

## List of Projects-2013

### Crop Improvement Division

**CI 1.6: Collection, evaluation, documentation and conservation of forage crops germplasm (Merged project of CI 1.5 and CI 1.6)**

PI: Tejveer Singh, A.K. Roy, S. Ahmed, D. C. Joshi, G. Sahay and P. Saxena

**CI 2.6: Genetic Improvement of Sorghum under Different Use Patterns**

PI: D.C. Joshi, R.V. Kumar, N.K. Shah, N. Manjunath and Sultan Singh

**CI 2.7: Development of dual purpose maize**

PI: S. Ahmed, R. P. Sah, D.R. Malaviya, P. Saxena and M.I. Azmi

**CI 2.8: Development of high yielding dual and multicut fodder oats.**

PI: S. Ahmed, R. P. Sah, K.K. Singh and AK. Roy

**CI 2.9: Genetic Improvement of Pearl millet (bajra) and bajra- napier (BN) hybrids for higher biomass production**

PI: Kumar Durgesh, A K. Mall, C K Gupta, A.K. Mishra and N Manjunath

**CI 2.10: Genetic improvement of barley for forage and grain yield.**

PI: A K. Singh and P. Saxena

**CI 2.11: Genetic improvement for dual-purpose stay-green pearl millet.**

PI: A K. Singh and S.S. Meena

**CI 3.8: Genetic improvement in fodder Cowpea *Vigna unguiculata* with special reference to resistance to pests.**

PI: G. Sahay, N.K. Shah, Kumar Durgesh and R.B. Bhaskar

**CI 3.10: Genetic improvement of Berseem for root rot resistance, late maturity and biomass**

PI: Tejveer Singh, D. R. Malaviya, P. Kaushal, A K Roy and R. B. Bhaskar

**CI 4.5: Genetic improvement of guinea grass for higher biomass production and tolerance for abiotic stresses**

PI: V. K. Yadav and P. Kaushal

**CI 5.4: Basic studies on apomixis and generating cytogenetic stocks in *Pennisetum* and *Panicum* agamic complex**

PI: P. Kaushal, D. R. Malaviya, A. K. Roy, K.K. Dwivedi and A. Radhakrishna

**CI 6.7: Identification of molecular markers for apomixis/ sexuality in *Cenchrus ciliaris***

PI: M.G. Gupta, Suresh Kumar, K.K. Dwivedi, A. Radhakrishna and P. Kaushal

**CI 6.8: Development of Molecular markers database in Forage grasses with special reference to stress responsive EST -SSRs.**

PI: A. Radhakrishna, K. K. Dwivedi and Suresh Kumar

**CI 6.9: Identification of Functional Markers for Drought tolerance in pearl millet**

PI: Suresh Kumar, Kumar Durgesh, P. Kaushal and M. G. Gupta

**CI 7.11: Biochemical and Molecular Approach for Characterization of Drought Tolerant Forage Sorghum.**

PI: M K Srivastava, C K Gupta

**CI 8.20: Integrated disease management for root rot & dry root rot in cowpea (*Vigna unguiculata* (L) Walp.**

PI: P. Saxena and R.B. Bhaskar

**CI 8.23: Exploration of resistant mycoflora of root and stem rot patho system and development of suitable formulation for disease management in berseem**

PI: Dr RB Bhaskar

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

PI: N. K. Shah, R. B. Bhaskar and M. I. Azmi

**CI 8.26: Management of nematode and fungal pathogen associated with root rot complex of cowpea.**

PI: M.I. Azmi and R.B. Bhaskar

**CI 8.27: Collection and characterization of biodiversity in insect pests, pathogens and nematodes of fodder crops**

PI: N. K. Shah, P. Saxena, M. I. Azmi and N. Manjunath

### **Crop Production Division**

**CP 1.1.8: Market led fodder production technology for profit maximization in peri-urban agglomeration.**

PI: R.K. Agrawal, Mukesh Choudhary, M.M. Das and Satyapriya

**CP 1.1.9: Development of Agro-techniques for the cultivation of Chaya (*Cnidocolus aconitifolius*).**

PI: A. K. Dixit and A. K. Rai

**CP 1.1.10: Standardization of Agro-techniques for newly released varieties of fodder crops.**

PI: Mukesh Choudhary and G Prabhu

**CP 1.1.11: Effect of long term organic and conventional nutrient management on soil fertility and sustain ability of cropping system**

