

**Table S1. Foraging activity of Indian bees as influenced by bee colonies in the bitter gourd field**

S. No.	Treatments	Mean No. of individuals/m <sup>2</sup> /5 min/ 5 spot*						Mean	% increase/decrease over OP (control)
		0600 – 0800 h	0800 – 1000 h	1000 – 1200 h	1200 – 1400 h	1400 – 1600 h	1600 – 1800 h		
T1	Crop caged with bees (4/acre)	17.08 (4.19) <sup>a</sup>	19.15 (4.43) <sup>a</sup>	14.47 (3.87) <sup>a</sup>	12.13 (3.55) <sup>a</sup>	5.48 (2.44) <sup>a</sup>	3.33 (1.96) <sup>a</sup>	11.94 (3.46)	90.45
T2	Colonies kept inside the field (4/acre)	17.61 (4.25) <sup>a</sup>	19.44 (4.46) <sup>a</sup>	11.13 (3.40) <sup>b</sup>	7.44 (2.82) <sup>b</sup>	3.44 (1.98) <sup>b</sup>	1.14 (1.28) <sup>b</sup>	10.03 (3.21)	88.63
T3	Colonies kept at 100 m distance (4/acre)	11.85 (3.51) <sup>b</sup>	11.24 (3.42) <sup>b</sup>	5.38 (2.42) <sup>c</sup>	2.28 (1.67) <sup>c</sup>	2.50 (1.73) <sup>bc</sup>	1.09 (1.26) <sup>b</sup>	5.72 (2.39)	80.07
T4	Colonies kept at 200 m distance (4/acre)	7.75 (2.87) <sup>c</sup>	8.09 (2.93) <sup>b</sup>	3.81 (2.07) <sup>c</sup>	1.24 (1.32) <sup>d</sup>	1.64 (1.46) <sup>c</sup>	1.26 (1.32) <sup>b</sup>	3.97 (1.99)	70.99
T5	Crop caged without bees	0.00 (0.71) <sup>e</sup>	0.00 (0.71) <sup>d</sup>	0.00 (0.71) <sup>f</sup>	0.00 (0.71) <sup>e</sup>	0.00 (0.71) <sup>d</sup>	0.00 (0.71) <sup>c</sup>	0.00 (0.71)	-
T6	Open condition (control)	2.63 (1.76) <sup>d</sup>	3.04 (1.88) <sup>c</sup>	0.88 (1.17) <sup>e</sup>	0.19 (0.83) <sup>e</sup>	0.09 (0.76) <sup>d</sup>	0.02 (0.72) <sup>c</sup>	1.14 (1.07)	-
	S.Ed	0.23	0.24	0.15	0.11	0.16	0.11		
	CD (0.05)	0.49	0.51	0.33	0.24	0.35	0.23		

\*Each value is the mean of twenty observations.

Figures in parentheses are square root transformed values

In a column, means followed by same letter(s) are on par by LSD (p= 0.05)

**Table S2. Time spent by Indian bees as influenced by bee colonies in the bitter gourd field**

S. No.	Treatments	Mean Time spent by one individual in each flower (sec) / 5 spot*						Mean	% increase/decrease over OP (control)
		0600 – 0800 h	0800 – 1000 h	1000 – 1200 h	1200 – 1400 h	1400 – 1600 h	1600 – 1800 h		
T1	Crop caged with bees	37.25 (6.14) <sup>a</sup>	32.50 (5.74) <sup>a</sup>	13.50 (3.74) <sup>a</sup>	5.25 (2.39) <sup>a</sup>	5.71 (2.49) <sup>a</sup>	2.44 (1.71) <sup>a</sup>	16.11 (4.01)	73.8
T2	Colonies kept inside the field	30.86 (5.60) <sup>a</sup>	29.25 (5.45) <sup>ab</sup>	11.95 (3.53) <sup>a</sup>	3.85 (2.09) <sup>b</sup>	2.95 (1.85) <sup>b</sup>	1.70 (1.48) <sup>ab</sup>	13.43 (3.66)	68.57
T3	Colonies kept at 100 m distance	21.18 (4.66) <sup>b</sup>	22.47 (4.79) <sup>b</sup>	10.72 (3.34) <sup>a</sup>	5.20 (2.38) <sup>a</sup>	3.55 (2.01) <sup>b</sup>	1.28 (1.33) <sup>ab</sup>	10.73 (3.28)	60.67
T4	Colonies kept at 200 m distance	13.41 (3.73) <sup>c</sup>	13.98 (3.80) <sup>c</sup>	5.98 (2.54) <sup>b</sup>	1.45 (1.40) <sup>c</sup>	2.77 (1.81) <sup>b</sup>	1.24 (1.32) <sup>b</sup>	6.47 (2.54)	34.77
T5	Crop caged without bees	0.00 (0.71) <sup>d</sup>	0.00 (0.71) <sup>d</sup>	0.00 (0.71) <sup>d</sup>	0.00 (0.71) <sup>d</sup>	0.00 (0.71) <sup>d</sup>	0.00 (0.71) <sup>c</sup>	0.00 (0.71)	-
T6	Open condition (control)	11.08 (3.40) <sup>c</sup>	9.30 (3.13) <sup>c</sup>	2.41 (1.71) <sup>c</sup>	1.40 (1.38) <sup>c</sup>	1.08 (1.25) <sup>c</sup>	0.05 (0.74) <sup>c</sup>	4.22 (2.05)	-
	S.Ed	0.33	0.33	0.20	0.14	0.15	0.18		
	CD (0.05)	0.70	0.69	0.42	0.31	0.32	0.39		

\*Each value is the mean of twenty observations.

