FAI-IPI Roundtable
Potassium in Balanced Fertilisation in Rajasthan

The Fertiliser Association of India (FAI) and International Potash Institute (IPI) jointly organised a Round Table on "**Potassium in Balanced Fertilisation in Rajasthan**" on 9th July, 2015 at Hotel Radisson Blu, Jaipur, Rajasthan. Shri Satish Chander, Director General, FAI delivered the opening address. Dr. Patricia Imas, IPI Coordinator for India delivered keynote address. Fifty delegates representing Rajasthan Agricultural Research Institute (Sri Karan Narendra Agriculture University, Jobner) Durgapura, Jaipur, State Institute of Agriculture Management, State Department of Agriculture, KVKs and Fertiliser Industry participated in the round table.

Shri Satish Chander, DG-FAI, lighting the lamp at inaugural session. Others in the Photo are (L-R) Dr. S.K. Bansal, Dr. Patricia Imas and Dr. R.K. Tewatia

In his opening address, Shri Satish Chander, DG, FAI mentioned that pricing policy plays an important role in promoting balanced use of fertilisers. FAI has been taking up the issues of balanced fertilisation in context of pricing policy with Government of India. In 2009-10, the NPK use ratio came close to ideal ratio of 4:2:1. However, the selective implementation of NBS policy on P&K fertilisers, w.e.f., 1.4.2010 created distortion in NPK prices as urea continue to remain heavily subsidised. The increase in P&K prices beyond a point has bearing on consumption of P&K fertilisers, resulting in distortion in NPK consumption ratio.

Shri Chander further mentioned that prices of P&K fertilisers are governed by international prices, exchange rate and the level of subsidy. In last 3-4 years, the exchange rate has gone up and level of subsidy has gone down, aggravating the problem of distortion in P&K nutrient prices and their consumption. FAI has been urging the government to increase the price of urea in the interest of soil health, production / productivity and farmers income.

He then stated that by and large Indian soils are deficient in nutrients. The situation in case of potassium is not that bad for the present. However, the level of soil available K is going down. Recent soil test results have revealed that areas reported high in available potassium, 3-4 decades ago, have come under low to medium category. He informed that under DAC sponsored project, 7 out of 8 districts chosen from Rajasthan for preparing GPS and GIS soil based maps, were found medium in available K.

DG, FAI mentioned that UN has declared 2015 as International Year of Soils and many events are being organised across the globe. The roundtable is one more effort in this direction. He expected that at least 2-3 practical recommendations would come out from the roundtable which could be taken up for promoting balanced fertiliser use in the Rajasthan.

Earlier, welcoming the Chief Guest and delegates, Dr. R.K. Tewatia, Additional Director (Agricultural Sciences), FAI mentioned that the country witnessed good growth in fertiliser consumption during last decade. However, the situation has changed in the current decade. The problem of imbalanced fertiliser use has aggravated after implementation of NBS scheme on P&K fertilisers w.e.f. 1.4.2010. The problem of low and imbalanced fertiliser use is alarming in Rajasthan due to very low / negligible use of potassium. He stated that main objective of programme is to provide common platform to all stakeholders to discuss nutrient use pattern and suggest measures to promote use of potassium in Rajasthan.

Dr. Patricia Imas, IPI Coordinator for India, in her Keynote address "Role of potassium in improving crop yield and quality" mentioned that the main objective of IPI in India is to promote "Balanced Nutrition" with emphasis on K nutrition in main crops. The mission is being carried out via research and extension activities: field experiments, demonstration

Shri Satish Chander, DG-FAI, delivering the opening address

plots, farmers meetings, dealers training progammes, field days, workshops and conferences, publications and awards and assistance for researchers. She expressed that IPI is proud to have a very fruitful association with FAI for the last many years.

Dr. Patricia mentioned in details about the significant role of K in management of stress, more particularly drought management, disease and pest resistance and lodging. The role of potassium in improving root development, water uptake and stomatal regulation is very important in a state like Rajasthan where water is a problem and a large cultivated area is rainfed. Expressing concern on very low K application rate in Rajasthan (<1 kg/ha), Dr. Patricia informed that in 1998, when she had come to India for the first time, the situation in the neighbouring states of Gujarat and M.P. was almost similar. However, with changes in cropping systems, crop varieties and water management, the increasing need of K fertilization is being realized in these states.

She expressed that to get the full benefit of improved crop varieties and N & P fertilisers, farmers should apply the required amount of potash to crops, more particularly high K demanding crops like onion, garlic, potato and citrus. There is need to improve potassium consumption in Rajasthan through improved soil testing facilities and fertilizer recommendations.

