GOVERNMENT OF INDIA
MINISTRY OF AGRICULTURE AND FARMERS WELFARE
DEPARTMENT OF AGRICULTURE, COOPERATION AND FARMERS WELFARE

LOK SABHA
UNSTARRED QUESTION NO.6185
TO BE ANSWERED ON THE 11TH APRIL, 2017

PRODUCTION OF PULSES

6185. SHRI JYOTIRADITYA M. SCINDIA:
SHRIMATI V. SATHYA BAMA:
SHRI RAJU SHETTY:
SHRI NINONG ERING:
SHRI R. PARTHIPAN:

Will the Minister of AGRICULTURE AND FARMERS WELFARE ‡ãðŠãäÓã एवं किसान कल्याण ½ãâ¨ããè
be pleased to state:

(a) whether the production of pulses in the country is sufficient to meet their growing demand of the country and if not, the reasons therefor and the steps taken by the Government to make the country self-reliant in pulses in the next few years;

(b) the details of projects undertaken by the Government to strengthen the basic research for the development of location specific pulses in the country during the last two years and the current year along with the achievements made and benefits accrued to the farmers thereunder;

(c) whether the Government proposes to provide incentives to the farmers for opting to use technology in the cultivation of pulses and if so, the details thereof;

(d) whether there has been record growth in the farm production as well as in horticulture, poultry, dairies and fisheries in the country during the current year and if so, the details thereof; and

(e) whether the Government proposes to impose restriction on the import of pulses in view of their sufficient production in the country during the said period and if so, the details thereof and if not, the reasons therefor?

ANSWER

MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE AND FARMERS WELFARE

‡ãðŠãäÓã एवं किसान कल्याण ½ãâ¨ããÊã¾ã ½ãñâ Àã•¾ã ½ãâ¨ããè (SHRI S.S. AHLUWALIA)

(a) to (c): No, Madam. The overall production, demand and availability of pulses during 2014-15 and 2015-16 are as below:

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(in Million Metric Tonnes)

Item/Period	2014-15	2015-16
Production	17.15	16.35
Demand	22.68	23.62
Imports	4.58	5.79
Exports	0.22	0.26
Availability	21.52	21.88

Sources: Directorate of Economics & Statistics (DES), Deptt. Of Agriculture, Cooperation & Farmers Welfare (DAC&FW), Ministry of Agriculture & Farmers Welfare (MOAFW), Directorate General of Commercial Intelligence and Statistics (DGCIS), Ministry of Commerce & Industry (MOCI), erstwhile Planning Commission

ICAR-Indian Institute of Pulses Research (IIPR), Kanpur, three All India Coordinated Research Projects (AICRP) covering major pulses and one Network Project on arid legumes are involved in developing location specific high yielding varieties and integrated crop production technologies. In addition to these, several ad-hoc research projects involving Indian Council of Agricultural Research (ICAR) & Consultative Group for International Agricultural Research (CGIAR) Institutes are in operation to carry out basic and strategic research. The details of the projects are given in Annexure-I.

Under National Food Security Mission (NFSM) and Rashtriya Krishi Vikas Yojana (RKVY) programmes, latest crop production technologies are being promoted through cluster demonstrations at farmers' fields including assistance for various critical inputs like integrated nutrient management, integrated pest management, water saving devices, farm implements/ tools and cropping system based training to farmers by State Governments and ICAR Institutes including Krishi Vigyan Kendras (KVKs).

(d): At constant 2011-12 prices, the share of agriculture & allied sector in the overall Gross Value Added (GVA) of the country during 2015-16 was 15.4%. Out of which the shares of crops, livestock, forestry & logging and fishing & aquaculture were 9.3%, 4.0%, 1.3% and 0.8% respectively. The share of agriculture & allied sector in the overall GVA during 2016-17 has declined to 15.1%.

(e): Government has already taken a decision to impose restriction on the import of pulses and imposed custom duty of 10% on Arhar from 28.03.2017 due to record production estimated as per 2nd Advance Estimates to protect the farmers' interest. The production of pulses during 2016-17 is 22.14 million tonnes (2nd Advance Estimates).

Annexure –I

Indian Council of Agricultural Research
Krishi Bhawan, New Delhi-110001

1. New research projects & AICRPs

ICAR-Indian Institute of Pulses Research, Kanpur, three All India Coordinated Research Projects covering major pulses and one net work project on arid legumes are responsible to develop location specific high yielding varieties and integrated crop production technologies. In addition to these, several ad-hoc research projects involving ICAR & CGIAR Institutes are in operation to carry out basic and strategic research. The details are given as:

