

IMPACT OF TARGETED FIELD MARKETING ON SALES PERFORMANCE OF PEARL MILLET SEED: A CASE STUDY OF CRYSTAL CROP PROTECTION LIMITED IN AGRA TERRITORY

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Abstract

This case study examines what happened to the market movement of pearl millet seed after a targeted field-marketing programme undertaken in the Agra territory of Crystal Crop Protection Limited. The May 2026 field records were linked, in sequence, with the cumulative June 2026 product-wise supply, closing stock and POG (reported sale) records available for Ladu Kheda, Iradat Nagar headquarters. During 2–30 May, the campaign covered six locations over 29 active field days and recorded 2,332 farmer contacts against 2,175 planned contacts, an achievement of 107.2%. Patrika distribution reached 1,947 against a target of 2,125 (91.6%). In June, total supply was 26.17 MT, reported POG was 22.52 MT and closing stock was 3.65 MT. PA-9001, the seed specifically promoted during May, accounted for 16.00 MT of POG, or 71.1% of the territory total, and recorded a 90.7% POG-to-supply ratio. The corresponding ratio for the remaining products was 76.5% when the reported PA-9999 Power balance was retained; after excluding that reconciliation anomaly, the ratio was 81.2%. The temporal pattern is consistent with a positive association between the field campaign and subsequent PA-9001 movement, but it is not sufficient to establish causality. A pre-campaign sales baseline, a comparison product or territory, and farmer- or retailer-level conversion records would be needed for a stronger impact assessment. The study therefore treats June sales as a post-intervention outcome and recommends an integrated field-marketing dashboard linking farmer contact, enquiry, retailer availability, billing and repeat purchase.

Keywords: targeted field marketing; pearl millet seed; agricultural-input marketing; farmer outreach; sales performance; POG; rural marketing; agribusiness

1. Introduction

Agricultural-input marketing has a practical difficulty that is easy to overlook: the product is only one part of the purchase decision. Farmers also consider expected performance, availability in the local market, advice from dealers and other farmers, previous experience and the credibility of the information they receive. In Indian input markets, information asymmetry can make quality-related attributes such as germination, yield potential and packaging important during purchase decisions (Kapoor & Kumar, 2021). A field representative therefore does more than distribute promotional material; the representative creates an opportunity for product explanation, questions, recall and follow-up.

The wider marketing environment is also changing. Reviews of Indian agricultural-input markets point to the importance of better market information, distribution systems and policy conditions (Padmaja et al., 2020). Research on agricultural marketing has similarly shown that information access and participation in marketing channels are important for farmers (Thakur et al., 2021; Raghavendra et al., 2023). Recent work on tomato growers in Odisha found a positive relationship between communication behaviour and marketing behaviour, while evidence from western Uttar Pradesh highlights information-related constraints faced by vegetable growers (Amar et al., 2025; Tripathi et al., 2026).

Seed choice also has a behavioural dimension. Studies of hybrid-seed markets indicate that brand preference and loyalty can shape repeat purchase, which means that an established product may continue to move even without the same level of fresh promotional attention (Kowsalya et al., 2022). This distinction is important in the present case because PA-9001 was specifically targeted during May, whereas the other Crystal pearl millet products had an established market presence.

The May field campaign had previously been assessed mainly as an execution exercise. It recorded farmer contacts and Patrika distribution but did not contain farmer-level purchase conversion data. The present paper extends that work by placing the May activity beside the June product-wise sales record. The sequence is useful because it allows a practical question to be examined: did the product that received focused field attention show strong subsequent market movement?

The question is deliberately framed as an association rather than a proven causal effect. A high sales figure after a marketing programme can also reflect seasonal demand, existing brand familiarity, retailer relationships, previous sales momentum, stock availability or other market conditions. This distinction is important for responsible interpretation of internship and company field records.