The roundtable discussion had two technical sessions. The technical session-I 'Potassium in Crop Production in Rajasthan' was chaired by Dr. Ashok Sharma, Director RARI, Durgapura, Jaipur. Three papers were presented in the session viz. i) "Fertiliser Use Pattern in Rajasthan" by Dr. R.K. Tewatia, Addl. Director (Agricultural Sciences), FAI, New Delhi; ii) "Soil Fertility Status in Rajasthan" by Dr. A.K. Pachori, Joint Director (Chem), SIAM, Durgapura, Jaipur; iii) "Crop Response to K Application in Rajasthan" by Dr. D.K. Pareek, Professor & Head, Soil Science, RARI, Durgapura, Jaipur.

The session II 'Promoting K in Balanced Fertilisation in Rajasthan – Panel Discussion' was chaired by Dr. Shital Pd. Sharma, Director, SIAM, Durgapura, Jaipur. Brief presentations were made by the four panelists in the session viz. i) "Research Gaps in Potassium Management" by Dr. A.K. Gupta, Professor & Head, Agronomy, RARI, Durgapura, Jaipur; ii) "State Government Initiatives to Promote Balanced Fertilisation Including K" by Dr. Ram Gopal Sharma, Joint Director Agriculture (Input), Jaipur, Rajasthan; iii) "Industry Strategy to Highlight Need of Potassium" by Dr. Naresh Prasad, Deputy General Manager (Technical Services), CFCL, New Delhi; and iv) "Policy Issues to Promote Balanced Fertilisation including Potassium" by Dr. S.K. Bansal, Director, PRII, Gurgaon .

Each presentation was followed by interactive discussions.

The programme ended with a vote of thanks from Dr. R.K. Tewatia. He thanked all the speakers for their nice presentation and all the participants for their active participation in discussion.

Some of the recommendations emerged from the roundtable is as follow:

1. Potassium, one of the three primary nutrients, is important

A view of the participants

Dr. Ashok Sharma, Director, RARI, Durgapura chairing the first session of the roundtable

to plant growth and development. It helps plants to grow faster, improve water use efficiency, create resistance to drought, insect pests and diseases and produce more crop yields with better quality.

2. The application of potassium in Rajasthan is low and has been declining from the last 4-5 years. Large area under rainfed crops, low crop yields and general conception that Rajasthan soils are rich in available K are responsible for low use of K in Rajasthan.

3. The impact of potassium on crop growth is not as apparent/ visible as that of nitrogen. Unlike nitrogen which increases vegetative growth/ green colour just after application, the impact of K is reflected at the time of harvest in terms of yield and quality.

4. Among the nutrients, removal of potassium by crops is highest whereas the application is lowest. The problem of potassium depletion in Rajasthan has become alarming because removal of potassium from soil far exceeds its application.

5. Research on potassium management has received less attention because of the impression that Indian soils are rich in available potassium. These are many researchable issues which need to be addressed by scientists.

6. There is need to examine the role of K on plant resistance to biotic and abiotic stresses in differentiated cells, tissues and organs and connecting the data relevantly; understand the relationship between K and other nutrients in relation to plant adaptation to stress in different agro-climatological situations; develop models for better K recommendations based on soil, plant and environmental factors and investigate more research on the importance of K on crop production, nutritional quality and human and animal health.

7. Declining K consumption, distortion in NPK use ratio, declining crop yield and quality underlines the need of K promotion. Strategy to promote K should include creating awareness of K use benefits. There is need to integrate all stakeholders in promotional programmes.

8. The requirement of potassium in Rajasthan is growing with introduction of high K demanding crops like onion, garlic, potato and citrus and other fruits, etc. There is need to create awareness among farmers about the economical, quality improvement and stress resistance benefits of K.

9. Agri-economic analysis, based on K response trials under varying soils and crops, is needed to convince the farmers that application of K is remunerative despite recent increase in K prices.

10. Industry should make efforts on enhancing K visibility at the retails points and using print and electronic media for wider publicity. Large scale awareness is required through various promotional means involving all stakeholders in the system.

11. Fertiliser pricing policy plays an important role in promoting balanced fertiliser use. However, the concept of balanced fertilisation was hit by two policy decisions of Government of India (GOI), i.e., decontrol of P & K fertilisers in August 1992 and implementation of NBS Scheme on P&K fertilisers, w.e.f., 1.4.2010.

12. Favourable policy which encourages the use of all limiting nutrients in balanced manner is the need of hour. FAI is working with the GOI to put in place a policy which is good for soil, farmer and Indian agriculture. ■