

# Customized Fertilizers and their need for Sustainable Crop Production

Arvind Kumar<sup>1\*</sup> and Rakesh Kumar<sup>1</sup>

G.B. Pant University of Agriculture and Technology,  
Pantnagar, Uttarakhand, India 263145  
E-mail: \*arvindhishnoi29e@gmail.com

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**Abstract**—With increasing population, providing food of a day to its people will always remain one of the major concerns of the Indian Government. Food grain demand of India is estimated at about 300 million tonnes per annum by 2025, for which we need to increase of about 25 million tonnes (Mt) from the estimated 275.1 Mt production for 2016-17. Since there is no any chance of any further enhancement in the cultivable area over the present 139.8 million hectares, where much of the desired increase in crop production has to be attained only by improving the productivity per unit area. Since there is no scope for extending the cultivable area, more productivity per unit area is the only option and fertilizer is the major cart puller to improving productivity. Because soil can't able to maintain its fertility status so we need to supply nutrient by various organic and inorganic source to sustain it. NPK nutrients are mostly used for improving and sustaining productivity. As a result of the development of high yielding varieties and the intensive systems, there is possibility to build up of negative balance and deficiency of macro and micronutrients. So, to attain high future targets, balanced fertilization and customized fertilizers may play a very crucial role. The development of site and crop specific customized fertilizers based on scientific principles may prove to be more effective to meet the plant requirement and enhance nutrient use efficiency which has both macro and micro nutrients. So, new and improved fertilizers are critical to provide sustainable production, global food security and environment safety. The above discussion showed that there is a dearth need of developing new and improved fertilizers i.e., customized fertilizers based on soil-test-crop response studies for major cropping and farming systems in different agro-eco regions of the country.