2. Review of Literature

2.1 Agricultural-input markets and information

Agricultural-input markets involve a buyer–seller information gap because several important product characteristics cannot be judged immediately at the time of purchase. Kapoor and Kumar (2021) reported that Indian farmers attach considerable importance to experience and credence attributes when buying inputs. For seed marketing, this supports the value of communication that explains product characteristics and builds confidence rather than relying only on price-based promotion.

2.2 Communication and market participation

Communication is increasingly part of farmers' market participation. Raghavendra et al. (2023) found that awareness and access to market-related information influence farmers' participation in e-marketing. Amar et al. (2025) reported an association between communication behaviour and marketing behaviour among tomato growers. Tripathi et al. (2026) identified lack of technical and market-related information as a major communication constraint among vegetable growers in western Uttar Pradesh. Together, these findings suggest that direct field communication can be useful, but its commercial value depends on what happens after contact.

2.3 Brand preference and established products

Brand preference is another reason why product movement should not automatically be attributed to a new campaign. Kowsalya et al. (2022) documented brand preference and loyalty in hybrid maize seed purchasing. In a company setting, established products may therefore benefit from accumulated farmer familiarity and retailer relationships. A targeted campaign may still add value, but the incremental contribution cannot be separated without a suitable baseline or comparison.

2.4 Research gap

Much of the recent literature examines farmer marketing behaviour, information access, market channels or brand preference. Less attention is given to the operational chain from a company-led field intervention to the next month's product-wise movement. The present case contributes a small but practical field perspective by placing May outreach indicators alongside June POG records. The contribution is descriptive and managerial rather than experimental.

3. Objectives of the Study

- To document the targeted field-marketing activities conducted during May 2026 in the Agra territory.
- To assess achievement of farmer-contact and Patrika-distribution targets during the May campaign.
- To describe product-wise pearl millet seed movement during June 2026.
- To compare the subsequent movement of PA-9001 with other Crystal pearl millet products.
- To examine whether the June pattern is consistent with an association between targeted marketing and subsequent product movement.
- To suggest a practical system for connecting field-marketing activity with downstream sales evidence.

4. Materials and Methods

4.1 Research design

A descriptive longitudinal case-study design was used. May 2026 was treated as the field-marketing phase and June 2026 as the subsequent sales-observation phase. The analysis combined the daily May field log with the cumulative June product-wise summary. Because the records are operational rather than experimental, no inferential test was applied and no causal estimate was attempted.

4.2 Study area and period

The study was undertaken in the Agra territory of Crystal Crop Protection Limited. The May campaign covered 2–30 May 2026, representing 29 active field days across Fatehpur Sikri, Kiraoli, Iradat Nagar, Fatehabad, Pinhhath and Baah. June sales were examined for Ladu Kheda under the Iradat Nagar headquarters. The 1 May induction and June strategic marketing/farmer-meeting activities were kept separate from the May outreach calculations.

4.3 Marketing intervention

PA-9001 was the product receiving the targeted field-marketing focus. The intervention involved direct farmer contact and distribution of Patrika, a printed promotional communication material. The field record does not identify which individual farmers later purchased PA-9001; therefore, no farmer-level conversion has been assumed.

4.4 Data sources and measures

The May dataset contained planned and actual farmer contacts and planned and actual Patrika distribution by location. The June dataset contained product-wise supply, closing stock and POG. Outreach achievement was calculated as actual farmer contacts divided by planned contacts $\times 100$. Patrika distribution rate was calculated in the same way. POG was treated as supply minus closing stock, following the supplied cumulative summary. POG-to-supply ratio was calculated as POG divided by supply $\times 100$, and product POG contribution as product POG divided by total POG $\times 100$.

One record requires caution: PA-9999 Power had 430 kg of supply and 480 kg of closing stock, producing a reported POG of -50 kg. The arithmetic reconciles, but a negative sale is not a meaningful commercial outcome. The figure is therefore retained for transparent reporting and interpreted as a stock-reconciliation issue that could involve opening stock, transfers, returns or adjustments.