PI: A. K. Rai, A.K. Dixit, M. K. Srivastava and S. K. Rai

**CP 1.2.11: Soil micronutrient deficiency management for quality forage and livestock production.**

PI: A. K. Rai, M.M. Das, K. K. Singh and S. K. Mahanta

**CP 1.5.1: Tillage management practices in fodder-food cropping system for sustainable production.**

PI: A. K. Dixit, R.K. Agrawal and C.S. Sahay

**CP 2.1.13: Fodder based Colltingent crop planning modules for rainfed semi-arid region.**

PI: A. K. Dixit, S. K. Rai and Mukesh Choudhary

**CP 2.1.14: Climate resilient forage production system under rainfed situation**

PI: Sunil Kumar, Kiran Kumar T. and .I.B. Singh

**CP 2.3.10: Water requirement of hybrid Napier- berseem intercropping system under organic nutrition in semi arid region.**

PI: Pradeep Behari, J. B. Singh and R. K. Agrawal

**CP 2.3.11: Forewarning models for major pests of cowpea and berseem.**

PI: J. B. Singh, Pradeep Saxena .md Pradeep Behari

**CP 2.3.12: Studies of crop growth simulation model for fodder cowpea using CERES-Grain Cowpea Model for agronomic management and to study the impact of projected climate change on its productivity in semiarid region of India.**

PI: S.K. Rai and D. Deb

**Western Regional Research Station, Avikanagar**

**RSA 7: Aonla based Horti-pastoral system under semi-arid conditions**

PI: RP. Nagar, Sunil Kumar Seth

**RSA 8: Neem & Kbejri based silvi-pastoral system under semi arid condition**

PI: S.L. Meena

**RSA 10: Evaluation of Promising neem strains under agri-silvi-pasture system in the semiarid conditions**

PI: SS Meena, SL Meena

**RSA 11: Maximization of quality seed production and standardization of seed testing protocol in range grasses and legumes**

PI: R.P. Nagar, S.L. Meena

**RSA 12: Influence of moisture conservation techniques on performance of different forage crops and cropping systems under semi arid environment**

PI: S L Meena, S S Meena

**RSA 13: Germplasm enrichment, evaluation, maintenance and genetic improvement of forage crops for arid, semi-arid regions**

PI: S S Meena, RP. Nagar

**GSM Division**

**GSM 1.15: Management of promising cultivars of *Leucaena leucocephala* with special reference to seed production.**

PI: S.K. Gupta

**GSM 1.16: Grazing system and forage availability in tribal region of northern district of Chhattisgarh**

PI: N.S.Ekka & S K Gupta

**GSM 1.17: Evaluation of range legumes of semi arid region for quality forage**

PI: Archana Singh

**GSM 1.18: Strengthening and digitization of herbarium fodder value plant**

PI: Archana Singh, A K Roy & D Deb

**GSM 2.9: Diversity of arbuscular mycorrhizal fungi associated with grasses and its role in forage production**

PI: HV Singh

**GSM 2.10: Growth and production modeling of selected annual fodder crops**

PI: Dibyendu Deb, J. P. Singh and S. K. Rai

**GSM 3.8: Establishment and management of silvopastures for optimizing forage availability and productivity**

PI: S K Gupta

**GSM 3.10: Evaluation of *Hardwickia binata* based silvopasture systems under moisture conservation practices**

PI: SN Ram, AK Roy and AK Shukla

**GSM 3.11: Silvopasture system for round the year top feed and fodder availability**

PI: AK Roy, Sunil Kumar and HV Singh

**GSM 3.12: Evaluation of shrubs in *Hardwickia binata* based three tier silvopasture systems under semiarid rainfed situation**

PI: S N Ram and A K Shukla

**GSM 3.13: Estimation and validation of biomass model of selected fodder tree and shrub species grown under semi arid condition**

PI: Dibyendu Deb and J. P. Singh

**GSM 4.12.1: Productivity of aonla based hortipastoral system under different soil and water conservation practices.**

Phase II (2012-17)

PI: Sunil Kumar, Ramesh Singh, Sunil Tiwari & AK Shukla

**GSM 4.12.2 : Establishment of aonla based hortipastoral system with different soil and moisture conservation practices under rainfed situation**

