

New initiated ICFRE Research Projects, 2010-11-IFP

Sl. No	Projects	Name of PI	Thrust area	Current Status
1.	Studies on edible shoot production potential of selected indigenous and introduced bamboos in Jharkhand and enhancement of production period through cultural practices. (3 years, April 2010)	Dr. S. Nath, Scientist -E	Forest Productivity (Silviculture)	<p>Obj 1: Assessment of bamboo shoot production potential and shooting period of selected species in Jharkhand.</p> <ul style="list-style-type: none"> • About 60% of targets on information collection from villages & markets on edible shoot collection, consumption, trade, species used, persons engaged, earnings etc. in formats have been fulfilled. <p>Obj 2: Effect of soil health on shoot production & duration of production</p> <ul style="list-style-type: none"> • Established plantations for trials with raised Bamboo Planting Stock (BPS) of <i>Bambusa nutans</i>, <i>Dendrocalamus asper</i> and <i>D. strictus</i> . 85 % of targets has been achieved. • Field Trials Laid out at FRC Mandar & IFP, Lalgutwa, Ranchi to study <i>effect of Manurial Treatments (Organic amendments) with and without inorganic fertilizers on edible bamboo shoot yield and extension of shoot production period.</i> Main Treatment : 3 - OM₀, OM₁ & OM₂ Sub Treatments : 3 - NPK₀, NPK₁ & NPK₂ <i>Effect of soil work and mulching in combination with Organic matter on bamboo groves on edible shoots yield and extension of shoot production period.</i> Main Treatment: 4 - Mulching Sub Treatment : 3 doses of Org. Matter <p>Obj 3: Enhance-ment & Improvement of shoot production by clump or grove management</p> <ul style="list-style-type: none"> • Field Trials Laid out to study • Improvement of shoot production in bamboos as affected by clump Management techniques. • Treatments : 5 (Thinning operation Spp: <i>Bambusa nutans</i>, <i>Dendrocalamus asper</i> & <i>D. strictus</i>; Age of plantⁿ : 15Yr ; Design: RBD <p>Obj 4: Standardization of shoot extraction methods.</p> <p>Field Trials Laid out to study</p> <ul style="list-style-type: none"> • Effect of Bamboo shoot harvest on growth, yield and quality of bamboo shoot and timber bamboo production potential • Treatments: 4 (Control, 20%, 30% & 50 % shoot removal) • Collected data on Initial & periodic clump parameters, seasonal data on shoot

				<p>emergence, duration of shoot emergence, shoot growth parameters (dia, length, DM etc.) & soil samples; analysed samples & Compiled field data</p> <ul style="list-style-type: none"> ▪ Mulching with rice straw favoured higher number of shoot emergence, longer shoot emergence period and survival of the <i>D. strictus</i> shoots in all clumps . ▪ On an average, when combined with mulching materials, organic manure supported influencing effect of the former more with higher level of application (20 kg clump⁻¹). ▪ Removal of all the culms (100%) of more than two year old from clumps of <i>D. strictus</i> has given rise to more shoot emergence and their survival but not the duration of emerging period. ▪ Application of vermi-compost without and with fertilizer nutrients has shown greater influence on total shoots emerged and survival. ▪ The applied doses of 150 to 300 g N, 75 to 150 g P and 100 to 200 g K clump⁻¹, however, have not shown effective influence on shoot production by the species tried. ▪ On <i>D. asper</i> & <i>B. nutans</i> clumps, polysheet mulching favoured better shoot emergence.
2.	Study of various factors effecting the quantity of active principles in some commercially important medicinal plants under cultivation (3 years, April 2010)	Dr. Malabika Ray, Scientist - D	NWFPs (Chemistry of NWFPs, Value Addition and Utilization)	<ul style="list-style-type: none"> • Two sites have been identified for collection of propagules from natural sources. • The dried leaves of <i>G. sylvestre</i> have been defatted with petroleum ether; Benzene and chloroform extracts have been prepared from leaves of three year old plants. • <i>G. sylvestre</i> plants have been raised under the shade of Teak, Sal and Sissoo.
3.	Standardization of nursery techniques for cultivation of <i>Celastrus paniculatus</i> and <i>Vitex peduncularis</i> medicinal plants highly exploited in Jharkhand. (3 years, April 2010)	Dr. Malabika Ray, Scientist - D	NWFP (Resource Development of NWFPs)	<ul style="list-style-type: none"> • Three sites of the natural occurrence of <i>V. peduncularis</i> (tree) in Simdega and Ramgarh dists. and two sites of <i>C. paniculatus</i> (climber) in Ramgarh have been observed. • Shoot cuttings have been obtained for each of the trees and climbers found at their respective places. In addition to this mature seeds have been obtained from <i>C. paniculatus</i>.
4.	Assessment of variability and genetic fingerprinting in <i>Pongamia pinnata</i> (L.) Pierre using micro-satellite markers. (3 years, April 2010)	Dr. Sanjay Singh, Scientist - D	Genetic Improvement (Conservation of Forest Genetics Resources)	<ul style="list-style-type: none"> • Parent material available with the Institute has been scrutinized. CPTs have been identified. • JRF has been recruited • Literature review on microsatellite primers carried out to select primers from earlier work. • Some microsatellite primers have been designed.

5.	Protocol optimisation for <i>in vitro</i> propagation and conservation of <i>Embelia ribes</i> Burm F. a vulnerable medicinal plant. (3 years, April 2010)	Dr. Animesh Sinha, Scientist -C	Genetic Improvement (Biotechnology)	<ul style="list-style-type: none"> • Seeds have been collected from Nagpur and seedlings are being raised in nursery. • Plant is not available in the institute & adjacent area. Leaves have been collected from Bangalore & <i>in vitro</i> culture has been initiated.
6.	Studies on variability in rooting proficiency in selected genotypes of <i>Pongamia pinnata</i> (L.) Pierre (2 years, April 2010)	Dr. Animesh Sinha, Scientist -C	Genetic Improvement (Vegetative Propagation)	<ul style="list-style-type: none"> • Branches have been collected from PTs. • Field Assistant has joined from Sep, 2010. Cutting trials & grafting trials have initiated with hormonal treatments. • Immature & mature seeds are being collected.
7.	Enhancement of soil Carbon and nitrogen sequestration potential of different land use in Jharkhand through recommended management practices. 3 yrs (2010-13)	Dr. M.V. Durai, Research Officer	Forest Productivity (Agroforestry)	<ul style="list-style-type: none"> • Two experimental sites viz., Sikini coal mine & Khilari Coal mine fields were selected • Soil samples (30 no.) collected and its quality was analyzed • Site has been prepared and pitting was done for planting at Sikini coal mine • Pot trial experimental was carried out with N₂ fixing plant- barsum & vermicompost at FRC, Mandar .