

Annual (April 1, 2012 to March 31, 2013) Performance Evaluation Report in respect of RFD 2012-2013 of RSCs i.e. Institutes

Name of the Division: Crop Science

Name of the Institution: Indian Agricultural Research Institute, New Delhi

RFD Nodal Officer: Dr. I. Sekar, Principal Scientist, PME

Objectives	Weight (%)	Actions	Success Indicators	Unit	Weight (%)	Target/Criteria value					Achievements	Performance		Percent Achievements against Target values of 90% Col.	Reasons for shortfalls or excessive achievements, if applicable
						Excellent	Very Good	Good	Fair	Poor		Raw Score	Weighted Score		
						100%	90%	80%	70%	60%					
Improving crop productivity and quality through conventional and molecular approaches.	24	Evaluation of improved varieties for suitable crop husbandry practices	Number of breeding lines evaluated	Number	0.5	14160	12746	11330	9915	8500	15000	100	0.50	117	Pl. see remarks in Annexure
		Evaluation, characterization, registration of germplasm/variety	Number of germplasm/population characterized and evaluated	Number	0.5	9475	8530	7580	6635	5685	22780	100	0.50	267	A
			Number of germplasm/population/variety registered	Number	0.5	4	3	2	1	0	7	100	0.50	233	B
		Characterization and evaluation of novel and beneficiary micro-organisms	Microorganisms identified/isolates characterized/registered	Number	0.5	94	85	75	65	56	231	100	0.50	271	C
		Conservation/maintenance of germplasm	Plants/genetic stocks conserved in situ	Number	0.5	940	850	790	650	560	980	100	0.50	114	
			Plants/genetic stocks conserved ex- situ	Number	0.5	6940	6250	5555	4860	4165	9065	100	0.50	145	
		Pre-breeding and basic activities for genetic improvement	Trait specific crosses attempted	Number	1	4200	3800	3370	2950	2530	4100	97.5	0.98	107	
		Evaluation of nutrition, quality and productivity response	Number of varieties tested for quality/productivity	Number	1	2300	2100	1860	1600	1400	4700	100	1.00	223	D
		Development of varieties/hybrids for field crops	Varieties/hybrids identified/release	Number	8	20	18	16	14	12	26	100	8.00	144	E
		Production of nucleus seed	Nucleus seed produced												
Cereals	Tonnes		0.5	34	31	27	24	21	33	96.7	0.48	106			
Pulses	Quintals		0.5	116	105	93	87	70	58	00	00	55	F		
	Oil Seeds	Kgs	0.5	12	11	10	8	7	18	100	0.50	163			

			Vegetables	Kgs	0.5	8	7	6	5	4	198	100	0.50	2400	G
		Production of breeder seed	Breeder seed produced												
			Cereals	Tonnes	0.5	344	310	275	240	206	419	100	0.50	135	
			Pulses	Tonnes	0.5	17	15	13	12	10	23	100	0.50	153	
			Oil Seeds	Quintals	0.5	50	45	40	35	30	66	100	0.50	146	
			Vegetables	Kgs	0.5	688	620	550	480	410	1780	100	0.50	287	H
		Production of quality seed	Quality seed produced												
			Cereals	Tonnes	0.5	1057	951	845	740	630	976	92.4	0.46	102	
			Pulses	Tonnes	0.5	20	18	16	14	12	21	100	0.50	116	
			Oil Seeds	Quintals	0.5	89	80	71	62	53	85	94.5	0.47	106	
			Vegetables	Quintals	0.5	44	40	35	31	27	74	100	0.50	185	I
		Production of quality planting material	Quality planting material produced	Number	1	55,000	50,000	45,000	39,000	33,000	65000	100	1.00	130	
		Trait specific improvement through molecular breeding	Gene identified	Number	2	10	9	8	7	6	14	100	2.00	155	
			Gene incorporated/validated	Number	1	20	18	16	14	12	130	100	1.00	722	J
			Gene sequenced and deposited in data bank	Number	1	11	10	9	8	7	10	90	0.90	100	
Enhancing crop production through conservation and efficient management of natural resources; and development of technologies adapted to climate change	14	Improving nutrient use efficiency	Technologies developed/ tested and or validated	Number	2	13	12	11	9	8	20	100	2.00	166	K
		Development of water management technologies	Technologies developed/tested and or validated	Number	2	8	7	6	5	4	12	100	2.00	171	L
		Development of efficient production technologies	Technologies developed/ tested and validated	Number	2	13	12	11	9	8	13	100	2.00	108	
		Development of technology for conservation agriculture	Technologies developed/ tested and validated	Number	1	10	9	8	7	6	7	70	0.70	78	
		Characterization and improvement of soil health	Soil samples tested	Number	0.5	5880	5300	4700	4100	3500	5461	92.8	0.46	103	
			Technologies tested and validated	Number	1	6	5	4	3	2	5	90	0.90	100	
		Strategies/technologies for mitigation / adaptation of Climate Change effects and promoting carbon sequestration	Technologies developed/ tested and validated	Number	2	11	10	9	8	7	8	70	1.40	80	
		Strategies/technologies for waste water management	Technologies developed/ tested and validated	Number	1	5	4	3	2	1	4	90	0.90	100	
		Technologies for protected agriculture, dry land and precision farming	Technologies for protected agriculture, dry land and precision farming	Number	2	8	7	6	5	4	8	100	2.00	114	

