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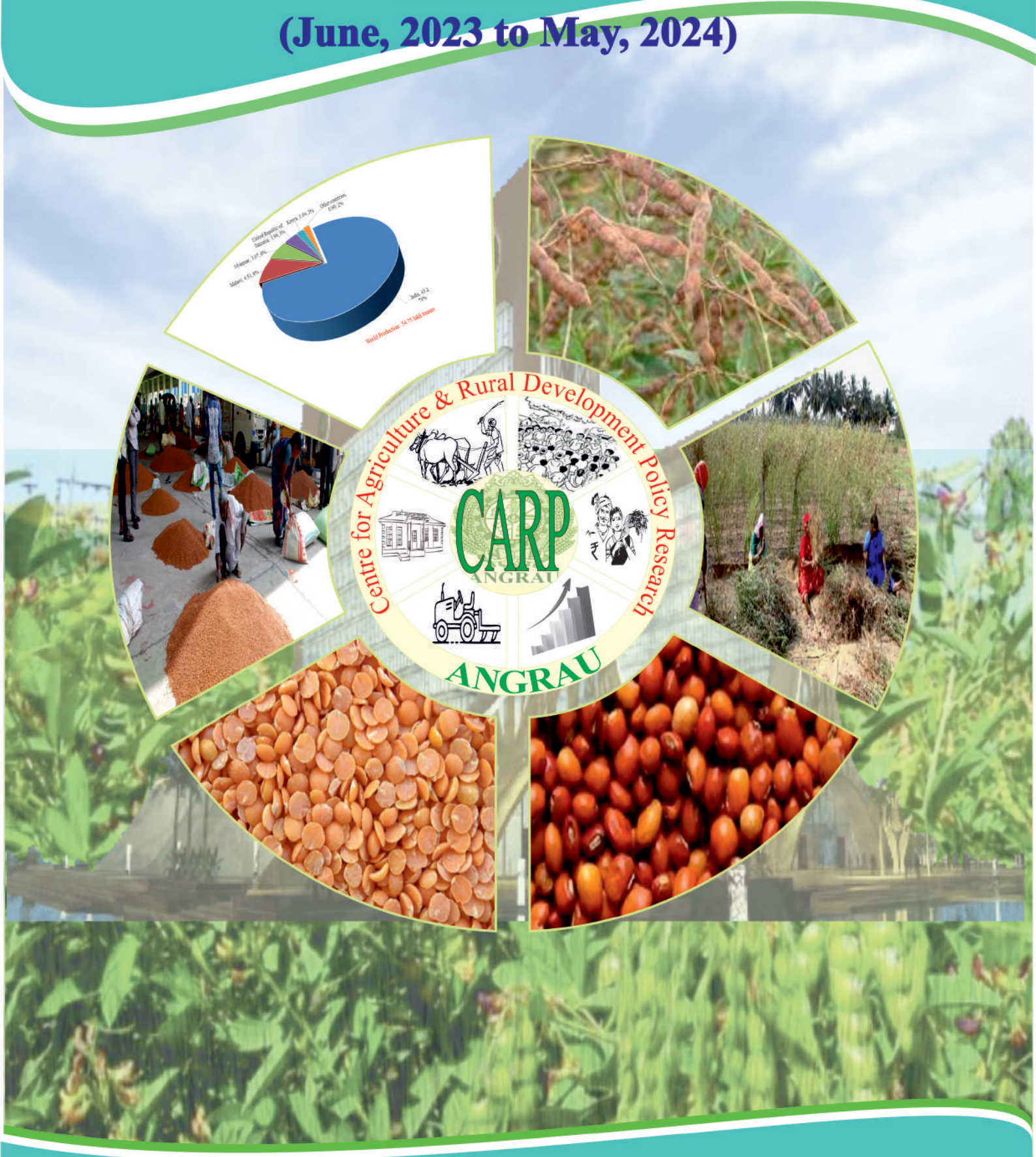
Crop Outlook Reports of Andhra Pradesh

REDGRAM

(June, 2023 to May, 2024)



