

## MANDATE

To Provide Scientific Basis for Enhancing and Sustaining Productivity of Soil and Crops through Targeted Yield Approach of Plant Nutrient Management with Minimal Environmental Degradation

- To develop relationships between soil test values and crop response to fertilizers, in order to provide a calibration for fertilizer recommendation based on soil testing.
- To obtain a basis for making fertilizer recommendations for targeted yields.
- To evaluate various soil test methods for their suitability under field conditions.
- To evaluate the joint use of chemical fertilizers and organic manures for enhanced nutrient use efficiency.
- To derive a basis for making fertilizer recommendations for a whole cropping sequence based on initial soil test values.

## MISSION

To provide scientific basis for balanced plant nutrient recommendations and guidelines for soil fertility management vis-à-vis sustainable crop production with minimal environmental degradation.

## VISION

Strategic and applied research on plant nutrient management through targeted yield approach for improving crop productivity and soil health.

## SIGNIFICANT ACHIEVEMENTS

Developed fertilizer prescription equations without IPNS for 23 field crops, 10 vegetable crops and 2 medicinal crops.

- Developed fertilizer and manure prescription equations with IPNS approach for 38 field crops, 29 vegetable crops and 12 medicinal and other horticultural crops during the period.
- District-wise GIS based soil fertility maps for 20 states have been generated using the soil test

data collected from different soil testing laboratories located in various parts of the country.

- Tehsil-wise GIS based soil fertility maps for 11 states have been generated using the soil test data collected from different soil testing laboratories located in various parts of the country.
- Conducted 130 field demonstrations on oilseed crops and 150 field demonstrations on other crops on farmers' fields in different states to popularize STCR based fertilizer and manure recommendations to different crops.
- Developed Decision Support System in collaboration with National Informatics Centre (NIC), Pune for on-line fertilizer recommendation to different crops grown in various states using the fertilizer prescription equation and has been uploaded on STCR website (<http://www.stcr.gov.in>) for the benefit of farmers and other end users.

## FIVE BEST TECHNOLOGIES/PRODUCTS

- District wise applicability of fertilizer prescription equations have been documented and transferred to DAC&FW which was included in the online DSS developed under soil health card scheme of Govt. of India (<http://soilhealth.dac.gov.in/>).
- Developed fertilizer prescription equations for different yield targets based on resource availability of the farmers.
- Developed STCR-IPNS based fertilizer prescription equations.
- Developed post harvest plant nutrients prediction models of major cropping systems for different agro-ecological regions.
- Developed districtwise nutrient plan for 10 states based on GPS/GIS based soil fertility mapping.

## NEW INITIATIVES

- Long-term comparative evaluation of different fertilizer recommendation approaches in rice-wheat cropping sequence using dehydrogenase and alkaline phosphatase enzyme activity

## AICRP on SOIL TEST CROP RESPONSE, ICAR-IISS, BHOPAL

- Soil testing protocol of microbiologically exploited organic phosphorus-pools in organic farming systems.
- Bioremediation strategies of iron toxicity in lowland rice ecosystem of Assam.
- Basis of replacement of FYM by vermicompost and FYM in maize – wheat system for yield targeting under IPNS-STCR approach.
- Refinement of potassium recommendations in groundnut and vegetable crops in Kandhamal, Keonjhar and Deogarh districts of Odisha.

### COLLABORATIVE PARTNERS

STCR has close linkage with 21 cooperating SAUs located at different parts of the country besides four ICAR Institutes, viz., ICAR-IARI (New Delhi), ICAR-CRIJAF (Barrackpore), ICAR Research Complex (Manipur) and ICAR-IISR (Lucknow). Outside AICRP umbrella, linkage has been established with DOR (Hyderabad), IIPR (Kanpur), and NRCG (Junagarh). Linkage has also been established with NIC, Pune.

### FLAGSHIP PROGRAMME

- Soil test based site specific nutrient management
- New methodology for improvement in Soil Testing Services
- Precision farming vis-à-vis soil health protection
- Anomalous potassium response in Vertisols of India
- Transfer of technology especially to disadvantageous areas under TSP

### THRUST AREAS FOR XII PLAN

- STCR recommendations for drip fertigation.
- Fertilizer prescription equations for dryland crops, hi-value vegetables and floriculture.
- DSS integrating GPS/GIS-based soil fertility maps with STCR prescription equations.
- Contribution of non-exchangeable-K.
- Nutrient plan for 173 districts.
- Prediction equations for cropping sequences.

### EXTERNALLY FUNDED PROJECTS/CONSULTANCY

Externally funded Projects

Consultancy: 1 No. (Indo Gulf Fertilisers, Jagdishpur, Uttar Pradesh)

Other sponsored projects - 1 (Nagarjuna Agro Chemicals, Hyderabad, Telangana),

### STAFF STRENGTH

	Sanctioned	Filled	Vacant	% Vacant
Scientific	37	36	1	2.7
Technical	41	37	4	9.8
Administrative	12	12	0	0
Supporting	23	21	2	8.7
<b>Total</b>	<b>113</b>	<b>106</b>	<b>7</b>	<b>6.2</b>

### QRT

Period : 2007 to 2012

Chairman : Dr. Pratap Narain, Ex. VC SKRAU, Raj Vihar, P.O. New Forest, Dehradun – 248006

Next QRT due for : 2013 to 2018

### RAC

Period: 31/08/2014 to 30/08/2017

Chairman: Dr. C.L. Acharya, Former Director, ICAR-IISS, Bhopal

Last meeting: April 4-5, 2016

### FINANCIAL OUTLAY (Plan)

(Rs. in lakh)

XI Plan actual utilization	XII Plan proposed	Last year budget		
		RE	Actual Expenditure	% Utilization
1659.68	3760.00	655.00	654.99	~100

### Resource generation in XI Plan (Rs. in lakhs)

2007-08	2008-09	2009-10	2010-11	2011-12
1.92	2.35	2.74	3.22	5.98

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