

**Prioritization, Monitoring and Evaluation (PME) Cell**  
**ICAR - INDIAN INSTITUTE OF NATURAL RESINS AND GUMS**  
**NAMKUM, RANCHI – 834 010**  
**LIST OF APPROVED RESEARCH PROJECTS FOR THE YEAR 2020-21**

Ref.: IINRG/PMEC/IRC/July, 2020

<b>Core Programme – I : Productivity and Quality Improvement</b>							
Sl. No.	Project No.	Title of the Project	Name of Investigators	% Time	Year of Start	Year of Completion	*
1.	1.1.067	Understanding lac insect-host plant interaction --- A molecular approach	Ms Shruti Sinha Dr. Thamilarasi K	- 25	June, 2018	May, 2021	-
2.	1.1.070	Taxonomic studies of lac insects (Hemiptera: Coccoidea: Tachardiidae) and associated insect fauna	Shri NN Rajgopal	35	June, 2019	May, 2021	Dr. A Mohanasundaram
3.	1.1.072	Collection, conservation, characterization and evaluation of lac insect/ host plant diversity	Dr. VD Lohot Dr. J Ghosh Dr. Thamilarasi K Dr. A Mohanasundaram	25 25 25 25	July, 2020	Of continuing nature	Dr. KK Sharma, Director
<b>Core Programme – II : Crop Production System Management</b>							
4.	1.1.065	Evaluation of the effect of drip irrigation and plastic mulch on growth and seed yield of <i>Flemingia semialata</i>	Er. SK Srivastava	75	January, 2018	March, 2021	Dr. S Ghosal
5.	1.1.068	Effect of abiotic factors on lac associated fauna in <i>rangeeni</i> crops (Phase-II)	Dr. A Mohanasundaram	25	August, 2018	December, 2021	-
6.	1.1.069	Agronomic interventions influencing lac production in <i>palas (Butea monosperma)</i> in summer season	Dr. S Ghosal Shri NN Rajgopal	25 25	March, 2019	May, 2025	-
7.	1.1.071	Lac Integrated Cropping System through Participatory Approach	Ms LC Langlentombi Dr. S Ghosal Dr. NK Sinha Shri NN Rajgopal	50 25 25 25	April, 2019	March, 2022	-
<b>Core Programme – III : Processing, Storage and Quality Management</b>							
8.	1.2.073	Study on spray drying of gum <i>ghatti (Anogeissus latifolia)</i>	Er. Ranjit Singh Er. Priyanka Sakare (October, 2018)	30 25	April, 2018	March, 2021	-
9.	1.2.074	Study on infrared drying of seed lac	Er. Priyanka Sakare Er. Ranjit Singh	25 25	April, 2019	March, 2021	-

Core Programme – IV : Value Addition, Application Development and Product Diversification							
10.	1.2.071	Synthesis of <i>guar</i> gum hydrogel-nanoparticle hybrid scaffold	Dr. SKS Yadav	50	July, 2017	March, 2021	-
11.	1.2.072	Development and evaluation of resin/gum based sticky insect trap	Dr. N Thombare	25	April, 2018	March, 2021	Dr. A Mohanasundaram
12.	1.2.075	Study on natural gum based dietary fibre as encapsulant for delivery of functional feed	Dr. AR Chowdhury Dr. N Thombare Er. Ranjit Singh Shri Ch. Jamkhokai Mate Dr. Biplab Sarkar, ICAR-IIAB	35 25 25 15 -	September, 2019	August, 2022	-
Core Programme – V: Capacity Building of Farmers and Entrepreneurship Development							
13.	1.3.052	Capacity building, skill development, extension education and information service on natural resins and gums	Dr. Nirmal Kumar Dr. SKS Yadav Dr. RK Yogi	25 25 25	October, 2017	Of continuing nature	-
Core Programme – VI: Technology Evaluation, Refinement, Dissemination and Demonstration							
14.	1.3.053	Market information support and impact assessment of technological interventions for NRGs	Dr. RK Yogi Dr. Nirmal Kumar	25 25	October, 2017	March, 2021	-
ICAR-Network Projects							
15.	3.2.026	<b>Network project on Harvesting, Processing and Value Addition of Natural Resins and Gums (ICAR)</b>	<b>Dr. N Prasad (PC &amp; PI)</b>	40	<b>February, 2009</b>	<b>March, 2021</b>	-
		Comparative evaluation of properties of <i>Bahera</i> ( <i>Terminalia bellerica</i> ) gum exudates collected from different agro-climatic zones	Er. AnamikaThakur, ICAR HQ Dr. MZ Siddiqui	-	April, 2018	March, 2020	-
		Exploration and preparation of field guide for minor gum & resin producing plants in India	Dr. N Thombare	25	April, 2018	March, 2021	Dr. VD Lohot
		Effect of Tapping Techniques on Gum Yield from <i>Moringa oleifera</i> Trees	Dr. SC Sharma Er. SK Pandey	30 30	January, 2019	March, 2021	Dr. VD Lohot
		'Preparation and characterization of modified <i>guar</i> gum nanocomposite films reinforced with <i>piyar</i> AgNPs for diversified applications'	Dr. MZ Siddiqui Dr. AR Chowdhury Er. Priyanka Sakare	25 25 25	November, 2019	March, 2021	-
16.	3.1.054	<b>Network project on Conservation of Lac Insect Genetic Resources (ICAR)</b>	<b>Dr. KK Sharma (PC &amp; PI)</b>		<b>August, 2014</b>	<b>March, 2021</b>	-

