougou) Jairajpuri & Hunt	.. Kenya
<i>Ottolenchus</i> sp	.. Kenya
<i>Paralongidorus</i> sp	.. Kenya
<i>Paraphelenchus</i> sp (hyphal feeder)	.. Kenya
<i>Paratrichodorus christiei</i> (Allen) Siddiqi	.. USA
<i>Paratrichodorus minor</i> (Colbran) Siddiqi	.. Egypt, Kenya
<i>Paratrichodorus mirzai</i> Siddiqi	.. India
<i>Pratylenchus</i> spp	.. India
<i>Pratylenchus brachyurus</i> (Godfrey) Goodey	.. Brazil, Fiji, USA
<i>Pratylenchus coffeae</i> (Zimmerman) Filipjev & Schuurmans Stekhoven	.. India
<i>Pratylenchus delattrei</i> Luc	.. India
<i>Pratylenchus indicus</i> Das	.. Kenya
<i>Pratylenchus neglectus</i> (Rensch) Filipjev & Schuurmans Stekhoven	.. Kenya
<i>Pratylenchus penetrans</i> (Cobb) Filipjev & Schuurmans Stekhoven	.. Egypt
<i>Pratylenchus scribneri</i> Steiner	.. Sudan, USA
<i>Pratylenchus sefaensis</i> Fortuner	.. Kenya
<i>Pratylenchus sudanensis</i> Loof & Yassin	.. Kenya, Sudan
<i>Pratylenchus vulnus</i> Allen & Jensen	.. Kenya
<i>Pratylenchus zaeae</i> Graham	.. Fiji, India, Kenya, Trinidad and Tobago
<i>Pratylenchus</i> sp	.. Bangladesh, India, Jamaica, Kenya, Nigeria, Philippines, Sudan, Trinidad and Tobago, USA, Zimbabwe
<i>Psilenchus</i> sp	.. India
<i>Radopholus similis</i> (Cobb) Thorne	.. Australia, Fiji, India, USA
<i>Radopholus</i> spp	.. Nepal
<i>Rotylenchulus leptus</i> Dasgupta, Raski & Sher	.. Kenya

<i>Rotylenchulus parvus</i> (Williams) Sher	..	Australia, Kenya
<i>Rotylenchulus reniformis</i> Linford & Oliveira <sup>1</sup>	..	Australia, Fiji, India, Jamaica, Puerto Rico, Trinidad and Tobago
<i>Rotylenchulus</i> spp	..	Kenya, Philippines, Trinidad and Tobago
<i>Rotylenchus secundus</i> Mulk & Jairajpuri	..	India
<i>Rotylenchus</i> spp	..	India, Trinidad and Tobago
<i>Sakia</i> sp	..	Kenya
<i>Scutellonema anisomeristum</i> Siddiqi & Bridge	..	Kenya
<i>Scutellonema brachyurum</i> (Steiner) Andrassy	..	Kenya
<i>Scutellonema bradys</i> (Steiner & Le Hew) Andrassy	..	Jamaica
<i>Scutellonema clathricaudatum</i> Whitehead	..	Niger
<i>Scutellonema diversicaudatum</i> Luc	..	Niger
<i>Scutellonema erectum</i> Sivakumar & Khan	..	India
<i>Scutellonema magniphasmum</i> Sher	..	Kenya
<i>Scutellonema paralabiatum</i> Siddiqi & Sharma	..	Kenya
<i>Scutellonema propeltatum</i> Siddiqi & Sharma	..	Kenya
<i>Scutellonema unum</i> Sher	..	Kenya
<i>Scutellonema</i> spp	..	India, Jamaica, Kenya
<i>Telotylenchoides lobatus</i> (Loof & Yassin) Siddiqi	..	Kenya
<i>Trichodorus christiei</i> Allen	..	Egypt, USA
<i>Trichodorus</i> sp	..	Bangladesh
<i>Tylenchorhynchus brassicae</i> Siddiqi	..	India
<i>Tylenchorhynchus claytoni</i> Steiner	..	USA
<i>Tylenchorhynchus divittatus</i> Siddiqi	..	India
<i>Tylenchorhynchus goffarti</i> Sturhan	..	India, Kenya
<i>Tylenchorhynchus mashhoodi</i> Siddiqi & Basir	..	India, Kenya
<i>Tylenchorhynchus phaseoli</i> Sethi & Swarup	..	India
<i>Tylenchorhynchus ventrosignatus</i> Tobar Jimenez	..	Kenya
<i>Tylenchorhynchus vulgaris</i> Upadhyay, Swarup & Sethi	..	India
<i>Tylenchorhynchus</i> sp	..	Bangladesh, India, Jamaica, Sudan, Trinidad and Tobago
<i>Tylenchus</i> sp	..	India, Trinidad and Tobago
<i>Xiphinema campinense</i> Lordello	..	Brazil
<i>Xiphinema elongatum</i> Schuurmans Stekhoven & Teunissen	..	Fiji, Kenya
<i>Xiphinema lambertii</i> Bajaj & Jairajpuri	..	India
<i>Xiphinema</i> spp	..	Kenya

