

# MSP, new varieties: behind success of chana and moong in past decade

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OVER THE last 10 years, India's pulses production has gone up about 50%, from 18.3 million tonnes (mt) to 27.5 mt. Much of this is due to *chana* (chickpea) and *moong* (green gram).

Between 2012-13 and 2022-23, *chana* output has risen from 8.8 mt to 13.5 mt; *moong* from 1.2 mt to 3.7 mt. They now account for 62.8% of pulses production, as against 54.6% in 2012-13 and 45.9% in 2002-03.

What explains the significantly increased production of these two pulses, compared for example to *tur/arhar* (pigeonpea) and *urad* (black gram)?

### Chana: procurement boost

The minimum support price (MSP) for *chana* has gone up from Rs 3,000 per quintal in 2012-13 to Rs 5,335 in 2022-23, and

government agencies have been procuring at these rates.

Purchases by the National Agricultural Cooperative Marketing Federation of India (NAFED) in the last 3-4 years have amounted to 2-2.5 mt, close to a fifth of the estimated output of this *rabi* (winter) pulses crop. MSP-based procurement has incentivised farmers to expand the area under *chana* from around 8.5 million hectares (mh) to more than 11 mh in the last 10 years. There has been

no similar effort at procuring other pulses, barring in one or two years.

But it isn't procurement alone. Shailesh Tripathi, head of the All-India Coordinated Research Project for Rabi Pulses, said that while the Green Revolution and spread of irrigation resulted in an estimated 4-4.5 mh under *chana* in Punjab, Haryana, Rajasthan, and UP going over to

wheat and mustard, the crop gained acreage in Madhya Pradesh, Maharashtra, Gujarat, Karnataka and Andhra Pradesh.

This was enabled by the breeding of short-duration varieties sown from end-September to mid-October, using the residual moisture left in the soil after harvesting of the *kharif* (post-monsoon) crop. These varieties are harvested in 100-120 days with just a single irrigation, if at all. (In the North, it is grown over 140-150 days, and requires 1-2 irrigations.)

"The short-duration varieties (JAKI 9218, JG 11, JG 16, Vijay, and Phule Vikram) yield 20-25 quintals per hectare. That's less than the 25-30 quintals from the traditional long-duration varieties, but they take less time to grow with hardly any irrigation," Tripathi said.

### The revolution in moong

Breeding breakthroughs in *moong* have

### PROCUREMENT OF PULSES

(lakh tonnes)

Crop Year	Chana	Arhar	Moong	Urad
2013-14	0.34	0.43	-	0.77
2014-15	2.80	0.01	-	0.07
2015-16	-	-	-	-
2016-17	-	1.96	0.08	-
2017-18	1.15	6.03	4.06	2.84
2018-19	7.76	2.76	3.22	4.42
2019-20	21.43	5.36	1.47	-
2020-21	6.30	0.11	1.67	0.01
2021-22	25.56	0.36	3.63	0.02
2022-23*	22.26	-	1.22	-

Note: Crop year is July-June; \*Till June 1. Source: NAFED

seen farmers take as many as four crops.

The first is the *kharif* crop, grown over 65-75 days, with sowing from end-June to mid-July and harvesting after mid-September. *Kharif moong* is cultivated in Rajasthan, UP, Punjab, and Haryana. It needs no irrigation.

The second crop is during *rabi*, grown largely in the southern states and Odisha. Sowing is in November-December after paddy is harvested.

The third is the spring *moong*, sown during February-March post the harvesting of potato and sugarcane in states such as Punjab and UP. It is also taken as an inter-crop with sugarcane – it is harvested by May, as the cane continues to grow on the same land.

The fourth is summer *moong*, sown after harvesting of wheat in Punjab, Haryana, UP, Bihar, and the irrigated Narmada belt of MP. The sowing window is from April 1-20 and the crop has to be harvested in 50-60 days, before the monsoon rain.

Summer and *rabi* *moong* are generally of shorter duration; *kharif* and spring are longer (up to 75 days).

"In *moong*, our success has been in breeding photo-thermo insensitive varieties. Since these are not sensitive either to temperature or photoperiod (the length of time in 24 hours that plants are exposed to light), they can virtually be grown anytime and anywhere," G.P. Dixit, director of the Indian Institute of Pulses Research (IIPR), Kanpur, said. IIPR has bred IPRM 02-03, a variety amenable to both *kharif* and spring planting. The summer *moong* varieties Samrat and Virat, which mature in 55-60 days, are also success stories.

The tripling of *moong* production in the last 10 years has been powered primarily by the spring and summer varieties, which account for more than half of this crop's total output today.

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