

RP ✓01991

**PULSE PATHOLOGY
Progress Report-8**

**A WORLD LIST OF PIGEONPEA (*Cajanus cajan*(L.) Millsp.)
AND CHICKPEA (*Cicer arietinum* L.) PATHOGENS**

(Updated December 1980)

Y. L. Nene
Principal Pulses Pathologist &
Leader, Pulses Improvement Program



ICRISAT

International Crops Research Institute
ICRISAT Patancheru P.O.
Andhra Pradesh, India 502 324

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A world list of pathogens reported on pigeonpea and chickpea until December 1978 was prepared (ICRISAT Pulse Pathology Progress Report-3). The list has now been updated to December 1980.

The list has been prepared mainly from published reports. However, in order to make it more complete, pathogens which have been (i) communicated by our cooperators, or (ii) observed by me or my colleagues from ICRISAT, while visiting different countries, have also been included.

It is hoped that this list will be useful to legume pathologists in their work. Any help in making this list more complete by pointing out inadvertent omissions will be greatly appreciated.

DISEASES OF PIGEONPEA

DISEASES/PATHOGENSCOUNTRIES

FUNGAL

Damping-off, root rots,
collar rots, stem rots/
cankers/galls

- | | | |
|---|----|-----------------------|
| 1. <i>Botryodiplodia</i> sp. | .. | Puerto Rico |
| 2. <i>Botryosphaeria</i>
<i>xanthocephala</i> | .. | India, Puerto Rico |
| 3. <i>Colletotrichum</i>
<i>truncatum</i> | .. | India |
| 4. <i>Corticium salmonicolor</i> .. | | New Caledonia |
| 5. <i>Dendrochium gigasporum</i> .. | | Uganda |
| 6. <i>Diplodia oajani</i> | .. | India |
| 7. <i>Macrophoma oajani</i> | .. | India |
| 8. <i>Phoma</i> sp. | .. | Puerto Rico, Trinidad |
| 9. <i>Phomopsis</i> sp. | .. | Puerto Rico |
| 10. <i>Physalospora oajanae</i> | .. | Trinidad |
| 11. <i>Phytophthora</i>
<i>dreohaleri</i> f.sp.
<i>oajani</i> | .. | India |

12. *Phytophthora parasitica*.. Puerto Rico
13. *Phytophthora* sp. .. Dominican Republic, Kenya, Trinidad
14. *Pythium aphanidermatum* .. India
15. *Pythium splendens* var. *hawaiianum* .. Hawaii (USA)
16. *Rhizoctonia bataticola* .. India
(*Macrophomina phaseolina*)
17. *Rhizoctonia solani* .. India, Malaysia, Philippines, Sierra Leone
18. *Sclerotinia sclerotiorum* .. Australia, Bermuda
19. *Sclerotium rolfsii* .. India, Trinidad
20. *Synchytrium phaseoli-radiata* .. India
21. *Synchytrium umbilicatum* (*Woroninella umbilicata*) .. India

Leafspots/blights/rots

1. *Alternaria* sp. .. Kenya
2. *Alternaria tenuissima* .. India

3. *Botrytis cinerea* .. Bangladesh .
4. *Cercospora cajani* .. Dominican
(*Mycovelosiella cajani*) Republic, India,
Kenya, Malawi,
Mauritius,
Nigeria, Tanzania,
Uganda, Venezuela,
Zambia, Zimbabwe
5. *Cercospora indica* .. India
6. *Cercospora instabilis* .. India
7. *Cercoseptoria*
cajanicola .. India
8. *Chaetoseptoria wellmani* .. Guatemala
9. *Choanephora*
cucurbitarum .. India
10. *Cladosporium*
cladosporioides .. India
11. *Colletotrichum cajani* .. India, Puerto
Rico
12. *Leptosphaerulina*
briosiana .. India
13. *Macrophomina*
cajanicola .. India

14. *Phoma* sp. .. Dominican Republic, India, Puerto Rico
15. *Phyllosticta oajani* .. Brazil, India
16. *Pyrenochaeta oajani* .. India

Powdery mildew

1. *Leveillula taurica* .. India, Kenya, Malawi, Tanzania, Zambia

Rust

1. *Uredo oajani* .. Bermuda, Colombia, India, Kenya, Nigeria, Puerto Rico, Sierra Leone, Tanzania, Trinidad, Venezuela

Wilt

1. *Fusarium udum* .. Bangladesh, Ghana, Grenada, India, Indonesia, Kenya, Malawi, Mauritius, Tanzania, Thailand, Trinidad, Uganda

BACTERIAL

Leafspot/stem canker

1. *Pseudomonas phaseolicola* .. Ethiopia
2. *Xanthomonas oaxani*
(*X. phaseoli* f. sp. *oaxani*) .. India, Sudan

VIRAL/MYCOPLASMA

Stunting/mosaic/
proliferation

1. Cowpea mosaic .. El Salvador,
Trinidad
2. Sterility mosaic .. Burma, India,
Sri Lanka,
Thailand
3. Witches' broom -
(mycoplasma?) .. Australia,
Dominican
Republic,
Jamaica, New
Guinea, Puerto
Rico, Taiwan,
Trinidad
4. Yellow mosaic .. India, Puerto
Rico, Sri Lanka

NEMATODE

Stunting/root-knot, etc.