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1. These nematodes have been responsible for disease situations in fields.

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## Distribution of Pathogens

### Chickpea

Until 1978, a total of 49 pathogens (30 fungi, 1 bacterium, 8 viruses and mycoplasma, and 10 nematodes) were reported from 35 countries. By 1995, the number of pathogens increased to 172 (67 fungi, 3 bacteria, 22 viruses and mycoplasma, and 80 nematodes) reported from 55 countries (Fig. 1). Maximum numbers have been reported from India with 35 pathogens in 1978 and 89 pathogens in 1995. In other countries, the number of pathogens ranged from 1 to 14 in 1978; in 1995 it ranged from 1 to 40 with more than 20 reported each from USA, Australia, Syria, and Spain (Table 1). The pathogens that are most widely distributed are *Ascochyta rabiei* (35 countries), *Fusarium oxysporum* f. sp *ciceri* (32 countries), *Uromyces ciceris-arietini* (25 countries), bean (pea) leaf roll virus (23 countries), and *Macrophomina phaseolina* (21 countries).

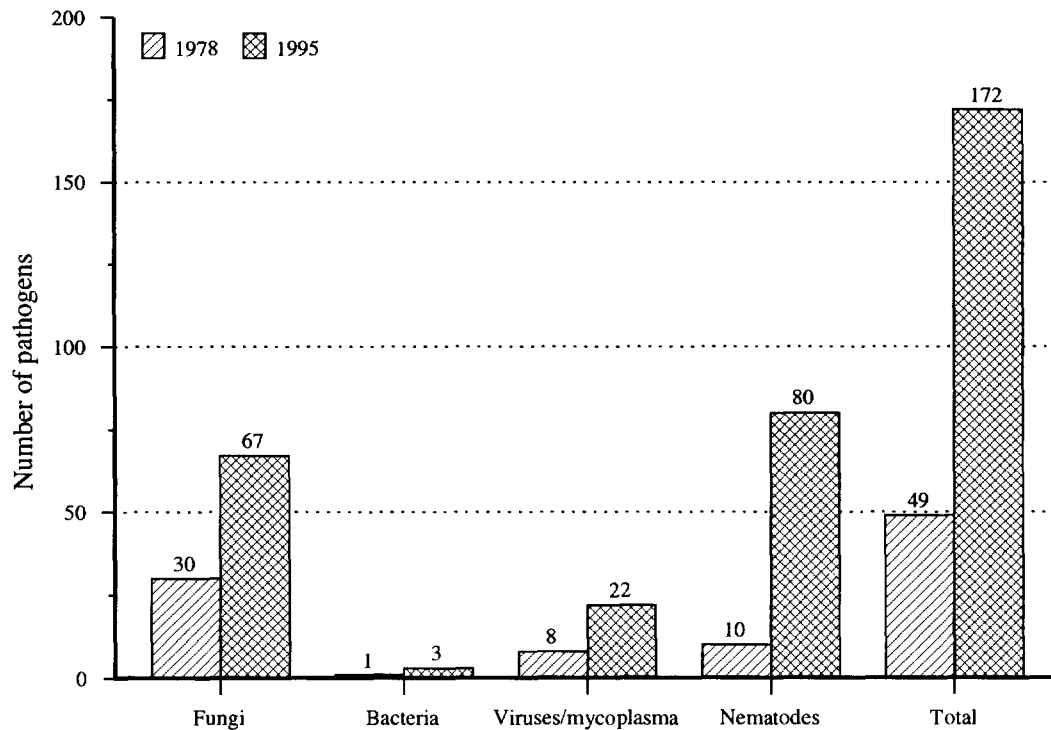


Figure 1. Number of chickpea pathogens reported in 1978 and 1995.