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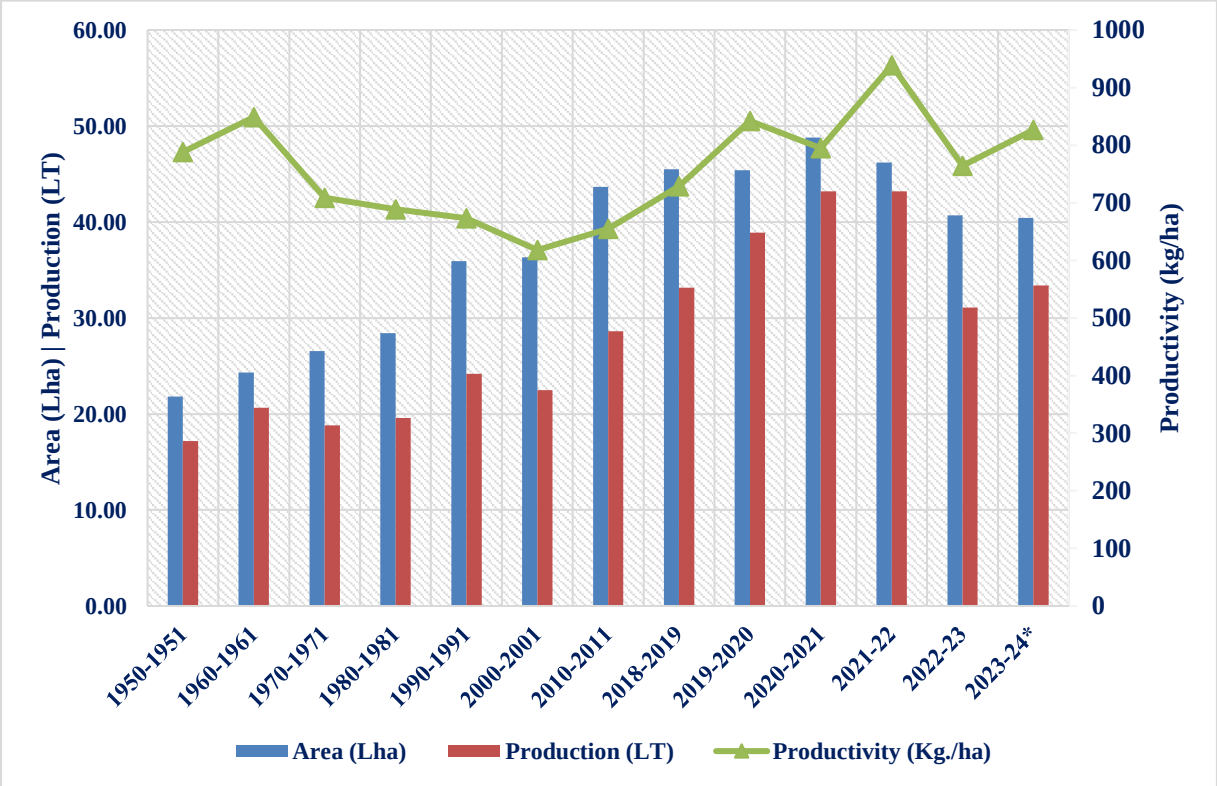
ANGRAU - Crop Outlook Reports of Andhra Pradesh
Red gram– June to May, 2023-24

Factsheet of Red gram

- Worldwide, Red gram is grown on approximately 4.23 million hectares and produce 4.68 million tons with a productivity of 751 kg/ha.
- Malawi has highest productivity of 1658 kg per hectare followed by Tanzania with 1059 kg per hectare. India stands at 5th position in productivity with 776 kg per hectare.
- India is the largest producer of Red gram in the world, produces 4.34 million tonnes from an area of 5.05 million hectares, with a productivity of 859 kg/ha during 2023-24.
- The major Red gram cultivating states are Karnataka (1.337 million hectares), Maharashtra (1.111 million hectares), Uttar Pradesh (0.35 million hectares), Andhra Pradesh (0.232 million hectares), Gujarat (0.227 million hectares), and Jharkhand (0.185 million hectares).
- Major Red gram varieties grown in India include LRG-41, ICP-8863, ICPL-332, ICPL-87119, MRG-66, ICPL-85063, WRG-27, PRG-158, MRG-1004, WRG-53, WRG-65, and TDRG-4. In Andhra Pradesh, the common varieties are LRG52, LRG41, Laxmi, Asha, and ICPH-2740.
- In India, Uttar Pradesh is the leading producer, with 0.47 million tonnes from 0.49 million hectares and a productivity of 944 kg/ha, contributing 34.87% of the national production.
- Among the major Red gram producing states, Andhra Pradesh ranks fourth in cultivation area and is estimated to produce 0.097 million tonnes, contributing 2.86% to India's total production, with a productivity of 407 kg/ha.
- The major Red gram growing districts in Andhra Pradesh, namely Prakasam, Ananthapuramu, Sri Sathyasai, and Nandyal, account for 79% of the cultivation area and contribute 56.4% to the state's total Red gram production.
- Mozambique is the top exporter of Red gram.
- In Andhra Pradesh the cost of cultivation for Red gram crop is Rs.71,369.84/ha.

