

## Promotion of Mustard Variety DRMR 1165-40 through Cluster Front Line Demonstrations (CFLDs) in District Amroha of Western Uttar Pradesh Region: Success Story

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### General information about CFLDs:

Cluster Front Line Demonstrations (CFLDs) on Indian Mustard (*Brassica juncea* L. Czern & Coss) was conducted in Eleven villages namely; Raipur Shumali, Khajoori, Dhanora Mafi, Dhanora Mandi, Nagla Mafi, Rehmapur Mafi, Baldana Asgar Ali, Fatehpur Chitra, Nanai, Gajraula Basti & Salempur Gonsai of Districts Amroha. Total 60 farmers were selected on the basis of their socio-economic conditions. The main objective of the CFLDs to improve the socio-economic condition of the marginal farmers, increasing the Indian Mustard (*Brassica juncea* L. Czern & Coss) cultivated area during *Rabi* season in Eastern Uttar Pradesh region and also utilization of the *Rabi* fellow land for cultivation of Mustard as a sole crop/Inter-cropping model. The results revealed that farmers were benefitted from the CFLDs practice in comparison to their own traditional practices. The average yield production of Indian mustard from farmers practices and from CFLDs practices was 10.25 quintals per hectare and 16.81 quintals per hectare, respectively. The cost: benefit ratios from farmers & CFLDs practices was 2.32 & 3.59, respectively.

**Methodology:** Cluster Front Line Demonstrations (CFLDs) on Indian Mustard conducted in Eleven villages namely; Raipur Shumali, Khajoori, Dhanora Mafi, Dhanora Mandi, Nagla Mafi, Rehmapur Mafi, Baldana Asgar Ali, Fatehpur Chitra, Nanai, Gajraula Basti & Salempur Gonsai of Districts Amroha of Uttar Pradesh in eastern region during *Rabi*-2022-23 funded by ATARI, Kanpur, Zone-III. Total 60 CFLDs were conducted in 60-acre areas. The CFLDs techniques was used as “*Improved varieties vs. Commercial cultivars (local check)*”. The complete details are given as below in table-1.

**Table-1: Details of the CFLDs on Rabi Indian Mustard (*Brassica juncea* L. Czern & Coss) during-2022-23.**

S.No.	Details	Quantity to be used
1.	Total number of CFLDs conducted	60 CFLDs
2.	Total area covered (1 acre for 1 CFLDs)	60 acre
3.	Hybrids/varieties used to conduct FLDs on Indian mustard	DRMR 1165-40

#### Selection of the farmers:

Total 60 marginal farmers were selected on the basis of their socio-economic conditions and also on the basis of their own choice for conducted Cluster Front Line Demonstrations (CFLDs) on Indian Mustard (*Brassica juncea* L. Czern & Coss) during Rabi-2022-23 in Eastern Uttar Pradesh region for maximize the production and double your income as per the suggestions of our Hon'ble Prime Minister Shri Narendra Modi Ji. The details are given as below in table-2.

**Table-2: Summary of the CFLDs Conducted During 2022-23.**

S.No.	Name of the centre/ institute	:	Krishi Vigyan Kendra, Gajraula, Amroha
1.	Total no. of the CFLDs sanctioned in the workshop	:	<b>60</b>
2.	Total no. of the CFLDs actually conducted	:	<b>60</b>
3.	Name of Crop	:	Indian Mustard
4.	Types of CFLDs with numbers	:	Full packaged: <b>60</b>
5.	Name of demonstrated varieties	:	<b>DRMR 1165-40</b>
6.	Situation : Rainfed/ irrigated and Normal sown/ late sown	:	<b>Irrigated Normal sown</b>
7.	Total no. and name of the villages covered	:	Raipur Shumali, Khajoori, Dhanora Mafi, Dhanora Mandi, Nagla Mafi, Rehmapur Mafi, Baldana Asgar Ali, Fatehpur Chitra, Nanai, Gajraula Basti & Salempur Gonsai
8.	Total no. and name of the district(s) covered	:	<b>(01)</b> Amroha.
9.	Cropping systems prevailing in the demonstration area	:	i) Paddy, Mustard, Urd ii) Maize, Mustard, Moong
10.	Date of sowing (range)	:	03-10-2022 to 02-11-2022
11.	Date of harvesting (range)	:	24-01-2023 to 06-04-2023
12.	Specify pests and disease situations	:	Low Aphid