### Pigeonpea

Until 1978, a total of 48 pathogens (34 fungi, 1 bacterium, 3 viruses and mycoplasma, and 10 nematodes) were reported from 28 countries. By 1995, the number of pathogens increased to 210 (83 fungi, 4 bacteria, 19 viruses and mycoplasma, and 104 nematodes) reported from 58 countries (Fig. 2). Maximum numbers have been reported from India

with 35 pathogens in 1978 and 98 pathogens in 1995. In other countries the number of pathogens ranged from 1 to 9 in 1978; in 1995 it ranged from 1 to 59 with more than 20 reported each from Kenya, USA, Trinidad and Tobago, Puerto Rico, and Zambia (Table 2). The pathogens that are most widely distributed are *Mycovellosiella cajani* (= *Cercospora cajani*) (27 countries) and *Fusarium udum* (20 countries).

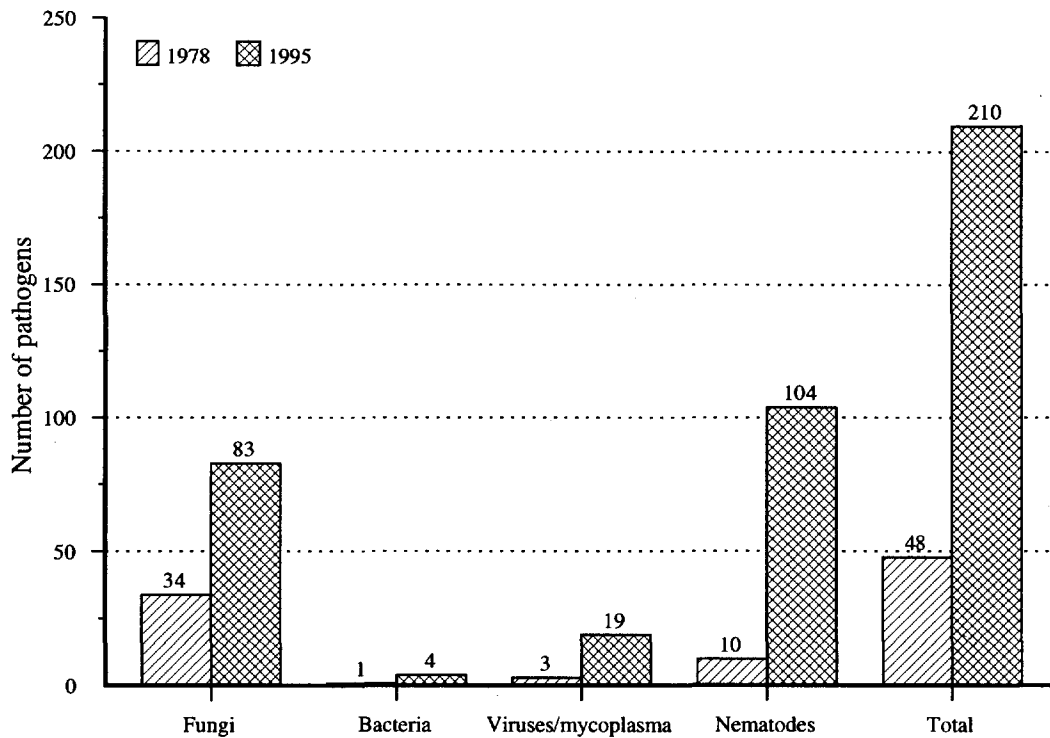


Figure 2. Number of pigeonpea pathogens reported in 1978 and 1995.

