

Impact of Seed Hub on Pulses Production and Productivity in Nagaur District of Rajasthan

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Introduction:

Seed is one of the most important element in increasing agricultural production in any farming system. This element has become more crucial than ever for providing enough food security for the rising number of people in the world. Selecting improved (high yielding) varieties adapted to the area of production, with disease, insect, lodging, and shattering resistance, along with other desirable characteristics are basic keys for satisfactory crop performance and yield. The production of high quality seed is the cornerstone of any successful agriculture program. It is also a good marketing tool for increasing the potential sale of crops, especially in today's competitive market. The practical definition of seed quality can differ depending on the end user. For example, a farmer may desire high-quality seed that produces rapid uniform plants with high yielding capacity under a wide range of field conditions. Efficacy of other agricultural inputs (fertilizers, pesticides and irrigation) in enhancing productivity and production is largely determined by the seed quality. Quality of seed accounts for 20-25 % increase in crop productivity. Therefore, it is important that availability of quality seed to the farmers is a major step towards doubling farmer's income.

To make India self-sufficient in pulses production through productivity enhancement, availability of quality seed needs special attention. Non availability of quality seed especially in pulses is a major constraint to become self-sufficient in pulse production. There is a need of about 25- 30 lakh quintals of quality seed every year to achieve 30% seed replacement rate to enhance production and productivity of pulse crops. Seed Hub, Krishi Vigyan Kendra,

Nagaur-I is one among 93 seed hub centre started in first phase, by DAC&FW, Ministry of Agriculture and Farmers Welfare, GoI in year 2016-17 for ensuring timely availability of sufficient quantity of quality seed of pulses.

Table.1 Year wise production of quality seeds of pulses (Mung bean, Moth bean & Chickpea) under Seed hub project

S. No.	Year	Seed production (qtls)
1.	2016-17	150
2.	2017-18	200
3.	2018-19	144
4.	2019-20	129.74
5.	2020-21	393.75

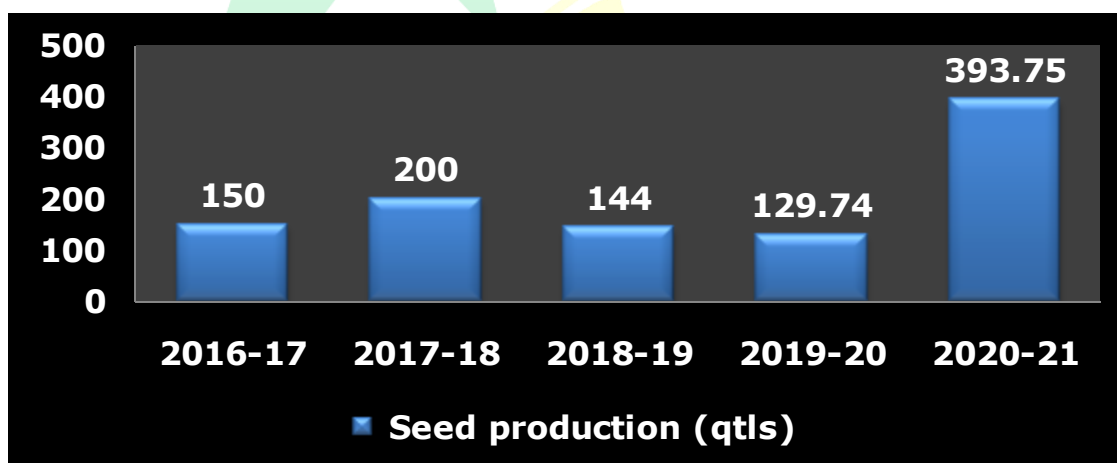


Fig. 1 Year wise production of quality seeds of pulses (Mung bean, Moth bean & Chickpea) under Seed hub project by KVK, KVK, Nagaur-I during last 5 years:

Table.2 Contribution of KVK in supply of quality seed of pulses (Mung bean, Moth bean & Chickpea) in Nagaur district during last 5 years

S. No	Crop	Area sown (ha.) (Average of five years)	Total seed requirement (quintal)	Avg. quantity of seed supplied by KVK (q)	Seed supplied by horizontal dispersal of KVK seed (q)	% contribution of KVK seed in total area sown
1.	Mung bean	558281	83742.15	953.80	9538	12.53
2.	Moth bean	73636	7363.60	38.69	232.14	3.68
3.	Chickpea	39796	29847	25	450	1.59

% contribution of KVK in total area sown=

$$\frac{(\text{Seed supplied by KVK} + \text{Seed supplied by horizontal dispersal})}{\text{Total seed requirement}} \times 100$$

* Horizontal dispersal is calculated by survey of 100 farmers of district which uses regularly KVK seed