5. Results and Discussion

5.1 May field-marketing performance

The May campaign reached 2,332 farmers against a plan of 2,175, giving 107.2% achievement and 157 contacts above target. Patrika distribution was 1,947 against 2,125 planned, equivalent to 91.6%, or 178 fewer than planned. The two indicators tell slightly different stories: the field team exceeded its contact target even though the planned level of printed-material distribution was not fully achieved. This suggests that direct interaction was the stronger execution measure in the campaign.

Table 1. Overall performance of the May 2026 targeted field-marketing campaign.

Indicator	Target	Actual	Achievement	Gap
Farmer contacts	2,175	2,332	107.2%	+157
Patrika distribution	2,125	1,947	91.6%	-178

Note: Achievement = actual $\div$ target $\times 100$. Source: internship daily performance log.

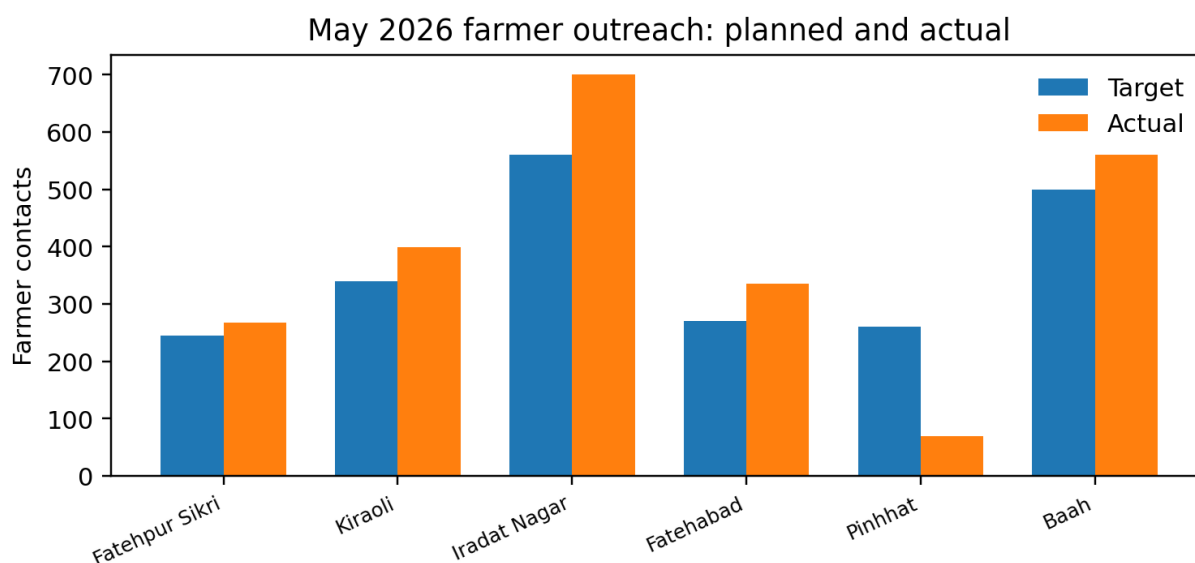


Figure 1. Planned and actual farmer outreach across the six May 2026 field locations.

5.2 Location-wise execution

Table 2. Location-wise execution of the May 2026 field-marketing campaign.

Location	Target contacts	Actual contacts	Outreach	Patrika target	Patrika distributed	Distribution
Fatehpur Sikri	245	268	109.4%	245	229	93.5%
Kiraoli	340	399	117.4%	340	314	92.4%
Iradat Nagar	560	700	125.0%	560	611	109.1%
Fatehabad	270	336	124.4%	270	264	97.8%
Pinhhath	260	69	26.5%	210	57	27.1%
Baah	500	560	112.0%	500	472	94.4%

Note: The Pinhhath field log contains incomplete or zero entries on some dates; its low recorded achievement should therefore be read partly as a data-quality signal.

Iradat Nagar produced the highest outreach achievement (125.0%), followed by Fatehabad (124.4%), Kiraoli (117.4%), Baah (112.0%) and Fatehpur Sikri (109.4%). Pinhhath was markedly lower at 26.5%. Because the source log records incomplete or zero entries for some Pinhhath dates, the figure should not be interpreted simply as evidence that farmers in that location were unreceptive. Instead, it points to the importance of daily exception checks in field reporting.