**Table 1. Occurrence of chickpea pathogens reported up to 1978 and 1995.**

Region/Country	Number of pathogens		Region/Country	Number of pathogens	
	1978	1995		1978	1995
<b>Africa</b>			Cyprus	2	2
Algeria	0	11	India	35	89
Egypt	0	11	Iran	14	15
Ethiopia	5	11	Iraq	1	2
Ghana	0	1	Israel	2	2
Kenya	0	5	Jordan	0	2
Libya	1	2	Lebanon	3	5
Malawi	1	4	Myanmar	1	9
Morocco	1	16	Nepal	0	10
Sudan	2	11	Pakistan	4	17
Tanzania	1	3	Philippines	0	4
Tunisia	1	14	Sri Lanka	0	5
Uganda	0	4	Syria	3	30
Zambia	0	7	Turkey	3	8
Zimbabwe	0	2	Vietnam	0	1
<b>North and Central America</b>			<b>Europe</b>		
Canada	1	2	Bulgaria	2	3
Cuba	0	1	France	2	2
Mexico	3	14	Germany	0	2
USA	11	40	Greece	1	1
<b>South America</b>			Hungary	0	13
Argentina	5	8	Italy	1	8
Brazil	0	3	Netherlands	0	2
Chile	1	8	Portugal	1	2
Colombia	2	5	Romania	1	1
Peru	1	3	Russia	1	1
<b>Asia</b>			Spain	1	22
Afghanistan	1	1	USSR (former)	2	3
Bangladesh	0	16	<b>Oceania</b>		
China	0	5	Australia	4	35
			New Zealand	1	2

1. Included under USSR (former).

**Table 2. Occurrence of pigeonpea pathogens reported up to 1978 and 1995.**

Region/Country	Number of pathogens		Region/Country	Number of pathogens	
	1978	1995		1978	1995
<b>Africa</b>					
Burkina Faso	1	2	Trinidad and Tobago	6	33
Côte d'Ivoire	0	2	USA	0	34
Egypt	0	5	<b>South America</b>		
Ethiopia	0	4	Brazil	1	11
Ghana	0	1	Colombia	1	2
Kenya	3	59	Ecuador	0	1
Malawi	0	11	Venezuela	2	7
Mauritius	1	3	<b>Asia</b>		
Niger	0	3	Bangladesh	0	10
Nigeria	0	5	China	0	1
Sierra Leone	1	3	India	35	98
Somalia	0	1	Indonesia	1	1
South Africa	0	2	Malaysia	1	2
Sudan	1	9	Myanmar	1	5
Tanzania	3	5	Nepal	0	11
Uganda	3	7	Pakistan	0	1
Zambia	0	27	Philippines	1	12
Zimbabwe	1	5	Sri Lanka	1	14
<b>North and Central America</b>					
Barbados	0	1	Taiwan	1	3
Bermuda	2	2	Thailand	2	3
Costa Rica	0	1	Vietnam	0	2
Cuba	0	2	<b>Europe</b>		
Dominican Republic	4	5	Germany	0	1
El Salvador	0	2	Italy	0	1
Grenada	0	1	<b>Oceania</b>		
Guatemala	1	3	Australia	1	18
Haiti	0	2	Fiji	0	18
Jamaica	1	15	New Caledonia	1	1
Panama	0	4	New Zealand	0	1
Puerto Rico	1	29	Papua New Guinea	1	2
St. Kitts and Nevis	1	1	Tonga	0	4

## Common names for the diseases of chickpea and pigeonpea

The list of common names for the diseases of chickpea and pigeonpea, accepted by the American Phytopathological Society, is given below.

Common name	Pathogen or cause
<b>Chickpea</b>	
Acrophialophora wilt	<i>Acrophialophora fusicarpa</i>
Alternaria blight	<i>Alternaria alternata</i> <i>Alternaria tenuissima</i>
Aphanomyces root rot	<i>Aphanomyces euteiches</i>
Ascochyta blight	<i>Ascochyta rabiei</i> (teleomorph: <i>Mycosphaerella rabiei</i> = <i>Didymella rabiei</i> )
Bacterial blight	<i>Xanthomonas campestris</i> pv <i>cassiae</i>
Bacterial leaf spot	<i>Pseudomonas andropogonis</i>
Black root rot	<i>Fusarium solani</i>
Black streak root rot	<i>Thielaviopsis basicola</i>
Botrytis gray mold	<i>Botrytis cinerea</i>
Broomrape	<i>Orobanche crenata</i>
Bushy stunt	Chickpea bushy stunt (dwarf) virus
Chlorosis	Iron deficiency
Collar rot	<i>Sclerotium rolfsii</i> (teleomorph: <i>Athelia rolfsii</i> = <i>Corticium rolfsii</i> )
Colletotrichum blight	<i>Colletotrichum capsici</i> <i>Colletotrichum dematium</i>
Cylindrocladium root rot	<i>Cylindrocladium clavatum</i>
Damping-off	<i>Pythium debaryanum</i> <i>Pythium irregulare</i> <i>Pythium ultimum</i>
Distortion mosaic	Chickpea distortion mosaic virus
Dodder	<i>Cuscuta hyalina</i>
Downy mildew	<i>Peronospora</i> sp
Dry root rot	<i>Macrophomina phaseolina</i> = <i>Rhizoctonia bataticola</i>
Filiform	Chickpea filiform virus
Foot rot	<i>Phacidiopycnis padwickii</i> = <i>Operculella padwickii</i>
Fusarium root rot	<i>Fusarium acuminatum</i> <i>Fusarium arthrosporioides</i> <i>Fusarium avenaceum</i> <i>Fusarium equiseti</i> <i>Fusarium solani</i> f. sp <i>eumartii</i> = <i>Fusarium eumartii</i>
Fusarium wilt	<i>Fusarium oxysporum</i> f. sp <i>ciceris</i>
Mosaic	Alfalfa mosaic virus
Myrothecium leaf spot	<i>Myrothecium roridum</i>
Mystrosporium leaf spot	<i>Mystrosporium</i> sp



