



Augmentation of productivity and profitability through resource conserving technologies at cultivator's field in Central India

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ABSTRACT

The productivity of crops in Bundelkhand region of central India is very low due to undulating terrain, low water holding capacity, low fertility, hostile climate and unfavorable edaphic conditions. To conserve natural resources for enhancing the productivity and profitability, five technologies during rainy season (1. Supplemental irrigation to soybean [*Glycine max* (L.) Merr.] through rain-gun during dry spells, 2. Integrated nutrient management (INM) in soybean, 3. Deep tillage in sorghum [*Sorghum bicolor* (L.) Monech]/soybean, 4. Intercropping of sorghum + black gram [*Vigna mungo* (L.) Hepper] and 5. Sorghum + surface mulching of sunnhemp [*Crotalaria juncea* L.] and another five technologies during winter season (1. Micro-irrigation to wheat [*Triticum aestivum* L. emend. Fiori and Paol.] through raingun, 2. INM in wheat, 3. Intercropping of chickpea [*Cicer arietinum*] + Indian mustard [*Brassica juncea* (L.) czernj and Cosson], 4. Wheat preceded by green manuring and 5. Indian mustard preceded by green manuring) were demonstrated at farmer's field in 10 villages in 10 ha area covering 14-20 farmers per season during 2008-09 to 2009-10 in Datia, Madhya Pradesh. Results of 2 years revealed an increase in yield ranging from 7-20% in wheat, 36-60% in soybean, 27-42% in sorghum, 18% in Indian mustard and 16% in chickpea under demonstration plots as compared to those under conventional practices (CPs). Water use efficiency (WUE) increased from 26-47% over the CP during rainy season and from 19-64% during winter season over the CP. Monetary benefits over conventional practice ranged from ₹ 1,500-11,900 ha⁻¹.