		Diversity analysis of aleuritic acid content in major lac insect species/strains and its use for better isolation strategies	Dr. A Mohanasundaram	20	April, 2017	March, 2021	-
		Field guide for lac hosts	Dr. VD Lohot	25	November, 2017	February, 2021	-
		<ul style="list-style-type: none"> <li>Molecular characterization of new collection</li> <li>Study of endo symbionts</li> </ul>	Dr. Thamilarasi K	25	April, 2017	March, 2021	-
		Taxonomic studies of lac insects (Hemiptera: Coccoidea: Tachardiidae) from different agro-climatic zones of India.			April, 2020	March, 2021	Shri NN Rajgopal
<b>ICAR-ICRAF</b>							
17.	2.1.054	Enabling tribal communities to improve their livelihoods through agroforestry systems on a sustainable basis	Dr. J Ghosh Dr. A Mohanasundaram Dr. RK Yogi	25 10 25	Oct., 2017	September, 2020	-
<b>ICAR-DBT</b>							
18.	2.1.055	Identification, cloning and characterization of genes involved in pigment biosynthesis of the Indian lac insect, <i>Kerria lacca</i> (Kerr)	Dr. Thamilarasi K Dr. VD Lohot	10 15	September, 2017	September, 2020	-
<b>Inter-Institutional Projects</b>							
<b>1. ICAR-IINRG, Ranchi &amp; ICAR-IIAB, Ranchi</b>							
19.	--	Development and evaluation of the efficacy of novel nanoparticles for enhancing yield in rice and Indian major carp	Dr. AR Chowdhury, Co-PI	25	August, 2016	July, 2021	-
<b>2. ICAR-IINRG, Ranchi &amp; ICAR-RCER Farming System Research Centre for Hill and Plateau Region, Plandu, Ranchi</b>							
20.	--	Enhancing food, nutritional and livelihood security of marginal and small farmers in Jharkhand through need based agricultural technologies	Dr. Nirmal Kumar, Co-PI Dr. NK Sinha, Co-PI	15 15	April, 2018	March, 2021	-
<b>3. ICAR-IINRG, Ranchi &amp; ICAR-IIHR, Bengaluru</b>							
21.	--	1. Title, 'Development of storage protocol for extending the marketable period of fruits (Mango, Guava, Fig, Jamun, Muskmelon) and vegetables (Drumstick, Brinjal, Bottlegourd)'	Dr. MF Ansari, Co-PI	15	February, 2020	March, 2021	-
		2. Title, 'Development of bio-composite packages from horticultural waste'		15			

KVK, Khunti, Ranchi							
22.	--	Assessment, diffusion and adoption of crop production and NRGs technology	Dr. J Ghosh Dr. NK Sinha Dr. VD Lohot Dr. A Mohanasundaram Dr. SC Sharma Dr. RK Yogi	25 20 10 10 25 10	July, 2020	June, 2025	Dr. Nirmal Kumar
Agri-Business Incubation							
23.	--	Agri-Business Incubation under Component-II of NAIF Scheme of ICAR	Er. SK Pandey Dr. SC Sharma	30 25	April, 2019	March, 2021	Dr. RK Yogi

#### **Exploratory Study**

1. 'Preparation and characterization of modified *guar* gum nanocomposite films reinforced with *Acacia nilotica*/Jhingan AgNPs for diversified applications' ---- Dr. MZ Siddiqui, PS, PPDD, 25%
2. 'Synthesis of rosin derivative for its use as tackifier' ---- Dr. MF Ansari, PS, PPDD, 50%
3. 'Genetic manipulation in lac host plant (*F. semialata*) to establish better plant-lac insect interaction'---- Dr. J Ghosh, PS, LPD, 10%

#### **Conceptualizations of New Project Proposals**

1. Dr. NK Sinha, PS, LPD, 20%
2. Mr. Ch. Jamkhokai Mate, Sci., PPDD, 50%

(MZ Siddiqui)  
I/c, PMEC

(KK Sharma)  
Director

#### **Explanation for coding of the Project Nos.**

- (i) First number indicates category of projects: Institute Project-1, Externally Funded Project-2, Network Project-3, (ii) Second number indicates the Divisions: LPD-1, PPDD-2, TOT-3 and (iii) Third number indicates the **project number**.
- (ii) \*Indicates scientist concerned would assist/facilitate the study without formally being associated with the project.

**Note:** Two Projects (Nos. 1.2.060 & 1.2.070), under Core Programme-III, in abeyance, so not listed here.