Narrow leaf	Bean yellow mosaic virus
Necrosis	Lettuce necrotic yellows virus
	Pea streak virus
Nematodes (parasitic):	
Dirty root (Reniform nematode)	<i>Rotylenchulus reniformis</i>
Pearly root (Cyst nematode)	<i>Heterodera ciceri</i>
	<i>Heterodera rosii</i>
	<i>Meloidogyne arenaria</i>
	<i>Meloidogyne artiellia</i>
	<i>Meloidogyne incognita</i>
	<i>Meloidogyne javanica</i>
	<i>Pratylenchus brachyurus</i>
	<i>Pratylenchus thornei</i>
	<i>Neocosmospora vasinfecta</i>
	<i>Ozonium texanum</i> var <i>parasiticum</i>
	<i>Phoma medicaginis</i>
	Mycoplasma-like organism
	<i>Phytophthora citrophthora</i>
	<i>Phytophthora cryptogea</i>
	<i>Phytophthora drechsleri</i>
	<i>Phytophthora megasperma</i>
	<i>Pleospora herbarum</i> (anamorph: <i>Stemphylium herbarum</i> )
	<i>Leveillula taurica</i> (anamorph: <i>Oidiopsis taurica</i> )
	<i>Erysiphe</i> sp
	Cucumber mosaic virus
	<i>Uromyces ciceris-arietini</i>
	<i>Uromyces striatus</i>
	<i>Sclerotinia sclerotiorum</i>
	<i>Sclerotinia trifoliorum</i>
	<i>Scopulariopsis brevicaulis</i>
	<i>Aspergillus flavus</i>
	<i>Trichothecium roseum</i>
	<i>Stemphylium sarciniforme</i>
	Bean (pea) leaf roll virus
	<i>Trichoderma harzianum</i>
	<i>Verticillium albo-atrum</i>
	<i>Verticillium dahliae</i>
	<i>Rhizoctonia solani</i>
	Pea enation mosaic virus
Neocosmospora root rot	
Ozonium collar rot	
Phoma blight	
Phyllody	
Phytophthora root rot	
Pleospora leaf spot	
Powdery mildew	
Proliferation	
Rust	
Sclerotinia stem rot	
Scopulariopsis leaf spot	
Seedling or seed rot	
Stemphylium blight	
Stunt	
Trichoderma foot rot	
Verticillium wilt	
Wet root rot	
Yellowing	