S.No.	Research Projects	
1	Development of Lentil cultivar with high concentration of Iron and Zinc.	A small seeded lentil variety IPL 220 has been identified as bio-fortified having high concentration of Fe (87-112 mg/kg), Zn (62-63 mg/kg) and Se (630 µg/kg) in their seeds with average yield 1378 kg/ha.
2	Generation Advancement and Development of new genotypes through Pre-breeding in Lentil and Kabuli Chickpea.	Large number of pre-breeding lines have been developed for further evaluation in chickpea, lentil, pigeonpea and mungbean. Chickpea breeding line IPC 2010-62 performed well in multilocation evaluation.
3	Developing chickpea cultivars suited to mechanical harvesting and tolerant to herbicides	Chickpea varieties NBeG 47 and GBM 2 suitable for machine harvesting have been released for cultivation.
4	Molecular breeding for improvement of tolerance to biotic and abiotic stresses, yield and quality traits in crops-chickpea	In chickpea, improved Pusa 256 was developed for Fusarium wilt (race 2) resistance through marker assisted breeding. The product is now ready for evaluation in multilocation trials.
5	Development of pod borer resistant transgenic in pigeonpea and chickpea	In vitro regeneration and transformation system has been developed based on direct organogenesis from axillary meristem explants of chickpea and pigeonpea employing insecticidal Bt gene (cry1Ac and cry1Aabc). Generated transgenic lines were characterized based on molecular analyses (Southern, Western, ELISA) and bio efficacy (insect bioassay). Some of the transgenic chickpea and pigeonpea lines exhibit high insect mortality (75-100%). Five lines each of chickpea and pigeonpea were identified as promising events and selected for event selection

		trial.

6	Functional genomics in chickpea: Utilizing chickpea genome sequence for crop improvement	Chickpea genome sequenced information generated is being utilized in mapping various traits such as resistance to Fusarium wilt (FW), terminal drought, heat stress salinity, botrytis grey mold, Ascochyta blight in our program. In order to map different biparental and multi-parent populations viz; WR315 x JG 62 (FW late wilting), DCP 92-3 x ICCV-10 (Salinity), DCP 92-3 X ICC 4958 (Seed size), K 850 X IPC 04-52 (FW late wilting), ICC4958 x T39-1 (Protein content) etc. were developed for the important agronomic traits 3000 chickpea germplasm resources are being exploited in further extending for high throughput genotyping using GWAS study to map high density linkage maps to further increase saturation as well as established marker-trait association. Initiatives have been taken to utilize genome information in chickpea for precise marker assisted gene introgression for QTL hotspot from ICC 4958 7genotype donor line into elite background of DCP 92-3 and identified 15BC3F4 improved lines of DCP92-3.
7	Nutritional profiling of pulse germplasm	The genetic variability for protein content was estimated in diverse genotypes of chickpea (53), pigeonpea (22) and urdbean (26). In Chickpea, the protein content varied from 20.69 to 28.21%. The mean protein content in the desi types was slightly higher (24.81%) as compared to the kabuli types (23.31%). Chickpea accessions showed maximum mean protein content (28.21%). In pigeonpea genotypes, mean seed protein content was 20.90% and it varied from 16.42 to 24.06%. In urdbean genotypes the mean seed protein content was 26.26% and it varied in the range of 20.78 to 28.56%.
8	Phosphorous acquisition efficiency of chickpea genotypes and its improvement through P-solubilising microorganisms	Significant variations in P-use efficiency and growth among the chickpea genotypes were observed with highest P-use efficiency in genotypes ICC 1194 and ICC 8058 while low use efficiency was recorded in ICC 3230, ICC 15406 and IPC 2009-45.

9	Enhancing resource use efficiency (RUE) of pulse based cropping systems in diverse agro-Ecosystems	Intercropping system involving diverse pulses/cereal/oilseed (sesame, maize, jowar, urdbean and pigeonpea) in a soybean +intercrop-lentil system, significantly higher total productivity were recorded with soybean 'RSV 2001-4' + pigeonpea 'TJT 501'-lentil 'IPA 316' followed by soybean + urdbean 'IPU 2-43'-lentil in Central Zone. STCR equations were developed and validated at the research farm in maize - lentil for N, P and S.Highest maize grain yield (50.5q/ha) was recorded with STCR (+FYM) with target 2 (50q/ha) followed by STCR (+FYM) target 1 (45.2 q/ha)) against the control yield of 16.54q/ha. Micro-irrigation (sprinkler) influenced chickpea crop productivity and input use efficiency in chickpea 'JG 16'. Optimum irrigation scheduling (OIS) with sprinkler irrigation applied at branch and pod development resulted in significantly higher grain yield (16.1%), biomass yield (9%), harvest index (5.7%), net return (22.4%), BCR (22.8%) and productivity per day (16.4%) over that at branching stage only. There was also an increase in water saving (29.4%), WUE (30.7%) and WP (20.8%) with OIS at branch and pod development in chickpea through sprinkler over that in flood irrigation given at both the above stages (to realize the same yield levels of 2.65 t/ha).
10	Diagnosis and characterization of pathogens/insect pests/bioagents	Simplex-PCR detection protocols of 10 viruses (MYMIV, MYMV, HgYMV, DoYMV, FbLCV, FbSLCV, ToLCGV, ToLCNDV-Lentil, CCDV and GBNV) were developed and validated. Three kits namely "LYMVs PCR Diagnostic Kit", "LYMVs Direct PCR Kit" and"LYMVsMplex" were developed for the detection of four viruses (MYMV, MYMIV, HgYMV and DoYMV) causing yellow mosaic in pulse crops.

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