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A Study on Revised Seed Multiplication Ratio (SMR) of Important Agricultural Crops in India

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Abstract

Quality seed is one of the main factors that affect crop production potential. The Seed Multiplication Ratio (SMR) can be defined as the amount of seed harvested from each quantity of seed sown, which varies from crop to crop and largely dependent on genetic, climatic, soil and anthropogenic factors. The present SMR used in the country is computed based on seed rate and yield data of 1989. The revised SMR data would help to plan properly for right quantum of breeder, foundation and certified seed to be produced to meet the country's seed demand. The present study is based on data and information collected from 40 cooperating centres all over the country. Seed rate and yield data of various crops for triennium ending 2015–16 was analysed and compared with the SMR data which has already in use with change in productivity levels. One sample t test was also applied to test the level of significance of the mean values of seed yield and SMR in all the crops. The results show that present yield and SMR values significantly higher from yield and SMR values of 1989 in almost all the crops (cereals, pulses and oilseeds). The revised SMR for paddy and wheat was 117 and 30 respectively. In case of pulses highest revised SMR was observed in red gram (106) and lowest in chickpea (20). The revised SMR in case of rapeseed & mustard was 250 while it was only 17 in case of groundnut. The crops like wheat, maize, ragi, barley, rapeseed & mustard, groundnut and sunflower showed that there was more than 50 % increase in revised SMR when compared with old SMR. In case of cereals, paddy, maize, ragi and barley have more than 2 per cent compound annual growth rate in seed yield over the base year. The results strongly pointing towards the need for revision of existing SMR values and its inclusion in the planning process associated with seed multiplication chain which will help to improve the seed estimation process and also resource allocation for quality seed production.

Keywords: Quality seed production, Seed multiplication ratio, Seed rate , Seed yield

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