13.	Farmer's opinion about the improved technology (Feedbacks)		Satisfied with variety and technology
14.	Visitors/ Monitoring team (No. date and place with remarks)	:	Monitoring team monitored CFLDs on 12.01.2023 to 27.01.2023 and was satisfied with CFLDs.
15.	Remarks of the Scientists involved in the demonstration	:	Very Good and Team was satisfied with all the CFLDs.
16.	<b>Details of the demonstrated improved technology and farmers practice/ indigenous Technical:</b>		
20.	<b>Components of demonstrated technology:</b>	`:	<b>Prevailing farmers practices against demonstrated technology-</b>
	<b>Full package</b>		Farmers are being adopted conventional method to grow the crop like seed of old variety, broadcasting method of seed sowing and fertilizer application, no thinning and not plant protection masseurs
21.	Any other observation	:	Farmers were happy with new variety seed and fully satisfied with new technologies for cultivation of frontline demonstrations

**1. Features of hybrids & seed distribution programme:** The high yielding varieties/hybrids namely; DRMR 1165-40 was used for distribution of seed under CFLDs on Indian Mustard (*Brassica juncea* L. Czern Coss) during *Rabi*-2022-23 in Eastern Uttar Pradesh region. All the varieties/hybrids are suitable for growing in this region, because these varieties/hybrids were released for Zone-III. The average yield of these varieties/hybrids are 18-22 q/ha. and mature in medium duration. Farmers were used a local commercial cultivar for grain production of Mustard.

#### **Results & output from CFLDs**

**1. Crop stand:** The results were revealed that the performance of crop stand was good with healthy crops. The number of primary branches per plant, number of secondary branches per plant, number of siliquae per plant was recorded in significant amount.

**2. Details of the yield from FP & FLDs practices:** The average yield production of *Rabi* Indian Mustard (*Brassica juncea* Czern & Coss) were recorded 10.25 quintals per hectare and 16.81 quintals per hectare, respectively from farmers and CFLDs practices. The average net returns (Rs/ha) of *Rabi* Indian Mustard (*Brassica juncea* L. Czern & Coss) were recorded 32,125 Rs/ha and 66,705 Rs/ha, respectively from farmers &

CFLDs practices. The average cost of production of *Rabi* Indian Mustard (*Brassica juncea* L. Czern & Coss) were recorded 24,250 Rs/ha and 25,750 Rs/ha, respectively for both farmers & CFLDs practices. The average yield gains & net return gains were recorded 39.02 % & 66,750 Rs/ha., respectively from CFLDs practices during *Rabi* 2022-23.

- 3. Cost: benefit ratios from FP & CFLDs practices:** The significant average cost: benefit ratio of *Rabi* Indian Mustard (*Brassica juncea* L. Czern & Coss) production was recorded 2.32 & 3.59 from farmers & CFLDs practices, respectively.
- 4. Differences between FP & FLDs practices:** The significant differences were recorded from farmers practices and CFLDs practices in several points such as variety, seed rate, seed treatment, time of sowing, method of sowing, fertilizers management, water management, plant protection, threshing, harvesting & marketing, etc. The details are given as below in table-3.

**Table-3: Significant differences between farmers practices & CFLDs practices.**

S. No.	Particulars	Technology Interventions	Farmer's practices
1	Variety	DRMR 1165-40	Local variety
2	Seed rate	4 kg/ha.	4-5 kg/ha.
3	Seed treatment	√	X
4	Time of sowing	03/10/2022	05/11/2022
5	Method of sowing	Line sowing	Broad caste
6	Fertilizer management	√	√
7	Water management	√	√
8	Plant protection	X	√
9	Threshing	√	√
10	Harvesting	√	√
11	Storage	X	√
12	Marketing	Local market	Local market

- 5. Farmers Training under Cluster Front Line Demonstrations (CFLDs) on *Rabi* Indian Mustard (*Brassica juncea* L. Czern & Coss) in Eastern region of Uttar Pradesh:** Total 02 farmers trainings has been conducted in 10 selected villages of Western Uttar Pradesh region. 60 farmers were benefitted from each villages & total 600 farmers were benefitted from the training programme during *Rabi*, 2022-23.