		Development of DSS/SDSS for planning and forecasting	Simulation models developed/validated and advisories issues	Number	0.5	4	3	2	1	0	3	90	0.45	100	
Bio security and efficient management of pests, diseases and nematodes through conventional and frontier research	9	Development of agrochemicals including nano-formulations, safety evaluation and quality control	Molecules/formulations, developed/ evaluated	Number	3	7	6	5	4	3	8	100	3.00	133	
		Development of bio-control technologies/ strategies	Technologies developed tested and validated	Number	2	13	12	11	9	8	9	70	1.40	75	
		Development of IPM Technologies	Pest dynamics worked out/technologies developed and or validated	Number	1.5	6	5	4	3	2	4	80	1.20	80	
		Development of diagnostics	Technologies developed / tested/ validated	Number	1	16	14	12	11	9	25	100	1.00	178	M
		Collection, evaluation, and characterization of/ new pest population	New pest population collected/ characterized	Number	1	3444	3100	2750	2400	2060	7242	100	1.00	232	N
		Gene sequencing of pathogen and pests	Gene sequenced and deposited in data bank	Number	0.5	44	40	35	31	27	525	100	0.50	1312	O
Socio-economic & policy research, capacity building and commercialization of technologies	15	Policy research in agriculture	Policy documents prepared	Number	0.5	3	2	1	0	0	2	90	0.45	100	
		Impact assessment	Commodities covered	Number	0.5	4	3	2	1	0	3	90	0.45	100	
		S strategies and models in extension	Strategies/models developed	Number	1	5	4	3	2	1	4	90	0.90	100	
		Transfer of knowledge	Capacity building of farmers, extension professionals and other stakeholders	Number	2	24200	21804	19400	17000	14500	22100	91.2	1.82	101	
		Advisory service (including farmers contacted in melas).	Farmers contacted/advised	Number	2	183000	165000	146000	128000	110000	144300	79.1	1.58	87	
		Empowerment of rural women	Farm women skill developed	Number	2	1830	1650	1470	1280	1100	1708	93.2	1.86	103	
		Organization of demonstration	Demonstration organized	Numbers	2	3300	3000	2600	2300	2000	5000	100	2.00	166	P
		Products/Processes development and commercialization	Products/Processes developed and commercialized	Number	2	11	10	9	8	7	15	100	2.00	150	Q
			Patents filed/copyrights registered	Number	1.5	5	4	3	2	1	14	100	1.50	350	R
Business incubation	Number		0.5	5	4	3	2	1	1	60	0.30	25	S		
		Revenue generated	Rs.(lakh)	1	144	130	115	100	86	303	100	1.00	233	T	
Technological interventions for enhancing profitability through improved	6	Development of design/implements/ technology/machinery	Designs developed and tested/validated	Number	1.5	3	2	1	0	0	2	90	1.35	100	
		Development of post harvest technologies	Technologies developed/ tested and or validated	Number	3	5	4	3	2	1	4	90	2.70	100	

