1. JND-VAD-VAD-TPG45. **AF JAU1**

**Groundnut Seeds** → **Specific Media**

**Front colour** → **Reverse colour**

**Microscopic image**

**Ammonia vapour test for aflatoxin: +Ve**

Plate 4.1 A. Isolation, microscopic characterizations and pathogenicity test of *Aspergillus* derived from JND-VAD-VAD-TPG45 seeds
2. RJD- UPA- KUN- GG2. AF JAU2

Groundnut Seeds

Specific Media

Front colour

Reverse colour

Microscopic image

Ammonia vapour test for aflatoxin: +Ve

Plate 4.1 B. Isolation, microscopic characterizations and pathogenicity test of *Aspergillus* derived from RJD-UPA-KUN-GG2 seeds
Plate 4.1 C. Isolation, microscopic characterizations and pathogenicity test of *Aspergillus* derived from JAM-JKB-BHA-GG20 seeds
4. JND-MEN-MEN-TPG41. **AF JAU4**

Groundnut Seeds → Specific Media

Front colour → Reverse colour

Microscopic image

Ammonia vapour test for aflatoxin: -Ve

Plate. 4.1 D. Isolation, microscopic characterizations and pathogenicity test of *Aspergillus* derived from JND-MEN-MEN-TPG41A seeds
5. JND-MEN-MEN-TPG41. AF JAU6

Groundnut Seeds → Specific Media

Front colour → Reverse colour

Microscopic image

Ammonia vapour test for aflatoxin: -Ve

Plate. 4.1 E. Isolation, microscopic characterizations and pathogenicity test of Aspergillus derived from JND-MEN-MEN-TPG41B seeds
Ammonia vapour test for aflatoxin: -Ve

Plate. 4.1 F. Isolation, microscopic characterizations and pathogenicity test of Aspergillus derived from UNA-YARD-3-GG20 seeds
7. JND-YARD-2-GG20. AF JAU8

Groundnut Seeds  Whatmans Paper

Front colour  Reverse colour

Microscopic image

Ammonia vapour test for aflatoxin: -Ve

Plate. 4.1 G. Isolation, microscopic characterizations and pathogenicity test of Aspergillus derived from JND-YARD-2-GG20 seeds
Plate 4.1: H. Isolation, microscopic characterizations and pathogenicity test of *Aspergillus* derived from DWK-DWK-GG20 seeds.
Plate 4.1 I. Isolation, microscopic characterizations and pathogenicity test of *Aspergillus* derived from JND- MEN- GUN-TPG41 seeds.
10. RJK-UPA-KUN-TG37/A. AF JAU12

Plate. 4.1 J. Isolation, microscopic characterizations and pathogenicity test of *Aspergillus* derived from RJK-UPA-KUN-TG37/A seeds
Plate 4.1 K. Isolation, microscopic characterizations and pathogenicity test of *Aspergillus* derived from RJK-DHO-KAN-TPG 45 seeds
Plate 4.1 L. Isolation, microscopic characterizations and pathogenicity test of *Aspergillus* derived from DAT-DAT-PAT- TG 37/A seeds

Ammonia vapour test for aflatoxin: -Ve
Plate 4.1 M. Isolation, microscopic characterizations and pathogenicity test of *Aspergillus* derived from DAT-DAT-PAT-TG 37/A seeds
14. JND-JAU-HSS-1. AF JAU20

Groundnut field

Front colour

Reverse colour

Microscopic image

Ammonia vapour test for aflatoxin: -Ve

Plate 4.1 N. Isolation, microscopic characterizations and pathogenicity test of *Aspergillus* derived from JND-JAU-HSS-1
Plate 4.1 O. Isolation, microscopic characterizations and pathogenicity test of *Aspergillus* derived from groundnut field
16. AN Guava

Infected guava

Aspergillus niger in petriplate

Microscopic image

Plate. 4.1 P. Isolation, microscopic characterizations and pathogenicity test of Aspergillus derived from infected Guava
17. AN onion

Infected onion

Aspergillus niger in petriplate

Microscopic image

Plate. 4.1 Q. Isolation, microscopic characterizations and pathogenicity test of Aspergillus derived from infected Onion
18. AN Paper