**Scientist's remarks:**

Most of the Marginal/Micro land holding Farmers with or without resources keep their land fallow in *Rabi* and cultivate wheat, gram, linseed and lentil in *Rabi*. Here we found Indian Mustard a promise crop to increase Cropping intensity in Western region of Uttar Pradesh. With majority of Scheduled Castes population / marginal farmers living in villages under studied area were economically isolated. Those were below poverty line and their livelihood dependent solely on agriculture and livestock rearing the SCSP/NFSM Plan seems to be boon for uplifting their status.

**Table-4: List of the farmers for conducting Cluster Front Line Demonstration (CFLDs) on Indian Mustard during Rabi 2022-23**

S. No.	Farmer's Name	Father's Name	Village and its distance from KVK (Km)	Input package provided by scientist			Mobile no. of the farmer
				Area (ha.)	Seeds (Kg)	Sulphur (Kg)	
1.	Sh. Virendra Singh	Sh. Ram Swarup	Raipur Sumali-10	0.4	2.0	4.0	7668151716
2.	Sh. Taj Pal Singh	Sh. Guttan Singh	Raipur Sumali-10	0.2	1.0	2.0	8449585898
3.	Sh. Dharma Veer Singh	Sh. Ramphal Singh	Raipur Sumali-10	0.2	1.0	2.0	9720351810
4.	Sh. Naresh Kumar	Sh. Kahniya Singh	Raipur Sumali-10	0.2	1.0	2.0	9917322140
5.	Sh. Rakesh Kumar	Sh. Omkar Singh	Raipur Sumali-10	0.2	1.0	2.0	9027423844
6.	Sh. Kanshi Ram	Sh. Imrat Singh	Raipur Sumali-10	0.2	1.0	2.0	8439086021
7.	Sh. Yadram Singh	Sh. Tula Ram Singh	Raipur Sumali-10	0.2	1.0	2.0	8958982807
8.	Sh. Aman Kumar	Sh. Shiv Kishore	Raipur Sumali-10	0.4	2.0	4.0	7906495721
9.	Sh. Sunil Kumar	Sh. Yadram	Raipur Sumali-10	0.4	2.0	4.0	7454059981
10.	Sh. Rakesh Kumar	Sh. Gyan Singh	Raipur Sumali-10	0.4	2.0	4.0	9458535735
11.	Sh. Pradeep Kumar	Sh. Bripal Singh	Raipur Sumali-10	0.4	2.0	4.0	9927388483
12.	Sh. Amar Pal	Sh. Ramcharn	Raipur Sumali-10	0.4	2.0	4.0	9412310378

