

**PROFORMA FOR SUBMISSION OF ANNUAL PROGRESS REPORT OF
RESEARCH PROJECTS**

Part-I: General Information

- 200 Project Code :
 2001 Institute Code No. :
 2002 ICAR Code no. :
- 201 Name of Institute and Division :
 2011 Name & Address of Institute : IGFRI, Jhansi-284003
 2012 Name of Division/Section : Crop Improvement Division
 2013 Location of Project : Jhansi

Project Title: CI 8.24 Integrated pest management in an intensive forage production system

- 203 Priority Area :
 2031 Research Approach. :

Applied res.	Basic Res.	Process/Technology Development	Transfer of Technology
01	02	03	04
✓		✓	

APPLIED RESEARCH

- 204 Specific Area: *Pest Management*
 205 Duration: Three Years
 2051 Date of start : 2010-11
 2052 Likely date of completion : 2012-13
 206 Total cost of the Project : 26 Lakh
 2061 Foreign Exchange component (if any): NIL

207 **Project profile summary:** It's imperative to replace existing pesticides based technology with non-toxic & eco-friendly. Due to intensive forage production the crops in long term, usually suffers from biotic pressure; therefore, the present project will evolve environmentally safe and economically viable pest management practice for sustained fodder production.

208 **Key words:** Integrated pest management, Intensive forage production system. IPM module, insect pests, diseases, PPN, GFY, Hybrid Napier, Cowpea, Berseem.

Part - II: Investigator Profile

210 Principal Investigator :

2101 Name : Dr.N.K.Shah
2102 Designation : Sr. Scientist
2103 Division : Crop Improvement Division
2104 Location : Jhansi
2105 Institute : IGFRI, Jhansi - 284003

211 Co-investigator:

2111 Name : R.B. Bhaskar
2112 Designation : Sr. Scientist
2113 Division : Crop Improvement Division
2114 Location : Jhansi
2115 Institute : IGFRI, Jhansi - 284003

212 Co- investigator:

2121 Name : Dr.M.I.Azmi
2122 Designation : Pr. Scientist
2123 Division : Crop Improvement Division
2124 Location : Jhansi
2125 Institute : IGFRI, Jhansi - 284003

Part - III : Technical Details

220 Introduction and objectives:

2201 Origin of the project: (Problem identification) Forage crops are directly cut and fed to the livestock therefore the use of synthetic pesticides becomes irrelevant. It is utmost important to replace existing pesticides based technology with non-toxic, eco-friendly either plant based pesticides or through bio-control agents. Keeping this in view as well as the disadvantages associated with the use of insecticides in low value forage crops the present studies were aimed.

2202 Definition of the project: In forage production system (Hybrid Napier + Cowpea

- Hybrid Napier + Berseem+mustard) insect pests, diseases and nematodes are major bottleneck which causes a reduction of about 30% in green forage yield (GFY). As forage crops are directly cut and fed to the livestock therefore the use of synthetic pesticides becomes irrelevant. So management of pests and diseases through integration of safe/eco-friendly control measures is a must to manage pests and diseases thereby increase forage production for the sustainability of the forage production system. The aim of the project is to develop an IPM module for an intensive forage production system.

2203 Immediate objectives: To develop an IPM module for an intensive forage production system (Hybrid Napier + Cowpea - Hybrid Napier + Berseem+mustard)

2204 Long term objectives: To evolve environmentally safe and economically viable pest management practice for sustained fodder production.

2205 Review of status of research in the subject:

International status:

National status:

221 Project Technical Profile:

2211 Organization of work element (for each objective and participating investigator giving man-months involved)

Field evaluation of various treatment combinations for the management of pests and diseases in an intensive forage production system.

- Testing the efficacy of various treatment combinations for the management of pests and diseases.
- In main plots three sowing dates will be tested while in sub plots various seed treatments along with foliar sprays will be evaluated.

The various seed treatments and sprays are:

- (i) Seed treatment with Tricho XP (@ 5gm/kg seed) + Foliar spray of azacel @ 0.15% conc.
- (ii) Seed treatment with Thiomethoxam + Pencycurone (@ 0.5gm/kg seed) - Foliar spray of Imidacloprid + Tebuconazole (@ 0.025% conc.)
- (iii) Seed treatment with N S P @ 50gm/kg seed + Foliar spray of NSKE @ 3%
- (iv) Seed treatment with Thiram + carbendazim + carbofuran followed by spray of Endosulfan (@0.07%) + Mancozeb (@0.09%) – Recommended practice
- (v) Untreated control

2212: Methodology:

- ⊛ In both the seasons viz. kharif and rabi field experiment will be laid down and experiment will be conducted to evaluate the comparative bio-efficacy of various treatment combinations.
- ⊛ The experiment will be in a split plot design with factor first *ie.* sowing dates in main plots while factor second *ie.* seed treatments+foliar sprays in sub-plots.
- ⊛ For crop raising recommended agronomic practices will be followed.
- ⊛ Seed treatments will be given prior to sowing of the crops.
- ⊛ First foliar sprays will be given 30 days after sowing while second 15 days after first spray.
- ⊛ Observations on insect pests, diseases and nematodes will be taken. Insect pests per cent

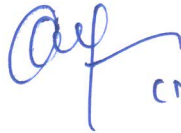
- 2372 Equipments to be purchased with cost (already in plan document) ✓
- 2373 Justification for each additional equipment
- 2374 Equipment to be imported
- 2375 Justification for import
- 238 Additional infrastructure facilities(if needed)
- 239 Financing organization

Part V : DECLARATION

This is to certify that:

- The research work proposed in the project does not in any way duplicate the work already done or being carried out in the institute project.
- The same project has not been submitted to any other agency for financial support
- The investigator/co-investigators has been fully consulted in the development of project and has fully undertaken the responsibility to carry out the programme as per the technical programme.

Signature of the Project Investigator:



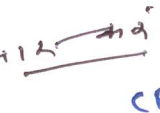
(N.K. SHAH)

Co-investigators:

- 1.
- 2.

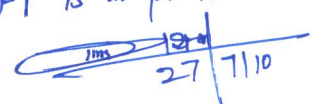


(M. I. AZMI)



(R.B. BHASKAR)

Signature & Comments of the Head of the Division /section

RPF1 is as per IRE recommendation


Signature & Comments of the Director