Pigeon pea (*Cajanus cajan*), also known as Red gram, Arhar, or Tur, is an annual/perennial legume from the family Fabaceae. It is consumed on a large scale in South Asia and serves as a major source of protein for the population of the Indian subcontinent. In 2020, India contributed 77.61% of the global pigeon pea production (Tridge, 2023). The global Red gram market reached a volume of 13.3 million tons in 2022 (FMI, 2023). The market is projected to reach 23.6 million tons by 2027, exhibiting a CAGR of 9.51% during 2022-2027. In 2022, the estimated market value of pigeon pea was US$ 14,334.5 million, which is expected to reach US$ 23,798 million by 2032. The world's major Red gram-producing countries are India (4.28 million tons), Malawi (0.42 million tons), Myanmar (0.34 million tons), Tanzania (0.14 million tons), and Haiti (0.12 million tons).

Figure 1. Area, Production and Productivity of Red gram in India (1950-2023)



Source: www.indiastat.com and *3rd advance estimates, agricoop.nic.in

In India, the area under Red gram cultivation reported during 2023-24 was 40.42 lakh hectares, compared to 40.68 lakh hectares during the same period in 2022-23. The major Red gram cultivating states are Karnataka (13.37 lakh hectares), Maharashtra (11.11 lakh hectares), Uttar Pradesh (3.50 lakh hectares), Andhra Pradesh (2.32 lakh hectares), Gujarat (2.27 lakh hectares), and Jharkhand (1.85 lakh hectares). According to the Central Government's 3rd advance estimates, the all-India Red gram production in 2023-24 is projected to be 33.85 lakh tonnes.

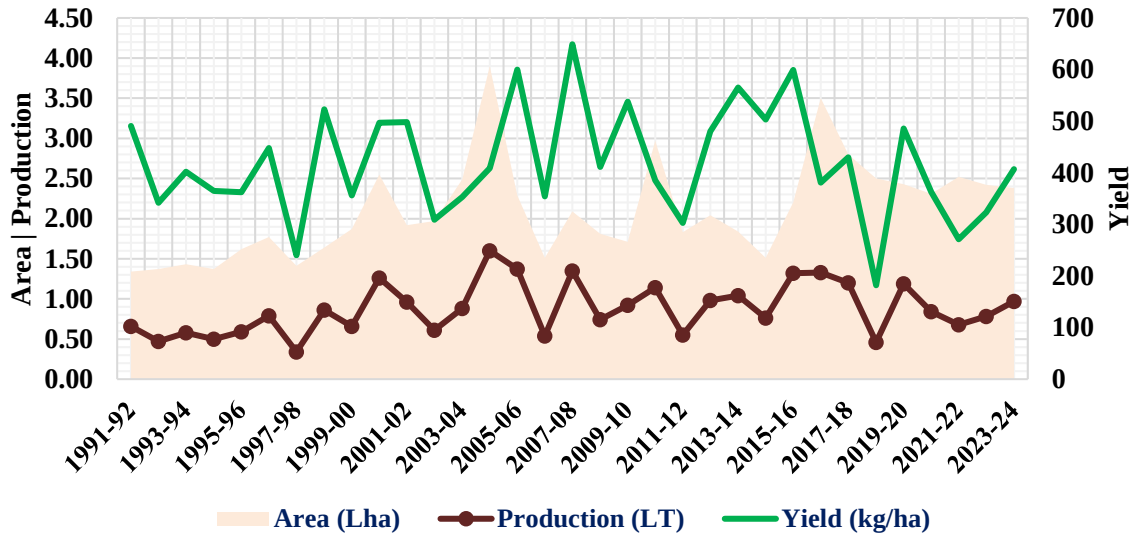
Table 1. State wise area under Red gram in India

State	2022-23		2023-24	
	Area (lakh ha)	% to total area	Area (lakh ha)	% to total area
Karnataka	12.20	29.99	13.37	33.08
Maharashtra	11.76	28.91	11.11	27.49
Uttar Pradesh	3.50	8.60	3.50	8.66
Andhra Pradesh	2.42	5.95	2.32	5.74
Gujarat	2.44	6.00	2.27	5.62
Jharkhand	1.84	4.52	1.85	4.58
Others	6.52	16.03	6.00	14.84
All India	40.68	100	40.42	100

Source: agriwelfare.gov.in

Among the major Red gram producing states, Andhra Pradesh stood 4th in cultivation area produced 0.97 lakh tonnes, contributing 2.86% to India's total production, with a productivity of 407 kg/hectare in 2023-24 (3rd AE, DESAP). Over the last three decades, the Red gram cultivation area in Andhra Pradesh increased by 77.61 percent, with a Compound Annual Growth Rate (CAGR) of 1.68% (Figure 2), and production increased by 46.97 percent (CAGR of 1.45%). However, the annual average productivity decreased with a CAGR of -0.22%.