The strongest locations also provide a useful managerial lesson. When field activity is planned territory by territory, daily contact targets make it possible to see where routes, staffing or time allocation are working well. Such monitoring is consistent with the broader literature that treats access to relevant agricultural information and communication as part of effective market participation (Raghavendra et al., 2023; Amar et al., 2025).

5.3 June sales and stock position

The June Ladu Kheda summary recorded 26,170 kg (26.17 MT) of supply, 3,652 kg (3.65 MT) of closing stock and 22,518 kg (22.52 MT) of reported POG. The overall POG-to-supply ratio was 86.0%, leaving 14.0% of supplied quantity in closing stock. These figures indicate substantial product movement during the month, although POG should be understood as the reported movement measure used in the supplied record rather than as audited revenue.

Table 3. Overall June 2026 supply, reported POG and closing stock at Ladu Kheda.

Indicator	Quantity (kg)	Quantity (MT)	Share of supply
Total supply	26,170	26.17	100.0%
Reported POG / sale	22,518	22.52	86.0%
Closing stock	3,652	3.65	14.0%

Note: POG is calculated from the supplied record as supply minus closing stock.

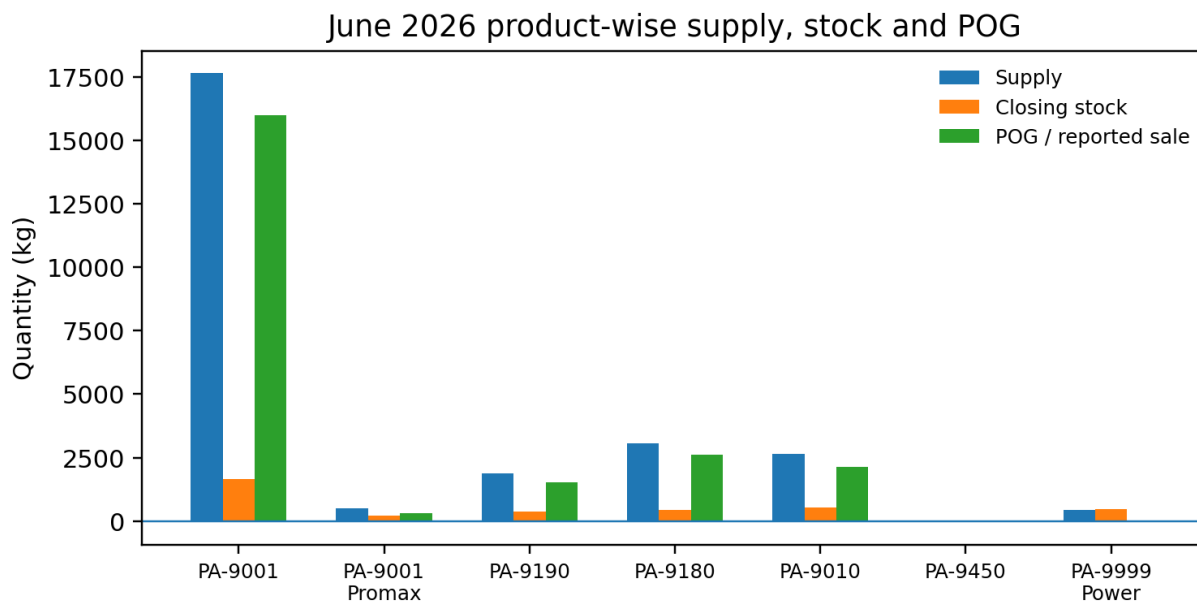


Figure 2. Product-wise supply, closing stock and reported POG during June 2026.

5.4 Product-wise movement

Table 4. Product-wise supply, closing stock and reported POG during June 2026.

