Supplementary Table 1. Name of the cultivars and source of collection of green gram

Name of the Crops	Sl. No. of cultivars	Name of the cultivars	Source of collection
Green Gram	1	WBM-314	Pulses and Oil seed Research Station, Berhampore, West Bengal.
	2	Bireswar (WBM-4-34-1-1)	
	3	PDM-54	
	4	Pant Mung-5	
	5	Meha	
	6	Samrat	
	7	Sukumar	
	8	IPN-99-125	
	9	TM-37	
	10	Pant-M-2	
	11	Sonali	

Supplementary Table 2. Name of the cultivars and source of collection of black gram

Name of the Crops	Sl. No. of cultivars	Name of the cultivars	Source of collection
Black Gram	1	Bidhan Kalai-1 (V-6)	Pulses and Oil seed Research Station, Berhampore, West Bengal.
	2	Sarada (WBK-108)	
	3	Kalindi (B-76)	
	4	Sulata (WBK-109)	
	5	Goutam (B-105)	
	6	Pant U-31	

Supplementary Table 3. D, PIC and MI value calculation from resulted banding pattern of SSR marker of green gram cultivars:

Primer code Name	Banding pattern in bp size	No. of ith banding pattern	Total no. of cultivars	Proportion of ith banding pattern (F)	Confusion probability of ith banding pattern	Confusion probability of jth primer	Discriminating power of jth primer	2F(1-F)	No. of loci detected	PIC of jth primer	MI of jth primer
G228	160	3	11	3/11	0.0545	0.0907	**0.9093**	0.3966	6	**0.2754**	**0.3797**
	190	1	11	1/11	0.0			0.1652			
	200	2	11	2/11	0.0181			0.2975			
	210	2	11	2/11	0.0181			0.2975			
	160, 200	1	11	1/11	0.0			0.1652			
	160, 220	1	11	1/11	0.0			0.1652			
	180, 220	1	11	1/11	0.0			0.1652			
G304	100	3	11	3/11	0.0545	0.5636	**0.4364**	0.3966	2	**0.3966**	**0.1562**
	110	8	11	8/11	0.5091			0.3966			
G115	100	8	11	8/11	0.5091	0.5272	**0.4728**	0.3966	3	**0.2864**	**0.1692**
	110	2	11	2/11	0.0181			0.2975			
	100, 120	1	11	1/11	0.0			0.1652			
CEDG 225	120	11	11	11/11	1.0	1.0	**0.0**	0.0	1	**0.0**	**0.0**
CEDG 026	140	11	11	11/11	1.0	1.0	**0.0**	0.0	1	**0.0**	**0.0**
MB-SSR 238	250	3	11	3/11	0.0545	0.1817	**0.8183**	0.3966	4	**0.3718**	**0.3661**
	260	1	11	1/11	0.0			0.1652			
	270	4	11	4/11	0.1091			0.4628			
	250, 270	1	11	1/11	0.0			0.1652			
	270, 290	2	11	2/11	0.0181			0.2975			
BM212	210	11	11	11/11	1.0	1.0	**0.0**	0.0	1	**0.0**	**0.0**
BGA9	120	11	11	11/11	1.0	1.0	**0.0**	0.0	1	**0.0**	**0.0**
G006	100	1	11	1/11	0.0	0.2544	**0.7456**	0.1652	4	**0.3387**	**0.2668**
	110	2	11	2/11	0.0181			0.2975			
	120	5	11	5/11	0.1818			0.4958			
	130	3	11	3/11	0.0545			0.3966			
G043	160	11	11	11/11	1.0	1.0	**0.0**	0.0	1	**0.0**	**0.0**
MB-SSR 140	190	11	11	11/11	1.0	1.0	**0.0**	0.0	1	**0.0**	**0.0**
G166	200	11	11	11/11	1.0	1.0	**0.0**	0.0	1	**0.0**	**0.0**

Supplementary Table 4. Efficiency features of SSR markers of green gram cultivars