13.	Sh. Vikram Singh	Sh. Atar Singh	Khajoori-14	0.4	2.0	4.0	9927880125
14.	Sh. Subhash Lochak	Sh. Karan Singh	Khajoori-14	0.2	1.0	2.0	9917250508
15.	Sh. Vikas	Sh. Jaivendra Singh	Khajoori-14	0.4	2.0	4.0	7252805006
16.	Sh. Veer Singh	Sh. Khachru Singh	Khajoori-14	0.2	1.0	2.0	6398049309
17.	Sh. Jai veer Singh	Sh. Nanak Singh	Khajoori-14	0.2	1.0	2.0	7830042810
18.	Sh. Rambir Singh	Sh. Nanak Singh	Khajoori-14	0.4	2.0	4.0	9758052242
19.	Sh. Sarvendra Singh	Sh. Rajbir Singh	Khajoori-14	0.4	2.0	4.0	9837307610
20.	Sh. Vijaybir Singh	Sh. Ram Singh	Khajoori-14	0.4	2.0	4.0	9837817193
21.	Sh. Bure Singh	Sh. Chidha Singh	Khajoori-14	0.4	2.0	4.0	7351338394
22.	Sh. Dherendra Singh	Sh. Veer Singh	Khajoori-14	0.4	2.0	4.0	8279770043
23.	Sh. Lakhi Chaudary	Sh. Jaikar	Khajoori-14	0.4	2.0	4.0	9758858665
24.	Sh. Surendra Singh	Sh. Phattu Singh	Dhanori Mafi-15	0.4	2.0	4.0	9927019905
25.	Sh. Rajendra Singh	Sh. Surendra Singh	Dhanori Mafi-07	0.2	1.0	2.0	9410613646
26.	Smt Babita Devi	Sh. Surendra Singh	Dhanori Mafi-07	0.2	1.0	2.0	9927019905
27.	Sh. Kailash Singh	Sh. Muktyar Singh	Dhanori Mafi-07	0.4	2.0	4.0	8859609697
28.	Sh. Gajendra Singh	Sh. Phattu Singh	Dhanori Mafi-07	0.2	1.0	2.0	9719612117
29.	Smt. Sarita Devi	Sh. Gajendra Singh	Dhanori Mafi-07	0.4	2.0	4.0	9719612117
30.	Sh. Brijpal Singh	Sh. Kale Singh	Dhanori Mafi-07	0.2	1.0	2.0	8057380230
31.	Sh. Ram Swarup	Sh. Maharaj Singh	Dhanori Mafi-07	0.4	2.0	4.0	8958480747
32.	Sh. Mukesh Kumar	Sh. RamSwarup	Dhanori Mafi-07	0.4	2.0	4.0	7830405982
33.	Sh. Narendra Singh	Sh. Kartar Singh	Dhanori Mafi-07	0.4	2.0	4.0	9639458983
34.	Smt Ramvati	Sh. Kartar Singh	Dhanori Mafi-07	0.2	1.0	2.0	9639458983

35.	Sh.Ashwani	Sh. Narendra Singh	Dhanori Mafi-07	0.2	1.0	2.0	8279983909
36.	Sh. Satpal Singh	Sh. Kallu Singh	Dhanori Mafi-07	0.4	2.0	4.0	9568829974
37.	Sh. Ravendra Singh	Sh. Virendra Singh	Dhanori Mafi-07	0.4	2.0	4.0	8317084364
38.	Sh. Sandeep Kumar	Sh. Chetan Singh	Dhanori Mafi-07	0.4	2.0	4.0	9837773442
39.	Sh. Rajendra Singh	Sh. Bihari Singh	Dhanora Mafi-07	0.4	2.0	4.0	7817948660
40.	Smt Dhanvati	Sh. Rajendra Singh	Dhanora Mafi-07	0.4	2.0	4.0	7817948660
41.	Sh. Devendra	Sh. Virendra	Dhanora Mafi-07	0.4	2.0	4.0	8630879668
42.	Sh. Narayan	Sh. Prem Singh	Dhanora Mafi-15	0.4	2.0	4.0	9798211013
43.	Sh. Satpal Singh	Sh. Mukandram	Dhanora Mandi-15	0.4	2.0	4.0	8954830390
44.	Sh. Chetan Swaroop	Sh. Roop Kishor	Dhanora Mandi-15	0.4	2.0	4.0	8393970957
45.	Kamalveer	Kundan Singh	Dhanora Mandi-15	0.4	2.0	4.0	9368164439
46.	Kundan Singh	Jabhar Singh	Dhanora Mandi-15	0.4	2.0	4.0	9368164439
47.	Sh. Sukram Singh	Sh. Ram Singh	Nagla Mafi-12	0.4	2.0	4.0	8057671848
48.	Sh. Naresh Singh	Sh. Tikam Singh	Nagla Mafi-11	0.2	1.0	2.0	9837674142
49.	Sh. Alimuddin	Sh. Dhuda	Rehmapur Mafi-11	0.4	2.0	4.0	8057297736
50.	Sh. Ram Nath	Sh. Budh Singh	Rehmapur Khalsa-11	0.2	1.0	2.0	9927315569
51.	Sh. Jeet Singh	Sh. Raghubir Singh	Rehmapur Khalsa-11	0.4	2.0	4.0	9927315569
52.	Sh. Ramendra	Sh. Chhiddu Singh	Baldana Ashgar Ali-11	0.4	2.0	4.0	9837043247
53.	Sh. Surendar Singh	Sh. Ganga Saran	Baldana Ashgar Ali-11	0.2	1.0	2.0	9756329389
54.	Sh. Virendra Singh	Sh. Dhuli Singh	Baldana Ashgar Ali-11	0.2	1.0	2.0	8317084364
55.	Sh. Satendra pal	Sh. Narayan Singh	Baldana Ashgar Ali-11	0.4	2.0	4.0	9837737246