Product	Supply (kg)	Stock (kg)	POG (kg)	POG/Supply	POG contribution
PA-9001	17,650	1,650	16,000	90.7%	71.1%
PA-9001 Promax	500	200	300	60.0%	1.3%
PA-9190	1,880	362	1,518	80.7%	6.7%
PA-9180	3,050	430	2,620	85.9%	11.6%
PA-9010	2,660	530	2,130	80.1%	9.5%
PA-9450	0	0	0	N/A	0.0%
PA-9999 Power	430	480	-50	-11.6%	-0.2%

Note: POG contribution is calculated against total reported POG of 22,518 kg. PA-9999 Power is shown transparently but should be reconciled before financial interpretation.

PA-9001 was the dominant product in the June record. It generated 16,000 kg of reported POG from 17,650 kg supplied, producing a 90.7% POG-to-supply ratio. Its contribution was 71.1% of total reported POG. PA-9180 and PA-9010 followed at 2,620 kg and 2,130 kg, respectively. The large difference between PA-9001 and the other products is therefore a substantive descriptive feature of the month.

The negative PA-9999 Power figure should not be treated as a negative sale. The reported balance results from closing stock exceeding supply by 50 kg. Before the record is used for financial or performance reporting, the underlying opening stock, transfer, return and adjustment entries should be reconciled.

5.5 PA-9001 compared with other Crystal products

Table 5. Comparison of the targeted PA-9001 with the other Crystal pearl millet products.

Group	Marketing status	Supply (MT)	POG (MT)	POG share	POG/Supply
PA-9001	Specifically targeted in May	17.65	16.00	71.1%	90.7%
Other Crystal products	Established/past market support	8.52	6.52	28.9%	76.5%
Other products, excluding PA-9999	Anomaly removed	8.09	6.57	29.2%	81.2%

Note: The anomaly-excluded comparison is presented as a sensitivity check; it is not a causal control group.

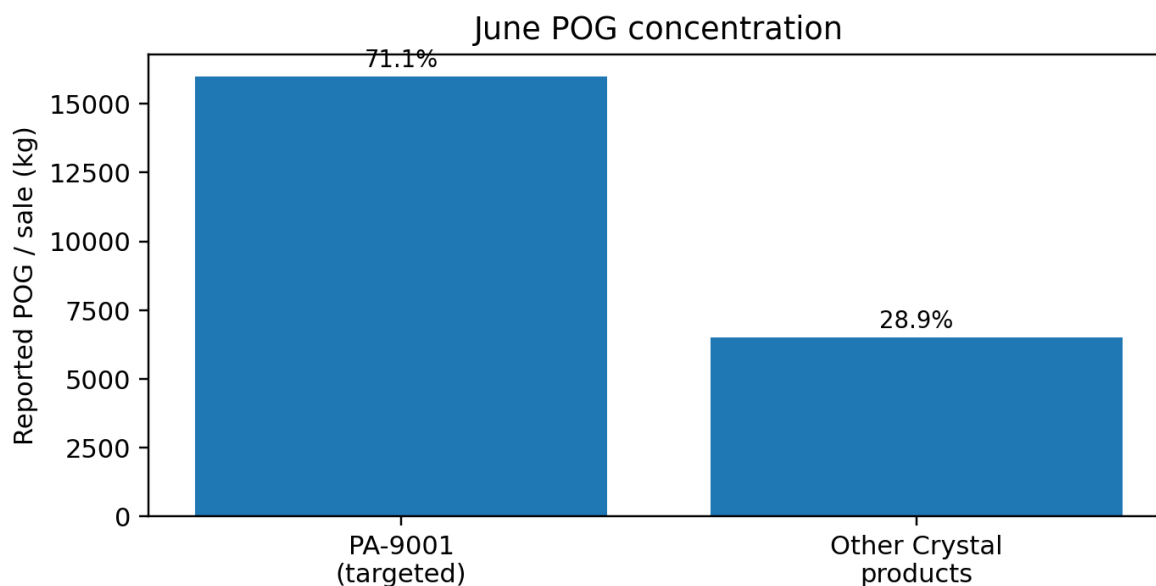


Figure 3. June reported POG of PA-9001 compared with the remaining Crystal pearl millet products.

