**From Date: 15.01.2024**

Dr. Madhu S. Giri

Research Assistant

Plant Pathology Division

Central Coffee Research Institute

Coffee Research Station Post – 577117

Chikkamagaluru Dist.

Karnataka, India

**To**

The Chief Editor

Madras Agricultural Journal

Tamil Nadu Agricultural University

Coimbatore - 641 003

Tamil Nadu, India

Respected Sir,

**Sub:** Submission of full length research article for publication – reg.

**\*\*\*\*\***

With reference to the subject cited above, I am herewith submitting a full length research article entitled **“Studies on Isolation and Screening of Anti-microbial Compounds Produced by Fluorescent Pseudomonads Against *Xanthomonas axonopodis* pv*. punicae*”** for publication in your esteemed journal **“Madras Agricultural Journal”.**

Thanking You Sir

 Yours faithfully

 Dr. Madhu S. Giri

**Studies on Isolation and Screening of Anti-microbial Compounds Produced by Fluorescent Pseudomonads Against *Xanthomonas axonopodis* pv*. punicae***

Madhu S. Giri1\*, Chidanand A. Rabinal2, Raju, J.2, Jayalakshmi, K.3,

1Central Coffee Research Institute, Coffee Research Station Post, Chikkamagaluru Disitrict - 577 117

2College of Agricultural Science and Applied Research, Bharatiya Engineering, Science and Technology Innovation University, Gownivarpalli, Gorantla Mandal, Andhra Pradesh – 515 231

3Plant Quarantine Station, Vallakkadavu, Thiruvananthapuram, Kerala – 695 008

3 ICAR-Directorate of Onion Garlic Research, Rajgurunagar, Pune, Maharashtra- 410 505

\* Corresponding author email: madhuccri@gmail.com

**Abstracts:**

*Xanthomonas axonopodis* pv. *punicae* is a most prevalent pathogen in majority of the pomegranate cultivating areas of India which causes bacterial blight. There is a need to develop environmentally safe approach to reduce the yield loss of pomegranate caused by this pathogen. The present study aimed to identify the most efficient native strains of antagonistic fluorescent pseudomonads against *X. axonopodis* pv*. punicae* as well as the anti-microbial compounds produced by such efficient strains. Out of 99 colonies of fluorescent pseudomonads collected from different rhizosphere soils of pomegranate, the dual culture assay against *X.a.p* revealed that 83 colonies showed inhibitory effect while nine strains were found highly potent antagonists. In the present study, the bio-assay of crude cell free extracts of nine efficient strains, only five strains showed inhibition of *X.a.p* culture. The crude cell free extract of these five strains were separated on a TLC plate which yielded four to six metabolites with different Rf values ranged from 0.23 to 0.86. Eluted portion of all the metabolites failed to show the inhibition activity except only one metabolite produced by FP-64 with Rf value of 0.67 which showed an inhibition of 1.50 cm in diameter.

**Key words:** Anti-microbial compounds, bacterial blight, fluorescent pseudomonads, pomegranate, *Xanthomonas* *axonopodis* pv. *punicae.*