

Integrated crop management for enhancing sustainable production potential in soybean

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ABSTRACT : The on farm trial were undertaken by the Krishi Vigyan Kendra, Sagar, Madhya Pradesh on integrated crop management in Soybean in the district Sagar of Madhya Pradesh for two consecutive years viz., 2008-09 and 2009-10. The integrated crop management for Soybean crop was comprised of avoiding over dose of nitrogen, use of HYV i.e. JS-97-52, line sowing 45 to 60 cm, plant to plant 5 cm and 3-4 cm deep with seed drill, seed treatment with a mixture of Thiram+Bavistin (1:1) @ 2g/kg of seed, seed inoculation with *Rhizobium japonicum* for efficient biological fixation of atmospheric nitrogen and Phosphorus solubilising bacteria (PSB) culture @ 5-10 g/kg of seed for increase in phosphorous availability, fertilizer dose @ 20:60:20:20 :: N:P:K:S kg/ha, weed management with Imazethapyr @ 0.1 kg a.i./ha and need based plant protection measures. The highest grain yield (16.95 q/ha) was recorded in the year 2009-10; it was 15.31% more over the farmers practice (14.70 q/ha), however the lowest yield (15.95 q/ha) was recorded in the year 2008-09 under on farm trial and 13.05 q/ha in farmers practice. Increased yield in integrated crop management practices were recorded 22.22% and 15.31% more than the farmers practice and provided net income of Rs.23485/ha and Rs.22895/ha during 2008-09 and 2009-10, respectively. The cost benefit ratio was maximum in integrated crop management practices i.e. 3.25-3.79 as compared to farmers practice i.e.2.92-3.25 during both the crop season of investigation. Finally results revealed that higher yield was obtained in each year in soybean crop and higher B:C ratio supported that demonstrated technologies is far better than the farmers practice to enhance sustainable production potential of the crop.

Key Words : Crop management, soybean (*Glycine max* L.), sustainable yield.