Table.3 Yield enhancement in pulse crops by using KVK seed (Average of last 5 years)

S. No	Crop	Productivity before using KVK Seed (q/ha.)	Productivity after using KVK seed (q/ha.)	% increase in productivity
1.	Mung bean	8	10	25
2.	Moth bean	5	6	20
3.	Chickpea	14.5	18	24.14

* Yield enhancement is calculated by survey of 100 farmers of district which uses regularly KVK seed

Table.4 Contribution of KVK seed in terms of total production of pulses in Nagaur district of Rajasthan:

S. No	Crop	Avg. area covered by KVK seed (ha.)	Avg. Productivity by using KVK seed (q/ha.)	Avg. production by KVK seed (q)
1.	Mung bean	69952.61	10	699526.10
2.	Moth bean	2709.80	6	16258.80
3.	Chickpea	632.76	18	11389.68

*Area covered by KVK seed (ha.)=

$$\frac{(\text{Avg. area sown} \times \% \text{ contribution of KVK in total area sown})}{100}$$

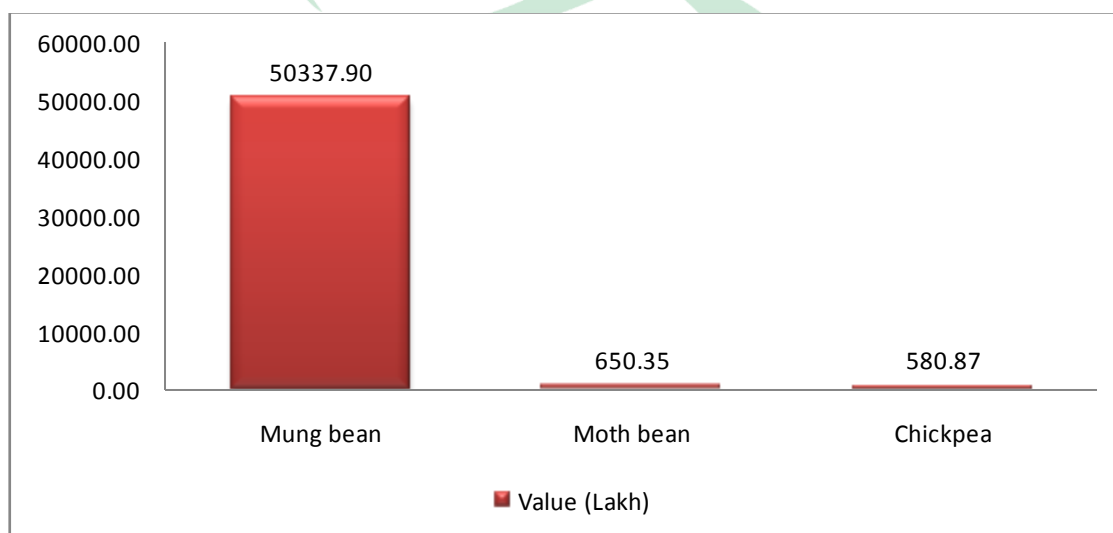


Fig.2 Contribution of KVK seed in terms of value of produce (lakhs) in Nagaur district:

* Value is calculated by avg. production by using KVK seeds in last five years multiplied by MSP (Rs.7196/qtl for Mung bean, Rs.4000/qtl for Moth bean & Rs. 5100/qtl for Chickpea.

Impact of quality seed of pulses produced and supplied to farmers is as given:

- Increase in Seed Replacement Rate (SRR) of pulses (Mung bean, Moth bean & Chickpea)
- Higher Production and productivity of pulse crops
- Crop failure risk minimization due to resistance/tolerance of improved varieties against biotic & abiotic stresses
- Decrease in yield gap
- Upliftment in socio-economic status of farmers & farm families
- Quality seed availability builds faith & creates rapport of the KVK in the area.

Conclusion:-

- ❖ Establishment of such crop seed hub centre may play a major role in production of quality seed at local level which helps in timely supply of seed to the farmers.
- ❖ Appropriate infrastructure for seed production as well as for seed processing could be created at KVK level by the help of funds provided under seed hub project.
- ❖ Worthy income can be generated by the KVK from production of quality seed which helps in creation of different infrastructure facilities at KVK for different purposes & thus minimizes dependency of KVK for fund on other govt. agencies.
- ❖ Required seed replacement rate (SRR) especially in pulses for recently released improved varieties (less than 10 year old) can be meet out only by production of sufficient quantity quality seed at local level & KVK can play a major role in this.
- ❖ To achieve the target of doubling farmer's income, quality seed availability of pulses at local level at right time may play a vital role.

Images of Seed hub on pulses