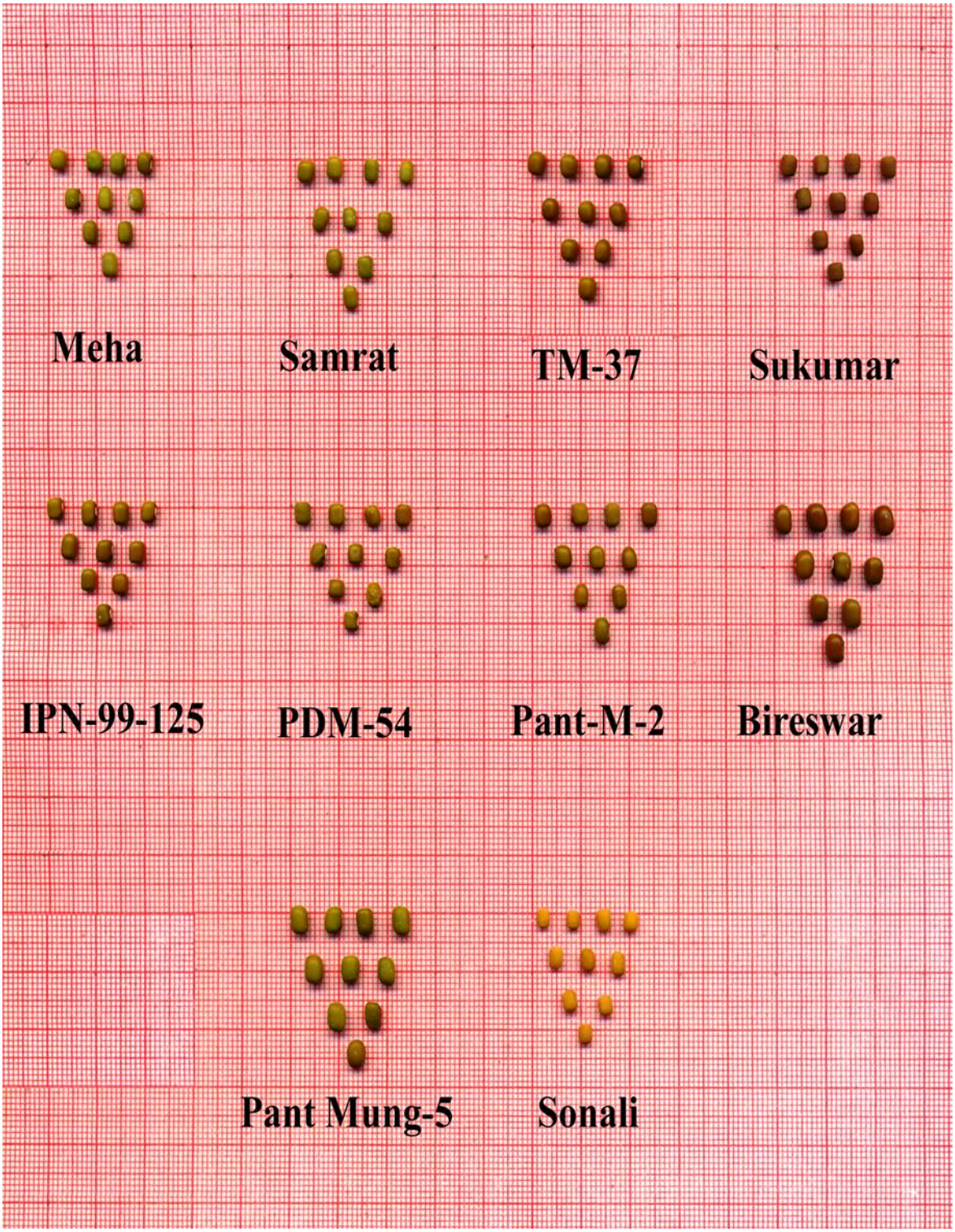
Primer's code name	Polymorphic band (in bp size)											
	100	110	120	130	160	180	190	200	220	250	270	290
G228					WBM-314, Pant mung-5, Meha, Samrat, IPN-99-125	Sonali	Pant-M-2	Bireswar, PDM-54, Samrat, Sukumar	Sonali			
MB-SSR238										Pant mung-5	Meha	Meha
G006	TM-37	Sukumar	Bireswar	PDM-54								
G304	WBM-314	Pant mung-5										

Supplementary Table 5. D, PIC and MI value calculation from resulted banding pattern of SSR marker of black gram cultivars:

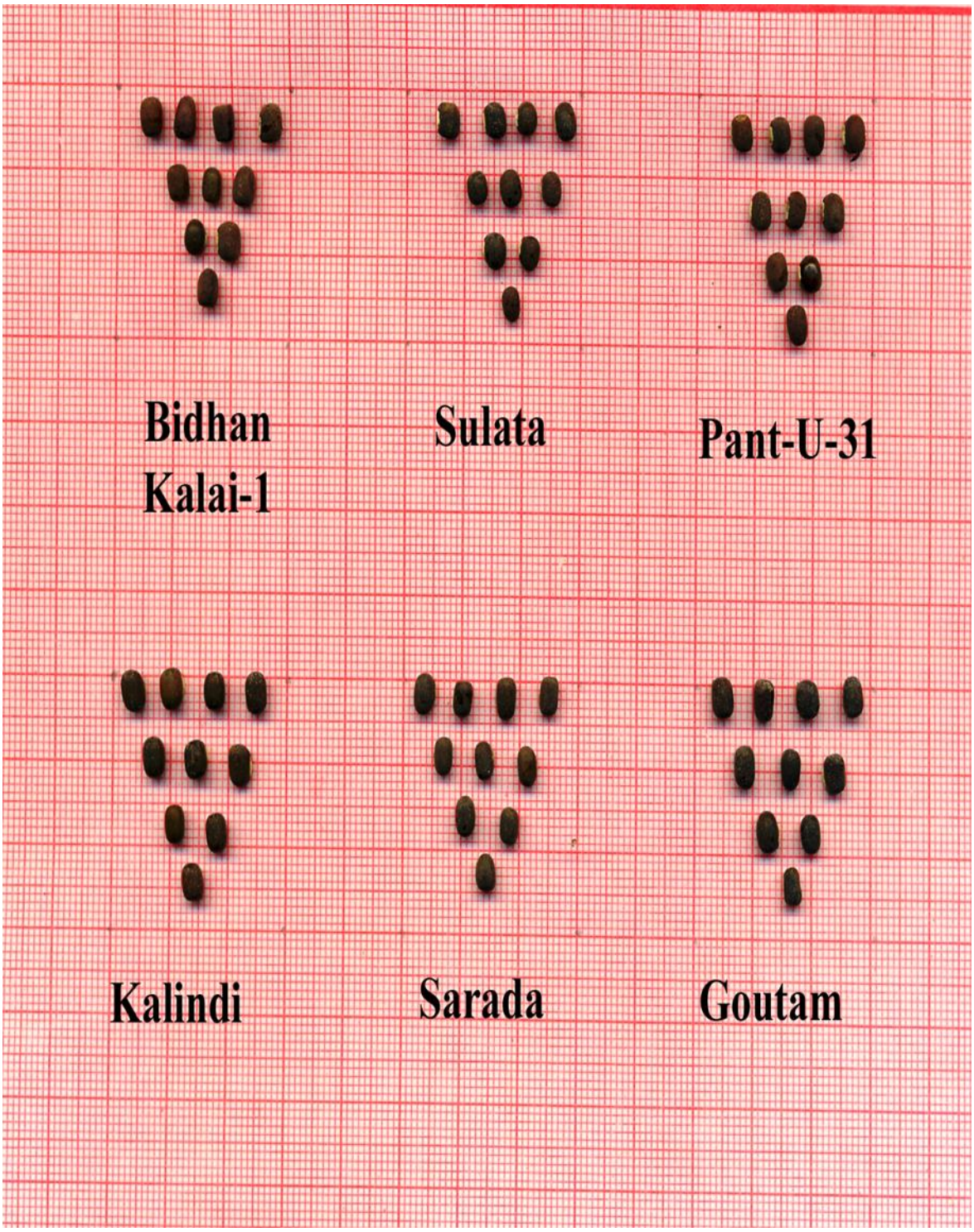
Primer code Name	Banding pattern in bp size	No. of ith banding pattern	Total no. of cultivars	Proportion of ith banding pattern (F)	Confusion probability of ith banding pattern	Confusion probability of jth primer	Discriminating power of jth primer	2F(1-F)	No. of loci detected	PIC of jth primer	MI of jth primer
G228	170	6	6	6/6	1.0	1.0	0.0	0.0	1	0.0	0.0
G304	100	6	6	6/6	1.0	1.0	0.0	0.0	1	0.0	0.0
G115	150	6	6	6/6	1.0	1.0	0.0	0.0	1	0.0	0.0
CEDG 225	130	6	6	6/6	1.0	1.0	0.0	0.0	1	0.0	0.0
CEDG 026	140	6	6	6/6	1.0	1.0	0.0	0.0	1	0.0	0.0
MB-SSR 238	290	6	6	6/6	1.0	1.0	0.0	0.0	1	0.0	0.0
BM 212	210	6	6	6/6	1.0	1.0	0.0	0.0	1	0.0	0.0
G006	130	3	6	3/6	0.20	0.2666	**0.7334**	0.5000	3	**0.4073**	**0.2618**
	140	2	6	2/6	0.0666			0.4444			
	120, 140	1	6	1/6	0.0			0.2777			
G043	190	6	6	6/6	1.0	1.0	0.0	0.0	1	0.0	0.0
MB-SSR 140	190	6	6	6/6	1.0	1.0	0.0	0.0	1	0.0	0.0
G166	210	5	6	5/6	0.6666	0.6666	**0.3334**	0.2777	2	**0.2777**	**0.1190**
	210, 250	1	6	1/6	0.0			0.2777			
G088	110	6	6	6/6	1.0	1.0	0.0	0.0	1	0.0	0.0
G204	150	5	6	5/6	0.6666	0.6666	**0.3334**	0.2777	2	**0.2777**	**0.1190**
	150, 200	1	6	1/6	0.0			0.2777			
BGA9	120	6	6	6/6	1.0	1.0	0.0	0.0	1	0.0	0.0

Supplementary Table 6. Efficiency features of SSR markers of black gram cultivars

SSR primer's code name	120	140	180	210	250
G006	Kalindi	Kalindi			
G166				Sulata	Sulata
G204			Sarada		



Supplementary Fig.1. Seed morphology of green gram cultivars



Supplementary Fig. 2. Seed morphology of black gram cultivars