**Pigeonpea**

Alternaria blight	<i>Alternaria alternata</i> <i>Alternaria tenuissima</i>
Anthracnose	<i>Colletotrichum cajani</i> <i>Colletotrichum truncatum</i>
Arhar mosaic	Arhar mosaic virus
Armillaria root rot	<i>Armillaria mellea</i>
Bacterial leaf spot and stem canker	<i>Xanthomonas campestris</i> pv <i>cajani</i>
Botryodiplodia blight	<i>Lasiodiplodia theobromae</i> = <i>Botryodiplodia theobromae</i>
Botryosphaeria stem canker	<i>Botryosphaeria xanthocephala</i> (anamorph: <i>Fusicoccum cajani</i> )
Botrytis gray mold	<i>Botrytis cinerea</i>
Bracteomania	Genetic abnormality
Cercoseptoria leaf spot	<i>Cercoseptoria cajanicola</i>
Cercospora leaf spot	<i>Cercospora instabilis</i> <i>Cercospora thirumalacharii</i> <i>Mycovellosiella cajani</i> = <i>Cercospora cajani</i> <i>Mycovellosiella cajani</i> var <i>indica</i> = <i>Cercospora indica</i>
Cladosporium leaf blight	<i>Cladosporium oxysporum</i>
Cladosporium leaf spot	<i>Cladosporium cladosporioides</i>
Collar rot	<i>Sclerotium rolfsii</i> (teleomorph: <i>Athelia rolfsii</i> = <i>Corticium rolfsii</i> )
Colletotrichum stem canker	<i>Colletotrichum crassipes</i>
Damping-off	<i>Pythium aphanidermatum</i> <i>Pythium splendens</i> var <i>hawaiianum</i>
Dieback and stem canker	<i>Colletotrichum capsici</i>
Diplodia stem canker	<i>Diplodia cajani</i>
Dodder	<i>Cuscuta hyalina</i>
Dry root rot	<i>Macrophomina phaseolina</i> = <i>Rhizoctonia bataticola</i>
Foliar vein yellowing	Rhabdovirus
Fusarium leaf blight	<i>Fusarium pallidoroseum</i> = <i>Fusarium semitectum</i>
Fusarium seedling rot	<i>Fusarium avenaceum</i> <i>Fusarium equiseti</i>
Fusarium wilt	<i>Fusarium udum</i> (teleomorph: <i>Gibberella indica</i> )
Halo blight	<i>Pseudomonas syringae</i> pv <i>phaseolicola</i>
Macrophomina stem canker	<i>Macrophomina phaseolina</i> = <i>Rhizoctonia bataticola</i>
Marginal leaf burn	Salinity injury (most likely)
Mild mosaic	Tobacco mosaic virus
Mosaic	Alfalfa mosaic virus Cowpea mosaic virus

Myrothecium leaf spot	<i>Myrothecium gramineum</i> <i>Myrothecium roridum</i>
Nematodes (parasitic):	
Dirty root (Reniform nematode)	<i>Rotylenchulus reniformis</i>
Lance nematode	<i>Aphasmatylenchus straturatus</i> <i>Hoplolaimus seinhorsti</i>
Pearly root (Cyst nematode)	<i>Heterodera cajani</i>
Root-knot (Root-knot nematode)	<i>Meloidogyne acronea</i> <i>Meloidogyne arenaria</i> <i>Meloidogyne incognita</i> <i>Meloidogyne javanica</i>
Neocosmospora root rot	<i>Neocosmospora vasinfecta</i>
Periconia leaf spot	<i>Periconia byssoides</i>
Phaeoisariopsis leaf spot	<i>Phaeoisariopsis griseola</i>
Phoma stem canker	<i>Phoma cajani</i>
Phyllody	Mycoplasma-like organism
Phyllosticta leaf spot	<i>Phyllosticta cajani</i>
Phytophthora blight	<i>Phytophthora drechsleri</i> f. sp. <i>cajani</i>
Phytophthora root rot and stem blight	<i>Phytophthora drechsleri</i>
Phytophthora stem canker	<i>Phytophthora nicotianae</i> var. <i>parasitica</i> = <i>Phytophthora parasitica</i>
Powdery mildew	<i>Leveillula taurica</i> (anamorph: <i>Oidiopsis taurica</i> )
Rhynchosia little leaf	<i>Ovulariopsis ellipsospora</i>
Rhynchosia mosaic	Mycoplasma-like organism
Rosette	Virus (most likely)
Rust	Mycoplasma-like organism
Sclerotinia stem rot	<i>Uredo cajani</i>
Seedling or seed rot	<i>Sclerotinia sclerotiorum</i> <i>Aspergillus flavus</i> <i>Aspergillus niger</i>
Sterility mosaic	Unknown (virus ?)
Synchytrium brown gall and wilt	<i>Synchytrium phaseoli-radiati</i>
Synchytrium orange gall	<i>Synchytrium umbilicatum</i>
Web blight	<i>Thanatephorus cucumeris</i> (anamorph: <i>Rhizoctonia solani</i> )
Wet leaf rot	<i>Choanephora cucurbitarum</i>
Wet root rot	<i>Rhizoctonia solani</i> (teleomorph: <i>Thanatephorus cucumeris</i> )
Witches' broom	Mycoplasma-like organism
Yellow mosaic	Mung bean yellow mosaic virus

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