1. *Azhasmatylenchus straturatus* .. Upper Volta
2. *Heterodera avenae* .. India
3. *Heterodera cajani* .. India
4. *Heterodera vignae* .. India
5. *Helicotylenchus* sp. .. Jamaica
6. *Hoplolaimus* sp. .. India, Jamaica
7. *Longidorus* sp. .. Jamaica
8. *Meloidogyne incognita* .. India
9. *Meloidogyne javanica* .. India, Malawi
10. *Pratylenchus* spp. .. India, Jamaica
11. *Rotylenchulus reniformis*. India, Jamaica
12. *Tylenchorhynchus* sp. .. India, Jamaica

DISEASES OF CHICKPEA

<u>DISEASES/PATHOGENS</u>	<u>COUNTRIES</u>
FUNGAL	
<u>Damping-off, collar rots, foot rots, root rots</u>	
1. <i>Fusarium anthracino-</i> <i>rioides</i>	.. Australia
2. <i>Fusarium avenaceum</i>	.. Australia
3. <i>Fusarium solani</i>	.. Chile, India, Mexico, U.S.A.
4. <i>Macrophomina phaseo-</i> <i>lina</i> (<i>Rhizoctonia</i> <i>bataticola</i>)	.. Australia, Ethiopia, India, Iran, Pakistan, U.S.A.
5. <i>Neovossia</i> <i>vasinfecta</i>	.. India
6. <i>Operculella fabrickii</i>	.. India
7. <i>Ozonium texanum</i> var. <i>parasiticum</i>	.. India
8. <i>Phytophthora</i> <i>citrophthora</i>	.. Argentina
9. <i>Phytophthora</i> <i>cryptogea</i>	.. U.S.A.

10. *Phytophthora drechsleri*.. Argentina,
Chile, Iran
11. *Phytophthora megasperma*.. India
12. *Phytophthora parasitica*.. U.S.A.
13. *Pythium debaryanum* .. Argentina
14. *Pythium ultimum* .. India, Turkey,
U.S.A.
15. *Pythium* sp. .. Iran
16. *Rhizoctonia solani* .. Argentina, Chile,
India, Iran,
Mexico, Pakistan,
U.S.A.
17. *Sclerotium rolfsii* .. Bangladesh,
Ethiopia,
India, Syria
18. *Trichoderma harzianum*.. India

Stem blights/rots

1. *Colletotrichum capsici* .. India
2. *Sclerotinia* .. Australia,
sclerotiorum Chile, India,
Iran, Morocco,
Syria, Tunisia

Leafspots/blights

1. *Alternaria alternata* .. Bangladesh, India

2. *Ascochyta rabiei*
(*Mycosphaerella rabiei*) .. Algeria, Australia,
Bangladesh,
Bulgaria, Canada,
Cyprus, Ethiopia,
France, Greece,
India, Iran,
Iraq, Israel,
Italy, Lebanon,
Mexico, Morocco,
Pakistan, Romania,
Spain, Syria,
Tanzania, Tunisia,
Turkey, U.S.S.R.
3. *Botrytis cinerea* .. Argentina,
Australia,
Canada, Colombia,
India
4. *Myrothecium* sp. .. India
5. *Phoma medicaginis* .. India
6. *Pleospora infectoria* .. India
7. *Stemphylium*
barciniforme .. India, Iran

Downy mildew

1. *Peronospora* sp. .. Israel, Mexico

Powdery mildew

1. *Leveillula taurica*
(*Oidiopsis taurica*) .. India, Mexico
Pakistan, Sudan

2. *Erysiphe* sp. .. Iran

Rust

1. *Uromyces ciceria-arietini* .. Algeria,
Afghanistan,
Bangladesh,
Bulgaria, Chile,
Cyprus, Ethiopia,
France, India,
Iran, Lebanon,
Libya, Malawi,
Mexico, Morocco,
Nepal, Portugal

Wilts

1. *Fusarium oxysporum* f. sp. *ciceri* .. Bangladesh,
Burma, Ethiopia,
India, Malawi,
Mexico, Pakistan,
Peru, Tunisia,
U.S.A.
2. *Verticillium albo-atrum* .. Pakistan,
U.S.A.

BACTERIAL

Seedling rot/blight

1. *Xanthomonas obovata* .. India

VIRAL/MYCOPLASMA

Stunting/chlorosis/ wilting/proliferation

- | | | |
|--------------------------------------|----|--|
| 1. Alfalfa mosaic virus | .. | Algeria, India,
Iran, Morocco,
U.S.A. |
| 2. Bean yellow mosaic
virus | .. | Iran, U.S.A. |
| 3. Cucumber mosaic virus | .. | Colombia, India,
Iran, U.S.S.R. |
| 4. Lettuce necrotic
yellows virus | .. | Australia |
| 5. Pea leaf roll virus
(stunt) | .. | Algeria,
Bangladesh,
Ethiopia, India,
Iran, Lebanon,
Morocco,
New Zealand,
Pakistan, Sudan,
Syria, Tunisia,
Turkey |
| 6. Pea enation mosaic
virus | .. | U.S.A. |
| 7. Phyllody (mycoplasma?) | .. | Ethiopia, India |

NEMATODE

Root-knot/stunting

- | | | |
|----------------------------|----|-------|
| 1. <i>Hoplolaimus</i> spp. | .. | India |
|----------------------------|----|-------|

2. *Meloidogyne incognita* .. India
3. *Meloidogyne javanica* .. India, Malawi
4. *Meloidogyne* sp. .. Bangladesh
5. *Pratylenchus* spp. .. India
6. *Rotylenchulus* spp. .. India
7. *Rotylenchus* spp. .. India
8. *Tylenchorhynchus*
brevidens .. India
9. *Tylenchorhynchus*
brevilineatus .. India
10. *Tylenchorhynchus*
mashoodi .. India
11. *Tylenchus* spp. .. India