Figure 2. Red gram Area, Production and Yield Statistics in Andhra Pradesh



The major Red gram growing districts in Andhra Pradesh, namely Prakasam, Ananthapuramu, Sri Sathyasai, and Nandyal, hold 79 percent of the cultivation area and contribute 56.4 percent to the state's total Red gram production (Table 2). However, Palnadu (974 kg/ha) ranks first in productivity, followed by Kurnool (607 kg/ha) and Nandyal (425 kg/ha). The average productivity of the state during 2022–23 was 323 kg/ha.

Table 2. Inter-District Comparison of Red gram production in Andhra Pradesh (2022-23)

District	Area ('000 hectares)	Rank	Production ('000 tonnes)	Rank	Yield (Kg/ha)
Prakasam	60	1	9	5	152
Ananthapuramu	57	2	17	2	291
Sri Sathyasai	40	3	4	6	90
Nandyal	34	4	14	3	425
Kurnool	20	5	12	4	607
Palnadu	19	6	20	1	974
Other districts	12		2		
Andhra Pradesh	**242**		**78**		**323**

Source: Andhra Pradesh Agricultural statistics at a glance, 2022-23.

The cost-return structure of Red gram in Andhra Pradesh for the year 2023–24 is presented in Table 3. Cultivation of Red gram costs Rs. 71,369.84 per hectare, among which labor costs have a lion share of 37.83 percent of the total cost. In total, the working capital share is 60.64 percent, and the fixed capital share is 34.49 percent.

Table 3. Cost-return structure of Red gram in Andhra Pradesh 2023-24 (Rs. /ha)

S.No.	Particulars	Cost (Rs.)
1	Labour costs (Rs/ha)	26,998.50 (37.83)
2	Material costs (Rs/ha)	15,635.63 (21.91)
3	Variable costs (Rs/ha)	43,276.92 (60.64)
4	Fixed costs (Rs/ha)	28,092.92 (39.36)
5	**Total cost (Rs/ha) | Cost C2**	**71,369.84 (100)**
6	Yield (Qtl/ha)	6.52
7	Price (Rs./qtl)	9,311.50
8	**Gross returns (Rs/ha)**	**60,980.33**
9	**Net returns (Rs/ha)**	**-10,389.51**
10	Gross Margin (Rs/ha)	17,703.41
11	Return on rupee BCR	0.85
12	Return on VC	1.41
13	COP [C3] (Rs./qtl)	10,946.29

Source: Survey Data, BCR-Benefit Cost Ratio, VC – Variable Costs

The cost of production for Red gram was Rs. 10,946.29 per quintal. Gross margin refers to returns over variable costs, which pertain to owner farmers, while net returns refer to returns over total costs, which pertain to tenant farmers. The gross margin and net returns were Rs. 17,703.41 per hectare and Rs. -10,389.51 per hectare, respectively. The return on rupee investment was 0.85, which concerns tenant farmers, and the return on variable costs was 1.41, which mostly relates to owner farmers.

The balance sheet given in Table 4 explains that the demand for Red gram was 40.70 lakh tonnes in 2023-24, with exports decreased from 0.33 lakh tonnes in 2022-23 to 0.20 lakh tonnes in 2023-24. Imports were also decreased from 10.06 lakh tonnes in 2022-23 to 8.50 lakh tonnes in 2023-24. The total supply was 43.25 lakh tonnes and the domestic consumption of Red gram was estimated to decrease by 3.25 lakh tonnes in 2023-24. The family's pulses consumption has also reduced after it stopped cultivating pulses. Earlier, dal was prepared every other day but now it is served once or twice a week. (Down to earth,2023)

Table 4. Balance sheet of Red gram (in lakh tonnes)

Particulars	2022-23	2023-24*
Supply		
Opening Stock	7.6	3.59
Production	30.01	31.16
Imports	10.06	8.50
Total Supply	**47.67**	**43.25**
Demand		
Exports	0.33	0.20
Consumption	43.75	40.50
Total Demand	**44.08**	**40.70**
Ending Stock	**3.59**	**2.55**