PI: Sunil Kumar & AK Shukla

**GSM 4.14: Development of guava based hortipastoral system with natural resource conservation (2007-2012)**

PI: Sunil Kumar, AK Shukla & AK Rai

**GSM 4.15: Evaluation of bael based hortipastoral system in relation to different moisture conservation practices under semi arid condition.**

PI: AK Shukla, Sunil Kumar & S.N. Ram

**GSM 4.16: Evaluation of Tamarind based hortipastoral system in relation to different moisture conservation practices under semi arid condition.**

PI: A.K. Shukla, Sunil Kumar, R.V. Kumar (From 30-5-2013), and Akram Ahmed

**GSM 4.18: Evaluation of substrate dynamics for integrated nutrient management in bael based hortipastoral system**

PI: AK Shukla, HV Singh, AK Rai and Sunil Kumar

**GSM 4.19 Studies on microflora of Bahaunia and aonla based silvi-hortipasture system**

PI: HV Singh

**Farm Machinery & Post Harvest Technology**

**AE(CRP) IGFRI-CIPHET: Development and testing of berseem - chicory seed separator**

PI: P.K.Pathak, C. S. Sahay and VK Bhargav (CIPHET)

**AE 2.1: Development of value added feed products for different categories of livestock and their storage**

PI: P.N. Dwivedi, P K Pathak, C.S. Sahay

**AE 3.1: Evaluation of water resources for efficient utilization in enhancing productivity of forage crops**

PI: B Narsimlu, C S Sahay

**PAR Division**

**PAR 3.1: Methane production potential of tropical fodders/feeds vis-a-vis efficacy of tree foliages secondary metabolites for defaunation and methanogenesis**

PI: Sultan Singh, B.K. Bhadoria

**PAR 4.1: Performance of mixed herd of sheep and goats under grazing in different silvopasture systems**

PI: S. K. Mahanta, S.N. Ram, S.K. Das, Archana Singh and N. Das

**PAR 4.2: Long term effect of different grazing intensities on soil health and pasture-animal productivity**

PI: S. K. Mahanta, S. N. Ram, Archana Singh, Sultan Singh, N. Das, A.K. Rai, R. Srinivasan, J.B. Singh, Akram Ahmed and S.B. Maity.

**PAR 5.1: Evaluation of Stylosanthes seabrana and S. hamata meal as a supplementary feed in animals**

PI: M.M. Das, S.K. Mahanta and S.N. Ram

**PAR 5.2: Evaluation of tropical grass/ stover based silage as summer forage for livestock.**

PI: K.K. Singh, M.M. Das and S.B. Maity

**PAR 6.2: Utilization of chaya (Cnidocolus aconitifolius) for efficient livestock production**

PI: P. Sharma, K.K. Singh, M.M. Das, A.K. Misra and S.B. Maity

**Division of Seed Technology**

**STR 1.2: Response of Subabool (Leucaena leucocephala) varieties to nutrient management practices for seed production.**

PI: D. Vijay and S.K. Gupta

**STR 3.5 : Economics of forage seed production under farmers' participatory research and at organized farms.**

PI: Vikas Kumar, Satyapriya, Maharaj Singh and D. Bahukhandi

**STR 3.6: Impact of forage technology on socio- economic development of farmers.**

PI: Vikas Kumar and Maharaj Singh

**STR 3.7 : Developing seed standards and enhancing seed production in forages.**

PI: D. Vijay and C.K. Gupta

**STR 3.8 : Low input, eco-friendly storage of Forage Seeds.**

PI: D. Bahukhandi and D. Vijay

**STR 3.9 : Quality Seed Production in Forage Grasses: Physiological and Biochemical Interventions**

PI: C.K. Gupta, M.K. Srivastava, D.R. Malaviya and D. Vijay

**STR 3.10 : Biochemical Analysis of Forage Seeds During Post Harvest Storage**

PI: C.K. Gupta, D. Vijay and M.K. Shrivastava

**STR 3.12: Livelihood improvement of farmers through quality seed production of fodder crops.**

PI: Vikas Kumar, Satyapriya, and P. Sharma,

**STR 3.13: Crop management practices for maximising seed production in cowpea and oat**

PI: Vinod Kumar Wasnik, Vikas kumar, and S.R. Kantwa,

**STR 3.14: Chemical weed control in Berseem for seed production.**

PI: Vinod Kumar Wasnik, A. Maity, and. S.R. Kantwa

#### **Social Science Division**

**SS 1.04: Economic evaluation of feeding value added fodder products and green fodder**

PI: Purushottam Sharma, PN Dwivedi and PK Pathak

**SS1.03: Development and standardization of scale to measure socio-economic status of a farmer practicing livestock based farming**

