

Technology 10. Soybean-based intercropping systems for sustainable productivity on deep Vertisols of Madhya Pradesh

- Soybean + Maize intercropping (2:1 ratio) in *kharif* followed by Wheat in *rabi* was highly productive (3546 kg/ha of SEY) and economical (2.37 B: C ratio) with the application of FYM @ 5 t/ha without nitrogen application.
- Sole Maize – Wheat cropping system was more productive (5195 kg/ha of SEY) and economical (3.01 B: C ratio) at the recommended dose of fertilizers (100 % N).
- Intercropping systems were more sustainable as they resulted in lower runoff and soil losses compared to the sole crops of sorghum and maize.

Cropping System	Total productivity* (kg/ha)		Benefit: Cost Ratio		Runoff (mm)	Soil loss (t/ha)
	N ₀	100 % N	N ₀	100 % N		
Soybean - Wheat	3339	3972	2.27	2.64	27.4	1.007
Sorghum – Wheat	2846	4502	1.90	2.82	60.2	4.823
Maize – Wheat	3216	5195	2.08	3.01	62.4	5.817
Soybean + Sorghum - Wheat	3278	4095	2.16	2.70	40.1	2.001
Soybean + Maize – Wheat	3546	4640	2.37	2.91	40.2	1.991
CD (P= 0.05)	320		0.22			

* Expressed in terms of soybean equivalent yield (SEY)



Soybean + Maize intercropping system