Figures in parentheses are square root transformed values

In a column, means followed by same letter(s) are on par by LSD (p= 0.05)

**Table S3. Influence of bee pollination on the qualitative and quantitative parameters of bitter gourd**

S. No.	Treatments	Number of fruits/ plant *	% increase over caged without bees	% increase/decrease over OP (control)	Length of fruit (cm)*	% increase over caged without bees	% increase/decrease over OP (control)	Width of the fruit (cm)*	% increase over caged without bees	% increase/decrease over OP (control)
T1.	Crop caged with bees	8.92 (2.99) <sup>ab</sup>	50.44	25.00	26.92 (5.19) <sup>b</sup>	36.40	24.22	13.77 (3.71) <sup>ab</sup>	23.81	11.18
T2.	Colonies kept inside the field	9.90 (3.15) <sup>a</sup>	55.35	32.43	29.44 (5.43) <sup>a</sup>	41.85	30.70	14.32 (3.78) <sup>a</sup>	26.88	14.59
T3.	Colonies kept at 100 m distance	8.34 (2.89) <sup>b</sup>	47.00	19.78	25.14 (5.01) <sup>b</sup>	31.90	18.85	13.52 (3.68) <sup>ab</sup>	22.56	9.54
T4.	Colonies kept at 200 m distance	7.17 (2.68) <sup>c</sup>	38.35	6.69	22.40 (4.73) <sup>c</sup>	23.34	8.92	12.72 (3.57) <sup>ab</sup>	17.69	3.85
T5.	Crop caged without bees	4.42 (2.10) <sup>d</sup>	-	-51.35	17.12 (4.14) <sup>e</sup>	-	-19.16	10.49 (3.24) <sup>c</sup>	-	-16.59
T6.	Open condition (control)	6.69 (2.59) <sup>c</sup>	33.93	-	20.40 (4.52) <sup>d</sup>	16.07	-	12.23 (3.50) <sup>b</sup>	14.39	11.18
	S.Ed	0.08			0.09			0.11		
	CD (0.05)	0.17			0.18			0.24		

**Table S4. Influence of bee pollination on the qualitative and quantitative parameters of bitter gourd contd.....**

S. No.	Treatments	Weight of the fruit (g)*	% increase over caged without bees	% increase/decrease over OP (control)	Net plot yield (q)*	% increase over caged without bees	% increase/decrease over OP	Yield per hectare (q/ha)*	% increase over caged without bees	% increase/decrease over OP (control)
T1.	Crop caged with bees	188.4 (13.73) <sup>ab</sup>	26.5	13.37	21.15 (4.60) <sup>b</sup>	43.79	21.16	201.90 (14.21) <sup>b</sup>	43.77	21.16
T2.	Colonies kept inside the field	201.6 (14.20) <sup>a</sup>	31.35	19.05	23.03 (4.80) <sup>a</sup>	48.12	27.60	219.84 (14.83) <sup>a</sup>	48.36	27.60
T3.	Colonies kept at 100 m distance	178.6 (13.36) <sup>bc</sup>	22.51	8.62	20.06 (4.48) <sup>bc</sup>	40.73	16.89	191.53 (13.84) <sup>bc</sup>	40.73	16.90
T4.	Colonies kept at 200 m distance	171.00 (13.08) <sup>bc</sup>	19.06	4.56	19.16 (4.38) <sup>c</sup>	37.92	12.95	182.86 (13.52) <sup>c</sup>	37.91	12.96
T5.	Crop caged without bees	138.4 (11.76) <sup>d</sup>	-	-17.92	11.89 (3.45) <sup>e</sup>	-	-40.23	113.52 (10.66) <sup>e</sup>	-	-40.21
T6.	Open condition (control)	163.20 (12.78) <sup>c</sup>	15.19	-	16.67 (4.08) <sup>d</sup>	28.69	-	159.17 (12.62) <sup>d</sup>	28.68	-
	S.Ed	0.37			0.07			0.20		
	CD (0.05)	0.77			0.14			0.42		

\*Each value is the mean of ten observations.

\*\* Each value is the mean of four replications

Figures in parentheses are square root transformed values

In a column, means followed by same letter(s) are on par by LSD (p= 0.05)

**Table S5. Influence of planned pollination on the honey yield in bitter gourd**

S. No.	Treatments	Three months (g)*	Five months (g)*	Total yield (g)
T1.	Crop caged with bees	335.00 (18.30) <sup>c</sup>	101.25 (10.06) <sup>c</sup>	436.25 (20.89) <sup>c</sup>
T2.	Colonies kept inside the field	1040.00 (32.25) <sup>a</sup>	525.00 (22.91) <sup>b</sup>	1565.00 (39.56) <sup>a</sup>
T3.	Colonies kept at 100m distance	855.00 (29.24) <sup>b</sup>	597.50 (24.44) <sup>a</sup>	1452.50 (38.11) <sup>b</sup>
T4.	Colonies kept at 200m distance	805.00 (28.37) <sup>b</sup>	630.00 (25.11) <sup>a</sup>	1435.00 (37.88) <sup>b</sup>
T5.	Crop caged without bees	0.00 (0.71) <sup>d</sup>	0.00 (0.71) <sup>d</sup>	0.00 (0.71) <sup>d</sup>
T6.	Open pollination	0.00 (0.71) <sup>d</sup>	0.00 (0.71) <sup>d</sup>	0.00 (0.71) <sup>d</sup>
	S.Ed	0.71	0.58	0.67
	CD (0.05)	1.50	1.24	1.44

\*Each value is the mean of four replications.

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In a column, means followed by same letter(s) are on par by LSD (p= 0.05)