Infected paper

Aspergillus niger in petriplate

Plate. 4.1 R. Isolation, microscopic characterizations and pathogenicity test of Aspergillus derived from infected Onion
Plate 4.1 S. Isolation, microscopic characterizations and pathogenicity test of *Aspergillus flavus* NRRL 21882 derived ARS- USDA, Illinois, USA
Plate. 4.2 A. *In vitro* interaction study of most aflaroxigenic *Aspergillus* AF JAU2 with atoxigenic *Aspergilli* on groundnut seeds in flask.
Plate. 4.2 B. Groundnut seeds in petriplate fully infected with *Aspergillus* after 15 days as shown in Plate 4.2 A.
Plate 4.2 C. Groundnut seeds in petriplate fully infected with *Aspergillus* after 15 days as shown in Plate 4.2 A
Plate 4.2 D. Groundnut seeds in petriplate fully infected with *Aspergillus* after 15 days as shown in Plate 4.2 A

Plate 4.2 E. Amber/ brown colour flasks used for incubation and methanollic extraction of aflatoxins from the infected groundnut seeds shown in Plate 4.2 B, C and D for detection in LCMS-QTOF.
Plate. 4.2 F. *In vitro* interaction study in petriplate of most aflatoxigenic *Aspergillus* JAU2 with atoxigenic *Aspergilli* as detected in LCMS-QTOF.
Plate. 4.2 G. In vitro interaction study in petriplate of most aflatoxigenic Aspergillus JAU2 with atoxigenic Aspergilli as detected in LCMS-QTOF.
Plate. 4.2 H. *In vitro* interaction study in petriplate of most aflatoxigenic *Aspergillus* JAU2 with atoxigenic *Aspergillus* as detected in LCMS-QTOF.
Plate. 4.2 I. *In vitro* bulk interaction study in petriplates of most aflatoxigenic *Aspergillus* JAU2 with atoxigenic *Aspergilli* as found in LCMS-QTOF and Plate 4.2 F to H. AF NRRL 21882 found most potent biocontrol in plate as compared to other atoxigenic *Aspergilli*. 
Plate. 4.2 J. *In vitro* interaction study of most aflaroxigenic *Aspergillus* AF JAU2 with atoxigenic *Aspergilli* on germinating groundnut seeds GG-20 at 2 days after germintion in petriplates.
Plate. 4.2 K. *In vitro* interaction study of most aflaroxigenic *Aspergillus* AF JAU2 with atoxigenic *Aspergilli* on germinating groundnut seeds GG-20 at 2 days after germination in petriplates.
Plate 4.2. *In vitro* interaction study of most aflaroxigenic *Aspergillus* AF JAU2 with atoxigenic *Aspergilli* on germinating groundnut seeds GG-20 at 5 days after germination in petriplates.
Plate 4.2 M. *In vitro* interaction study of most aflaroxigenic *Aspergillus* AF JAU2 with atoxigenic *Aspergilli* on germinating groundnut seeds GG-20 at 5 days after germintion in petriplates.
Plate. 4.2 N. *In vitro* interaction study of most aflaroxigenic *Aspergillus* AF JAU2 with atoxigenic *Aspergilli* on germinating groundnut seeds GG-20 at 10 days after germintion in petriplates.
Plate 4.2 O. *In vitro* interaction study of most aflaroxigenic *Aspergillus* AF JAU2 with atoxigenic *Aspergilli* on germinating groundnut seeds GG20 at 10 days after germintion in petriplates.
Plate. 4.2 P. Scanning electron microscope (SEM) study of *in vitro* interaction. I. Sampling spot for interaction between aflatoxigenic and atoxigenic *Aspergilli*. II. Photographic image of SEM showing growth inhibition of AF JAU2 by most potent atoxigenic *Aspergillus flavus* NRRL 21882.
Plate. 4.2. P. III & IV. Photographic image of SEM showing growth inhibition of AF JAU2 by most potent atoxigenic *Aspergillus flavus* NRRL 21882.
Plate. 4.2 P. V & VI. Photographic image of SEM showing complete growth inhibition and killing of AF JAU2 by most potent atoxigenic *Aspergillus flavus* NRRL 21882.