PA-9001 represented 67.4% of supplied quantity but 71.1% of reported POG. The remaining products together accounted for 6.52 MT of POG and a 76.5% POG-to-supply ratio. When PA-9999 Power is removed from the comparison, the remaining established products show an 81.2% ratio. In descriptive terms, PA-9001 had both the largest volume and the highest movement ratio.

This pattern is compatible with the proposition that focused field marketing may have supported subsequent movement of PA-9001. It cannot, however, be read as proof that marketing generated 71.1% of the sales. Established products may have benefited from repeat buyers, stronger brand familiarity, retailer relationships and earlier demand. Conversely, PA-9001 may also have had pre-existing demand that was unrelated to the May intervention. The literature on brand preference and information asymmetry supports this more cautious interpretation (Kapoor & Kumar, 2021; Kowsalya et al., 2022).

5.6 Marketing-to-sales pathway

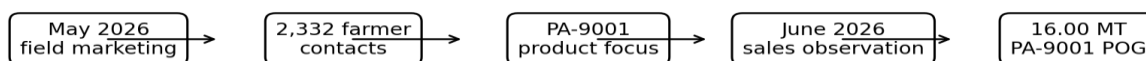


Figure 4. Analytical pathway linking May targeted field marketing with the June sales observation.

The sequence is straightforward: the May campaign created direct farmer exposure, PA-9001 was the product focus, and June records show 16.00 MT of reported POG for that product. The sequence is therefore temporally consistent with a positive association. What is missing is the middle of the chain—there is no record showing which contacted farmers made enquiries, which retailers converted those enquiries, how many purchases were repeat purchases, or what PA-9001 would have sold in the absence of the campaign.

5.7 Discussion

The case adds a downstream sales measure to an otherwise activity-oriented field-marketing assessment. The May campaign was strong in reach, with contacts at 107.2% of target. The June record then showed substantial movement of the specifically promoted product. This combination is practically important because a field campaign is more useful to managers when its activity indicators can eventually be connected with market outcomes.

At the same time, the study demonstrates why a simple before-and-after narrative can be misleading. Indian agricultural marketing is shaped by information, channel access, market participation and established buying behaviour (Padmaja et al., 2020; Thakur et al., 2021; Raghavendra et al., 2023). A targeted campaign may influence awareness, but product availability and retailer execution still determine whether awareness becomes a purchase. The present case therefore supports an integrated measurement system rather than a single outreach metric.

For future assessment, the most useful design would combine a pre-May PA-9001 baseline with the May contact register and June retailer billing. If a comparable product or untreated territory can be identified, the analysis could move beyond association toward a stronger quasi-experimental comparison. Such a design would also allow conversion rates and incremental sales to be estimated.

