INTERNATIONAL JOURNAL OF PLANT PROTECTION
VOLUME 8 | ISSUE 2 | OCTOBER, 2015 | 288-294

● e ISSN-0976-6855 | Visit us : *www.researchjournal.co.in*

IJPP

RESEARCH PAPER

DOI : 10.15740/HAS/IJPP/8.2/288-294

Influence of different media on growth, biomass production, sporulation and concentrations of liquid form of *Nomuraea rileyi* inoculum's on its growth, development and bioefficacy against *Spodoptera litura*

■ S.D. PATIL

Department of Entomology, Agricultural Research Station, Niphad, NASIK (M.S.) INDIA

ARITCLE INFO

Received : 10.06.2015
Revised : 10.08.2015
Accepted : 25.08.2015

KEY WORDS :
Nomuraea rileyi, Media, Yeast extract, Biomass, Colony forming unit, *Spodoptera litura*

ABSTRACT

The entomopathogenic fungus, *Nomuraea rileyi* (Farlow) Samson was mass produced in different liquid media. The nine media of various nutrient sources were evaluated to find out most suitable medium for growth, biomass and viability of *N.rileyi*. Sabouraud's dextrose broth with yeast extract proved to be superior which gave significantly highest cfu ($8.33x10^8$/ml) and biomass (6.10g). The next best medium was Sabouraud's maltose broth with yeast extract and potato dextrose broth with yeast extract which registering cfu count of ($7.33x10^8$ and $5.67x10^8$cfu/ml) and biomass (5.63 and 4.20g), respectively. The lowest (21.67%) medium surface coverage and least biomass (1.04g) and cfu ($2.33x10^8$/ml) were registered in medium with malt extract. Thus, considering growth, development and viability of *N.rileyi* Sabouraud's dextrose broth with yeast extract (SDY) emerged as the most potential medium for biomass production and sporulation. The growth of *N.rileyi* increased with increase in concentration of inoculums in Sabouraud's dextrose broth with yeast extract. *N.rileyi* ($2x10^9$) 90.0 per cent produced highest biomass (11.17g). However, it was at par with 30.0 to 80.0 per cent *N.rileyi* producing the fungal biomass of 10.57 to 11.07g, respectively. The biomass at 10 DAI was lowest 7.63g in concentration of 10.0 per cent. Maximum ($21.67x10^8$ cfu/ml) cfu count was registered in 50 per cent concentration of *N.rileyi* aqua suspension. However, it was at par with that in 40 per cent ($20.67x10^8$cfu/ml) and 30 per cent ($19.67x10^8$cfu/ml) inoculums of aqua suspension. The increase in concentration of *N.rileyi* culture from 10 per cent (pH 8.04) to 90 per cent (pH 8.84) there was gradual increase in pH as compared the SDY medium pH (6.46) measured before adding the inoculum. Studies carried out under laboratory condition to know dose mortality response between different instars of *S.litura* and *N.rileyi* indicated that fungus performed better at its higher. Concentration ($1.8x10^7$cfu/ml) compared to lower concentrations *viz.*, $2.0x10^6$ to $1.6x10^7$cfu/ml. the *N.rileyi* was found to be highly effective to early instars of *S.litura*.

How to view point the article : Patil, S.D. (2015). Influence of different media on growth, biomass production, sporulation and concentrations of liquid form of *Nomuraea rileyi* inoculum's on its growth, development and bioefficacy against *Spodoptera litura*. *Internat. J. Plant Protec.*, **8**(2) : 288-294.

Author for Correspondence :
Email: saurushrutu@gmail.com