farm machinery, post-harvest management and value addition		Development of nutraceuticals and value added food products	Protocols standardized/process developed	Number	1.5	3	2	1	0	0	2	90	1.35	100	
Development of globally competitive human resources	20	M.Sc. Programme	No. of students admitted	Number	3	128	115	102	89	77	113	88.5	2.66	98	
			No of students awarded degrees	Number	3	111	100	89	78	67	108	97.3	2.92	108	
	Ph.D Programme	No. of students admitted	Number	3	142	128	114	100	85	128	90	2.70	100		
		No of students awarded degrees	Number	3	83	75	67	58	50	100	100	3.00	133		
	AHRD trainings & offshore support	No of trainings conducted	Number	2	20	18	16	14	12	22	100	2.00	122		
		No of participants trained	Number	3	361	325	289	253	217	414	100	3.00	127		
		Faculty provided advance trainings	Number	1.5	44	40	36	31	27	9	00	00	23	U	
		International/National Seminar/workshop etc. participation	Number	1.5	27	24	21	19	16	16	60	0.90	66	V	
Efficient Functioning of the RFD System	3	Timely submission of RFD for 2012-13	On-time submission	Date	2	23/03/12	26/03/12	27/03/12	28/03/12	29/03/12	31/03/2012	00	00		W
		Timely submission of Results for 2012-13	On-time submission	Date	1	01/05/13	02/05/13	03/05/13	06/05/13	07/05/13	01/05/2013	00	00		
Administrative reforms	5	Implement mitigating strategies for reducing potential risk of corruption	% of Implementation	%	2	100	95	90	85	80	100	100	2.00		
		Implementation of ISO 9001	Prepare ISO 9001 action plan	Date	1	04/06/12	05/06/12	06/06/12	07/06/12	08/06/12	19/07/2011	100	1.00		
			Percent implementation	%	2	100	95	90	85	80	100	100	2.00		
Improving Internal Efficiency /responsiveness service delivery of Ministry /Department	4	Implementation of Sevottam	Independent Audit of Implementation of citizen's charter	%	2	100	95	90	85	80	100	100	2.00		
			Independent Audit of Implementation of public grievances redressal system	%	2	100	95	90	85	80	100	100	2.00		

Total Composite Score: 89.64

Rating: Very Good

Reasons for shortfalls or excessive achievements:

- A. A new initiative was started by NBPGR for characterization of large number of germplasm accessions of targeted crops for evaluation, characterization and utilization from the National Gene Bank on multilocation replicated trials, in which IARI also participated and provided technical inputs and data required. Hence there was an unusually large number of germplasm which were evaluated.
- B. Often more than expected variants come up during material development processes in plant breeding and all the variants are dutifully registered and submitted for enabling their use by national plant breeding community. The achieved percentage appears as excessive which is only because of expected novel genetic stocks were few and during the year under report the number was only three higher than proposed four.
- C. During the period a project was in operation under NAIP Comp-IV, which resulted in collection of large number of samples and characterization of microbes.
- D. A large number of maize lines mostly carrying quality protein genes were received from Dr. S K. Vasal (Ex-CIMMYT), an alumnus of IARI, who was admitted to IARI faculty as Adjunct Professor which was not anticipated.
- E. This is an excellent achievement under competition in the NARS. Because of the successful breeding programmes, in different crops, a number of varieties were identified based on their performance evaluation against comparators from other institutions during the year for release by the Central Committee, DAC. Normally a proportion of less than 50% of the proposed number get identified in view of the competition in AICRIPs. This year the success rate was higher than that due to the competitiveness of the proposed varieties.
- F. There was sufficient quantity of nucleus seed available from previous year stock to meet breeder seed demand
- G. Due to increasing demand of IARI vegetable seed, production of nucleus seed was escalated several times.
- H. Due to increasing demand of IARI vegetable seed, production of breeder seed was escalated.
- I. Due to increasing demand of IARI vegetable seed, production of quality seed was escalated.
- J. The more than targeted achievements in tagging/validation and incorporation of new genes/alleles were enabled due to accelerated crop improvement programmes launched under NAIP projects and DBT task force for accelerated crop Improvement programme.
- K. In projects funded by NAIP and NFBSFARA, several new technologies were tested
- L. Same as above (K)
- M. Unexpected achievements were made due to support from NAIP and Outreach projects
- N. A large number of insects were collected under NAIP project
- O. Due to a large number of externally funded projects mentioned above, unexpected number of genes could be sequenced and deposited.
- P. Under the Outreach programme we could organize a large number of demonstrations through volunteer partners.
- Q. The Institute has strengthened ITMU and ZTM&BPDU, which supported IP management very efficiently
- R. Same as above (Q)
- S. The previous business manager resigned and new business manager appointed in January 2013, hence activities could not be undertaken as planned.
- T. Revenue generation through commercialization/other sales and services.
- U. Off-shore training can be provided subject to the provisions and availability of funds provided.
- V. Same as above (V)
- W. Due to communication gap, the report could not be sent on time.