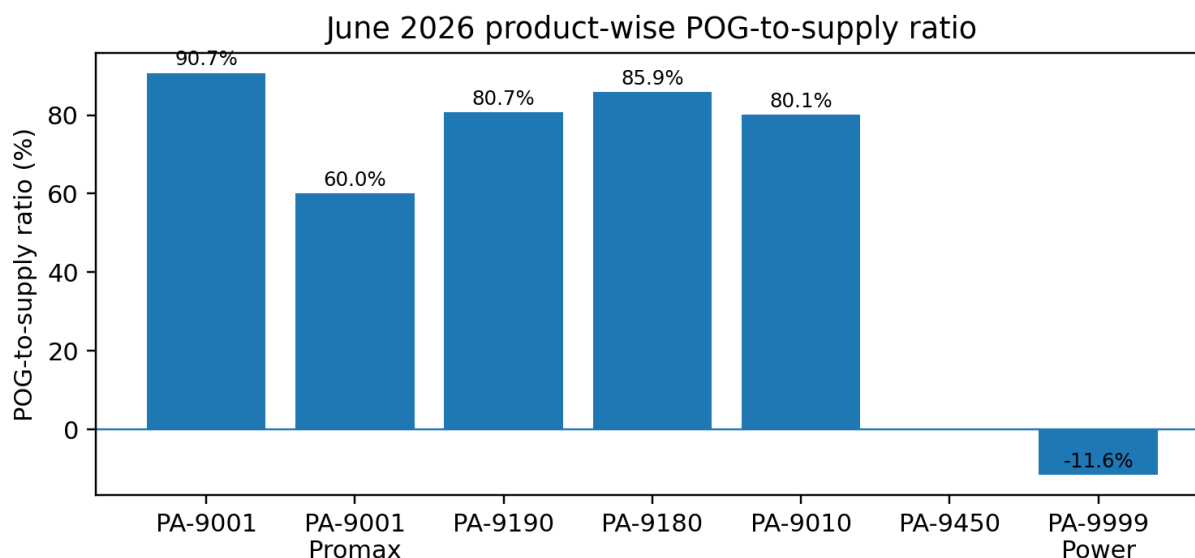


Figure 5. Product-wise POG-to-supply ratio during June 2026.

6. Implications and Recommendations

- Maintain a product-specific marketing register so that targeted products can be followed from promotion to enquiry and purchase.
- Use a unique farmer or contact code, where permitted, so that outreach records can be matched with later enquiries or purchases without reproducing personal identifiers.
- Add enquiry, retailer availability, billed quantity and purchase date to the daily field dashboard.
- Record a pre-campaign sales baseline for every product selected for focused promotion.
- Where feasible, compare the targeted product with an established product or a comparable territory that did not receive the same intervention.
- Monitor stock alongside field activity because high awareness cannot translate into sales when the product is unavailable.
- Reconcile unusual stock balances, returns and transfers before treating POG as a financial sales measure.
- Use Iradat Nagar's high outreach performance as a learning case for route planning and field intensity.
- Flag incomplete records such as the Pinhhath entries on the day they occur so that missing data are corrected before monthly aggregation.
- Use suitable digital follow-up after farmer consent to reinforce information provided during face-to-face visits.

7. Limitations

- The analysis covers one company, one territory, one May marketing phase and one June sales-observation period.
- No pre-May PA-9001 sales baseline was available, so an attributable percentage increase could not be calculated.
- No randomized control group or comparable untreated product/territory was available.
- June records are cumulative and do not identify whether purchasers had been contacted during May.
- Revenue, price, margin, marketing return on investment, farmer-level conversion and repeat-purchase information were not available.
- The PA-9999 Power record requires stock reconciliation before it is used for commercial reporting.
- Pinhhath contains incomplete or zero entries on some dates, limiting interpretation of that location.

8. Conclusion

The May 2026 field campaign achieved strong outreach in the Agra territory, reaching 2,332 farmers against a target of 2,175. Patrika distribution reached 91.6% of the planned level. In the subsequent June Ladu Kheda record, total supply was 26.17 MT and reported POG was 22.52 MT. PA-9001, the product specifically promoted during May, generated 16.00 MT of reported POG and contributed 71.1% of the total.

The temporal pattern supports a reasonable hypothesis that targeted field communication may have contributed to the subsequent movement of PA-9001. The available evidence does not, however, permit the effect of marketing to be separated from seasonal demand, prior product performance, retailer relationships, brand familiarity or other influences. The main practical conclusion is therefore methodological: field marketing should be evaluated through a connected chain of outreach, enquiry, availability, billing and repeat purchase. With a pre-intervention baseline and farmer- or retailer-level linkage, the same case could support a much stronger assessment of incremental sales.

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Data Availability Statement

The May marketing indicators were derived from the internship field report and daily performance log. The June product-wise figures were derived from the cumulative Ladu Kheda Millet POG Summary supplied for the study. Detailed company, retailer and farmer-level records remain subject to applicable institutional and company permissions.

Ethical and Disclosure Note

No personal farmer identifiers are reproduced in this manuscript. The analysis is based on territory-level operational records supplied for academic use. The manuscript does not present the June sales pattern as a statistically identified causal effect of the May intervention.

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