

Supplementary Table 1. FYM and STCR approach on soil test and nutrient values in *rabi* 2024 for low fertility strips at ZARS GKVK, Bengaluru

Treatments	Soil test values (kg ha ⁻¹)			FYM	Fertilizer nutrient (kg ha ⁻¹)		
	N	P	K	(t ha ⁻¹)	N	P	K
T ₁ : STCR TY 100 q ha ⁻¹ – NPK alone	191.16	218.08	152.89	0	213.98	0.00	64.75
T ₂ : STCR TY 100 q ha ⁻¹ – NPK + FYM	205.78	188.74	141.50	7.5	175.37	0.00	55.63
T ₃ : STCR TY 90 q ha ⁻¹ – NPK alone	184.41	211.48	144.29	0	190.59	0.00	57.23
T ₄ : STCR TY 90 q ha ⁻¹ – NPK + FYM	218.01	198.60	145.12	7.5	148.81	0.00	46.43
T ₅ : General Recommended Dose (150:75:37.5 kg ha ⁻¹)	198.23	245.93	167.93	7.5	150.00	24.75	31.13
T ₆ : Soil Fertility Rating /LMH	184.79	227.75	147.77	7.5	187.50	18.56	31.13
T ₇ : Absolute Control	186.65	214.48	133.96	0	0.00	0.00	0.00

*Soil test values and fertilizer nutrient shown are the mean of 3 replications. Individual replication details are provided in appendix.

Supplementary Table 2. FYM and STCR approach on soil test and nutrient values in *rabi* 2024 for medium fertility strips at ZARS GKVK, Bengaluru

Treatments	Soil test values (kg ha ⁻¹)			FYM	Fertilizer nutrient (kg ha ⁻¹)		
	N	P	K	(t ha ⁻¹)	N	P	K
T ₁ : STCR TY 100 q ha ⁻¹ – NPK alone	241.17	367.63	252.12	0	200.85	0.00	49.21
T ₂ : STCR TY 100 q ha ⁻¹ – NPK + FYM	221.01	382.21	269.55	7.5	172.65	0.00	37.04
T ₃ : STCR TY 90 q ha ⁻¹ – NPK alone	241.17	300.62	196.41	0	176.74	0.00	49.07
T ₄ : STCR TY 90 q ha ⁻¹ – NPK + FYM	230.72	384.48	186.25	7.5	146.54	0.00	40.46
T ₅ : General Recommended Dose (150:75:37.5 kg ha ⁻¹)	237.07	386.94	255.94	7.5	150.00	24.75	31.13
T ₆ : Soil Fertility Rating /LMH	266.56	451.11	284.13	7.5	187.50	18.56	25.94
T ₇ : Absolute Control	227.36	335.64	228.85	0	0.00	0.00	0.00

*Soil test values and fertilizer nutrient shown are the mean of 3 replications. Individual replication details are provided in appendix.

Supplementary Table 3. FYM and STCR approach on soil test and nutrient values in *rabi* 2024 for high fertility strips at ZARS GKVK, Bengaluru

Treatments	Soil test values (kg ha ⁻¹)			FYM	Fertilizer nutrient (kg ha ⁻¹)		
	N	P	K	(t ha ⁻¹)	N	P	K
T ₁ : STCR TY 100 q ha ⁻¹ – NPK alone	269.17	438.24	330.67	0	193.62	0.00	36.92
T ₂ : STCR TY 100 q ha ⁻¹ – NPK + FYM	290.45	456.60	322.01	7.5	165.11	0.00	29.42
T ₃ : STCR TY 90 q ha ⁻¹ – NPK alone	388.64	459.63	330.71	0	140.76	0.00	28.04
T ₄ : STCR TY 90 q ha ⁻¹ – NPK + FYM	352.80	458.69	283.99	7.5	124.78	0.00	26.26
T ₅ : General Recommended Dose (150:75:37.5 kg ha ⁻¹)	298.29	435.02	305.27	7.5	150.00	24.75	31.13
T ₆ : Soil Fertility Rating /LMH	293.81	436.92	315.40	7.5	162.50	18.56	23.34
T ₇ : Absolute Control	248.64	444.11	323.00	0	0.00	0.00	0.00

*Soil test values and fertilizer nutrient shown are the mean of 3 replications. Individual replication details are provided in appendix.

Supplementary Table 4. FYM and STCR approach on soil test and nutrient values in *rabi* 2024 farmer fields in the South Transition Zone, Shivamogga

Treatments	Soil test values (kg ha ⁻¹)			FYM	Fertilizer nutrient (kg ha ⁻¹)		
	N	P	K	(t ha ⁻¹)	N	P	K
T ₁ : STCR TY 100 q ha ⁻¹ – NPK alone	521.55	29.89	216.50	0	125.39	41.07	54.79
T ₂ : STCR TY 100 q ha ⁻¹ – NPK + FYM	500.64	26.86	226.27	7.5	122.81	38.93	43.32
T ₃ : STCR TY 90 q ha ⁻¹ – NPK alone	506.61	25.92	239.63	0	111.98	34.63	42.30
T ₄ : STCR TY 90 q ha ⁻¹ – NPK + FYM	468.91	28.19	186.97	7.5	104.09	31.43	40.35
T ₅ : General Recommended Dose (150:75:37.5 kg ha ⁻¹)	494.29	27.62	165.27	7.5	150.00	24.75	31.13
T ₆ : Soil Fertility Rating /LMH	456.59	26.86	188.90	7.5	150.00	18.56	31.13
T ₇ : Absolute Control	478.24	29.51	189.37	0	0.00	0.00	0.00

*Soil test values and fertilizer nutrient shown are the mean of 3 replications. Individual replication details are provided in appendix.