56.	Sh. Muuni	Sh. Brijpal	Fatehpur Sumali-10	0.4	2.0	4.0	9756311550
57.	Sh. Sudha	Sh. Devendra	Fatehpur Cheetra-09	0.4	2.0	4.0	9379856318
58.	Sh. Sonu	Sh. Ved Prakash	Gajraula Basti-1	0.4	2.0	4.0	8439206780
59.	Sh. Mahavir Singh	Sh. Harpal Singh	Nanai-50	0.2	1.0	2.0	8475859497
60.	Sh. Bale Ram	Sh. Chhajan Singh	Salempur-05	0.4	2.0	4.0	8779654784
Total				20 ha	100 Kg	200 Kg	

**Table-5: Conducted Training on Mustard varieties & production technology and seed distribution programme under CFLDs on Mustard during Rabi, 2022-23.**











**Organized Field Day Under CFLD on Mkustard**  
Field visit & monitoring the performance of CFLD on Mustard at village Khajuri & Dhanori on 11/01/2023.



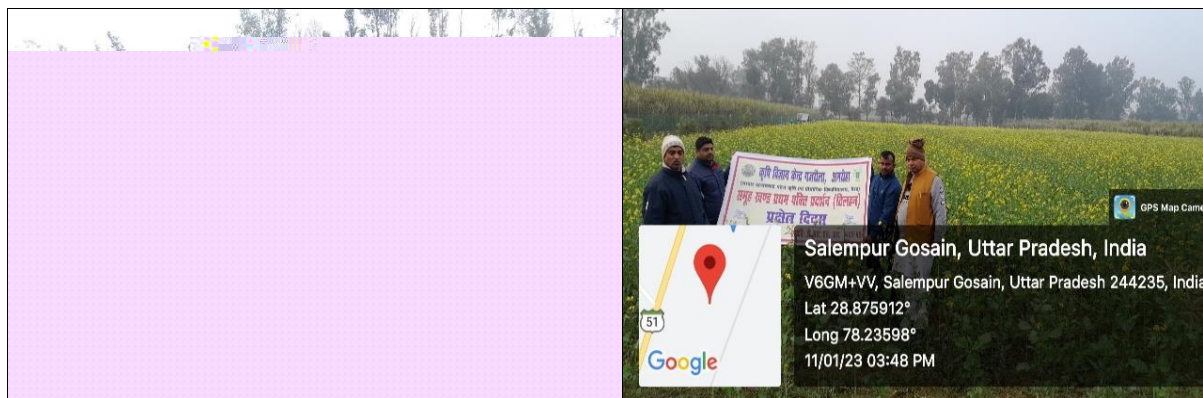


Table-6: Organized & participated in the field day under Cluster Front Line Demonstration (CFLDs) on Mustard during Rabi 2023 sponsored by Krishi Vigyan Kendra, Gajraula, Amora, Uttar Pradesh, Sardar Vallabhbhai Patel University of Agriculture & Technology, Kanpur-208002, U.P., India.

S.No.	Date	Name of activity (Field Day)	Name of Villages	Block & District	No. of Farmers participated
1.	30/01/2023	CFLD on Mustard	Khajoori	Joya, Amroha	36
2.	24/01/2023	CFLD on Mustard	Khajoori	Joya, Amroha	35
3.	11/01/2023	CFLD on Mustard	Dhanori Mafi	Joya, Amroha	25