

GOVERNMENT OF INDIA
MINISTRY OF AGRICULTURE & FARMERS WELFARE
DEPARTMENT OF AGRICULTURAL RESEARCH & EDUCATION

RAJYA SABHA
STARRED QUESTION NO. 28
TO BE ANSWERED ON 03.02.2023

DEVELOPMENT OF HYV SEEDS BY ICAR

***28. SHRI SANJAY RAUT:**

Will the Minister of Agriculture and Farmers Welfare be pleased to state:

- (a) whether Indian Council of Agricultural Research (ICAR) has failed to develop High Yielding Variety (HYV) of seeds for various crops, if so, details thereof and reasons therefor;
- (b) whether despite development of HYV of seeds, productivity level of food grains, pulses and other crops have remained far below than the international levels;
- (c) if so, details thereof and reasons therefor, and corrective steps taken by Government in this regard; and
- (d) whether Government proposes to depute ICAR agricultural scientists to rural areas to teach the farmers the latest developments made in agriculture in the country, if so, details thereof?

ANSWER

THE MINISTER OF AGRICULTURE AND FARMERS WELFARE
(SHRI NARENDRA SINGH TOMAR)

- (a) to (d): A statement is laid on the Table of the House.

STATEMENT IN RESPECT OF PARTS (a) TO (d) OF RAJYA SABHA STARRED QUESTION NO. 28 TO BE ANSWERED ON 03.02.2023 REGARDING “DEVELOPMENT OF HYV SEEDS BY ICAR”

(a) No, Sir. Indian Council of Agricultural Research (ICAR) has contributed in development of more than 7100 high yielding varieties of field and horticultural crops since 1969. During 2014-15 to 2022-23 (till December, 2022), National Agricultural Research System (NARS) under the aegis of ICAR has released 2524 high yielding/ stress tolerant varieties/ hybrids of field crops (2122) and horticultural crops (402) for different agro-climatic conditions in comparison to 1522 varieties/hybrids released during 2005-06 to 2013-14. The details of various field and horticultural crop varieties/ hybrids released during 2006-14 and 2014-22 are given at **Annexure-I**.

(b) and (c): India with respect to the global productivity is lower in certain crops, while higher in others. In addition to productivity *per se*, per day productivity is also important component for determining the genetic potential of crops. Per day productivity of major crops in India is better or at par with that of any crop of the high productivity countries. India has multiple cropping system with high cropping intensity (143%), whereas, in high productivity countries, the crops take longer maturity duration due to which only one crop can be taken and cropping intensity is low in comparison to India. Due to higher cropping intensity, overall productivity per unit area per annum is comparable to global productivity.

India has made a commendable progress in genetic enhancement of different crops as result of which overall productivity level has increased to 4.57 times (2386 kg/ha) during 2020-21 as compared to 522 kg/ha during 1950-51. During last nine years, average productivity in most of the crops has increased significantly. The details of productivity of different crops during 2014-15 and 2021-22 is given at **Annexure-II**. This has resulted in record food grain production of 315.72 million tonnes (4th Advance estimates) and horticultural production of 342.33 million tonnes (3rd advance estimates) during 2021-22. The varieties developed by ICAR have revolutionized the Indian agriculture which has contributed to 6.20 times increase in production of food grains, 3.30 times in pulses, 7.30 times in oilseeds, 10.20 times in cotton, 7.60 times in sugarcane and 13.7 times in horticultural crops since 1950.

To strengthen the research and development activities, the budget allocation of Ministry of Agriculture and Farmers Welfare has been enhanced substantially from Rs. 27049 crores (DA&FW Rs. 22167.92 crores and DARE Rs. 4881.08 crores) during 2013-14 to Rs. 132513.62 crores (DA&FW Rs. 124000 crores and DARE 8513.62 crores) during 2022-23.

(d): Under the aegis of ICAR, 731 Krishi Vigyan Kendras (KVKs) have been established in various districts across the country with more than 11000 officials including Scientists, Subject Matter Specialists and other staff who are involved in educating the farmers about the latest developments on the agro-technologies/ crop varieties/ agricultural practices. All the ICAR institutes have technology transfer units through which, scientists of ICAR educate the farmers about latest developments in the field of agriculture. ICAR has adopted 4055 villages by 1154 groups of 4417 scientists for direct interface with the farmers to expedite the lab to land process under Mera Gaun Mera Gaurav programme. During 2021-22, 41402 field activities including field days, trainings, demonstrations, technology awareness programmes were conducted and 662916 farmers were contacted across the country.

ANNEXURE-I**[To part (a) of Rajya Sabha Starred Q. No. 28 dated 03.02.2023]****Field crop varieties released during 2005-06 to 2013-14 and 2014-15 to 2022-23
(till December 2022)**

Crops	Total No. of Varieties Released and Notified	
	2005-06 to 2013-14	2014-15 to 2022-23
Cereals	625	1008
Oilseeds	213	310
Pulses	211	313
Fibre crops	75	277
Forage crops	52	130
Sugar crops	40	68
Potential crops	9	16
Horticultural crops	297	402
Grand Total	1522	2524

ANNEXURE-II**[To part (b) and (c) of Rajya Sabha Starred Q. No. 28 dated 03.02.2023]****Enhancement in the average productivity of crops in India during 2014-15 to 2021-22**

Sr. No.	Crops	Yield (Kg/ha)		Per cent increase in yield
		2014-15	2021-22	
1	Rice	2391	2713	13.47
2	Wheat	2750	3464	25.96
3	Jowar	884	1128	27.60
4	Bajra	1255	1436	14.42
5	Maize	2632	3195	21.39
6	Pigeon pea	729	892	22.36
7	Chickpea	889	1217	36.90
8	Lentil	705	1001	41.99
9	All pulses	728	892	22.53
10	Soybean	951	1007	5.89
11	Groundnut	1552	1676	7.99
12	Rapeseed mustard	1083	1511	39.52
13	Sunflower	736	1023	38.99
14	Oilseeds overall	1075	1254	16.65
15	Cotton	462	462	0.00
16	Jute	2549	2628	3.10
17	Sugar crops	71000	82000	15.49
18	Potato	22000	24000	9.09