**** Advance Estimates, Source: agriwatch.com***

Red gram Production and Price Outlook:

Percent deviations from yearly average prices were calculated for Red gram for the year 2023–24 using monthly modal prices from Kurnool and Yemmiganur AMCs of Andhra Pradesh (Table 5). The results depict huge deviations (SD- 184%) in monthly arrivals of Red gram, with more than 75 percent of Red gram arrivals reported in January and February. The prices show less variation (7.2%) from an annual average price of Rs. 8,706 per quintal, with maximum prices reported in May (Rs. 9,426 per quintal).

Table 5. Seasonal Variations of Red gram arrivals and prices in major markets of A.P.

Months	Arrivals		Price	
	Quantal	% deviation	Rs. /Qtl	% deviation
Jun-23	239	2.95	7595	87.24
Jul-23	64	0.79	7631	87.65
Aug-23	100	1.23	8080	92.81
Sep-23	81	1.00	8481	97.42
Oct-23	54	0.67	9145	105.04
Nov-23	245	3.03	8712	100.07
Dec-23	9311	114.97	9117	104.72
Jan-24	50241	620.38	8824	101.36
Feb-24	23136	285.69	9284	106.64
Mar-24	6610	81.62	9012	103.52
Apr-24	4620	57.05	9163	105.25
May-24	2480	30.62	9426	108.27
Average	**8098**	**100**	**8706**	**100**

Source: Data obtained from Kurnool and Yemmiganur AMCs.

Table 6: Minimum Support Price for the Red gram from 1980-81 to 2024-25.

Years	MSP	Difference in amount increase over preceding year
1980-81	190	290
1990-91	480	
2000-01	1200	1800
2010-11	3000	
2015-16	4625	1625
2016-17	5050	425
2017-18	5450	400
2018-19	5675	225
2019-20	5800	125
2020-21	6000	200
2021-22	6300	300
2022-23	6600	300
2023-24	7000	400
2024-25	7550	550

Source: Source: https://farmer.gov.in

From the table 6, it shows the MSP prices for the Red gram over the years, the major hike was occurred in the year 2010-11 with difference from the previous year of Rs. 1800. Another significant increase appeared during the year 2015-16 i.e. 1625. Red gram MSP prices increased in 2024-25 by Rs. 550 compared to the previous year.

Table 7. MSP vis-a-vis Market Prices of Red gram in Andhra Pradesh during June to May, 2023-24

Crop	MSP (Rs./qtl)	Major Markets	Average days and months of trading			
			Greater than MSP		Less than MSP	
			No. of Days	Month	No. of Days	Month
Red gram	7000	Kurnool, Yemmiganur	126	January, February, March	187	July, August, November

Source: **vyavasayamarketingshakha.ap.gov.in**

Table 7 shows the number of days when the market prices of Red gram were above, equal to, or below the MSP in major markets of Andhra Pradesh during June-May, 2023-24. On average, for 126 days from January to March, maize prices were above the MSP, while for 187 days in July, August and November, prices were below the MSP.

The physical market experienced an average increase of 10-15%. This increase was driven by higher landed costs of imported stocks and strong buying support, along with the spillover effect from other

pulses. Supply tightness due to a smaller crop and import dependency is expected to continue supporting market sentiments in the medium term. India imported Red gram from Mozambique (2.64 lakh tonnes), Myanmar (2.09 lakh tonnes), Tanzania (1.79 lakh tonnes), Malawi (0.53 lakh tonnes), and Sudan (0.45 lakh tonnes) in 2023-24. The sowing area is expected to increase significantly this year due to consistently remunerative prices throughout the season.

Based on data from the Directorate of Economics and Statistics, Andhra Pradesh (DESAP), the time series analysis shows that the area for Red gram cultivation is expected to increase to 274.71 thousand hectares during the kharif season and 8.33 thousand hectares during the rabi seasons of 2024-25. Under normal conditions, the estimated annual production is 115.20 thousand tonnes in Andhra Pradesh.

Under these circumstances, the AMIC, ANGRAU is here with provide the latest information with regard to the forecast price range of Rs. 8600 to Rs. 9300 per quintal for Red gram in this kharif marketing/harvesting season of 2024-25.

***Note:** The predicted / forecast values given in the report were estimated using historical data analyzed by different econometric models with the assumption of prevalence of normal weather and market conditions.*

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