PI: Satyapriya , Maharaj Singh, Purushottam Sharma, Ashok Kumar and Vikas Kumar

**SS 2.04: Technology gap analysis of fodder production technology in Bundelkhand region**

PI: Manju Suman, Ashok Kumar, Vikas Kumar

**SS 2.05: Capacity - building of farm women on animal rearing practices**

PI: Sadhna Pandey, Purushottam Sharma and Satyapriya

#### **Southern Regional Research Station, Dharwad**

**RSD 12: Breeding for forage yield quality, biotic and abiotic tolerance in alfalfa (*Medicago sativa* L.)**

PI: S Karthigeyan, K Sridhar, Edna Antony, S Kulkarni, Sultan Singh

**RSD 15: Seed yield potentiality of different Lucerne Cultivars**

PI: Vinod Kumar, D R Malaviya, K Sridhar and S Karthigeyan

**RSD 16: Optimizing Seed production and seed standardization protocols in range grasses and legumes**

PI: Vinod kumar, K Sridhar and D R Malaviya

**RSD 19: Studies on insect fauna and its influence on forage and seed yield in lucerne**

PI: N S Kulkarni, Vinod kumar, B G Shivkumar S Karthigeyan

**RSD 20: Training needs analysis of clientele on fodder promotion and development**

PI: N Biradar

**RSD 21: Studies on commercialization and utilization of fodder technologies**

PI: N Biaradar, Vinod Kumar and R.P. Nagar

**RSD 22: Physiological interventions for improving seed yield in Brachiaria species**

PI: Edna Antony and K. Sridhar

**RSD 23: Agro-ecological evaluation of different hortipastoral systems for peninsular India.**

PI: B G Shivakumar, N S Kulkarni

**External Funded Projects**

E-101	Pliidy regulated expression of genes involved in mega gametophyte development, apomixes and its component traits	PI: Dr P Kaushal, K K Dwivedi, D R Malaviya and A K Roy
E-102	Identification of ovule and embryo sac specific promoters and their validation in transgenic <i>Cenchrus ciliaris</i> .	PI- K.K. Dwivedi, A Radhakrishna, P Kaushal
E- 103	Developing guidelines for conduct of DUS testing for Oat, Cowpea and guinea grass.	PI: Dr V K Yadav, D C Joshi, S Ahmed, G sahay, P Kaushal
E- 104	Enhancing grasspea production for safe human food, animal feed and sustainable rice-based production system	PI: A K Roy, A K Mishra, Archana Singh
E- 105	Goat husbandry based integrated approach for livelihood security-	PI: A K Roy, Sunil Seth, S N Ram, P. N. Dwivedi
E- 106	Integrated farming system for sustainable rural livelihood in undulating and rainfed areas of Jhabhua and Dhar districts of Madhya Pradesh-	PI: A K Roy, A K Shukla, P Sharma
E- 107 AICRP	National Initiative on Climate Resilient Agriculture (NICRA) Project- Rajeev Agarwal	PI: R. K. Agarwal, Satyapriya, Sunil Seth, J P Singh, Ramesh Singh
E- 108: Network Project	Network Project of Buffalo: Performance recording and improvement of Bhadawari Buffaloes	PI: B. P. Kushwaha, S. B. Maity, Sultan Singh and K. K. Singh
E- 109: AICRP	AICRP on chickpea (Project No. 2000000003)	PI: A.K. Dixit
E- 110: AICRP	AICRP (ICAR): Improvement of feed resources and nutrient utilization in raising animal production	PI: S. K. Mahanta and M M Das
E-111 AICRP	PFT and FLD of improved implements through AICRP on FIM 1. Prototype feasibility testing of improved implements 2. Frontline demonstration of farm implements and machinery in selected region of the country	PI: C.S. Sahay