O.I.H

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

LOK SABHA
UNSTARRED QUESTION NO.2689
TO BE ANSWERED ON THE 2ND AUGUST, 2016

FERTILITY OF SOIL

2689. SHRI RAM KUMAR SHARMA:
SHRI RAOSAHEB DANVE PATIL:
SHRI OM BIRLA:
SHRI RAGHAV LAKHANPAL:
SHRI BHAIRON PRASAD MISHRA:
SHRI NISHIKANT DUBEY:
SHRI RAMSINH RATHWA:
SHRI PARBHUBHAI NAGARBHAI VASAVA:

Will the Minister of AGRICULTURE AND FARMERS WELFARE कृषि एवं किसान कल्याण मंत्री be pleased to state:

(a) whether the Government is aware that large tracts of fertile land have adversely been affected in the country due to depletion, exhaustion, soil erosions and excessive use of chemical fertilizers and if so, the details thereof and the steps/ programmes under taken by the Government for treatment and restoration of actual/original soil fertility;

(b) whether the productivity of crops and the average yield in the country is lowest in the world and if so, the details thereof and the reasons therefor;

(c) whether the organic manures are essential for keeping the soil health good in the country and if so, the details thereof and the steps taken by the Government to use the full potential of organic manure/ urban compost to maintain the quality of soil health;

(d) whether the Government has taken any measures to promote tissue culture to improve quality of soil and enhance agricultural production in the country and if so, the details thereof along with the tissue culture labs. set up/proposed to be set up in the country;

(e) whether the Government has taken any steps to provide training to persons engaged in tissue culture lab./test to improve their skills under various agricultural research institutes across the country and if so, the details thereof and the achievements made in this regard; and

(f) whether there has been a reduction in excessive use of urea in various States including Punjab, Haryana and Rajasthan and if so, the details thereof and the steps taken/being taken by the Government to monitor the use of chemical fertilizers in the field?

ANSWER

MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE AND FARMERS WELFARE

कृषि एवं किसान कल्याण मंत्रालय में राज्य मंत्री (SHRI PARSHOTTAM RUPALA)

(a) Indian Council of Agricultural Research (ICAR) studies show that there is no harmful effect of chemical fertilizers with recommended doses and judicious use. However, imbalanced use of chemical fertilizers coupled with low addition of organic matter over years may cause multi-nutrient deficiencies.

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The Indian Council of Agricultural Research (ICAR) conducted scientific soil survey for assessing the extent and nature of land degradation across the country. As per the latest estimates (NAAS, 2010) based on harmonized database, around 120.4 million ha of total geographical area of the country is affected by various kinds of land degradation comprising of water erosion (82.6 million ha), wind erosion (12.0 million ha), chemical degradation (24.8 million ha) and physical degradation (1.0 million ha). Out of total degraded area, 104.2 million ha is arable land.

The Government is recommending soil test based balanced and integrated nutrient management through conjunctive use of both inorganic and organic sources (manure, bio-fertilizers etc.) of plant nutrients and location specific soil & water conservation measures for preventing deterioration of soil health and fertility.

'Soil Health Card' (SHC) scheme has been launched in February 2015 to assist State Governments to evaluate fertility in all 14 crore farm holdings and issue soil health cards to farmers regularly in a cycle of 2 years. Soil health cards provide information to farmers on nutrient status of their soil along with recommendations on appropriate dosage of nutrients to be applied for improving soil health and its fertility.

Soil Health Management (SHM) scheme is being implemented to enhance balanced use of fertilizers through setting up / strengthening of Soil Testing Laboratories, demonstration and training on balanced use of fertilizers.

(b): The average yield of principal crops in various countries is given at **Annexure-I**.

(c): Organic manures/compost not only provide nutrients maintaining soil fertility but also improve soil physical & biological health.

The Indian Council of Agricultural Research (ICAR) has developed technology to prepare various types of organic manures such as phospho-compost, Vermi-compost, bio-enriched compost, municipal solid waste compost, etc. from various organic wastes.

Under National Mission for Sustainable Agriculture, Government is encouraging establishment of fruit / vegetable market / agro waste compost production unit capacity of 3000 ton per annum. Under Capital Investment Subsidy Scheme through National Bank for Agriculture and Rural Development (NABARD), financial assistance is provided @ 33 percent for farmers/ individual private agencies including youth with financial outlay limited to Rs. 63 lakh whichever is less.

The Government has approved a policy on promotion of City Compost. A notification conveying the approval has been issued on 10.02.2016 in which market development assistance in the form of fixed amount of Rs. 1500/tone will be provided for scaling up production and consumption of city compost. The processing and use of city waste as compost fully compliments the "SWACHH BHARAT ABHIYAN" campaign.

(d) & (e): Under Application of Biotechnology in Agriculture component of the Sub-Mission on Seeds and Planting Materials, financial assistance @ Rs.2.50 crores is being provided for establishment of new Tissue Culture Unit and @ Rs. 20 lakh for rehabilitation /strengthening of old Tissue Culture labs to the ICAR Centers, ATMA, State Agricultural Universities (SAUs), Directorates of Agriculture of States, State Seed Corporations, Krishi Vigyan Kendras (KVKs), NSC, Central Universities, Department of Biotechnology identified institutions, and other reputed Institutions of the State contributing to agriculture related scientific applications.

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Under this scheme Government has established/ strengthened 35 tissue culture labs in the country for production of elite planting material of sugarcane, banana, forest trees, flowers, and medicinal plants.

Besides, there is a provision of financial assistance for capacity building, training of manpower and awareness campaign for up gradation of post release monitoring of GM crops including creating awareness about the Tissue Culture is also provided under the scheme.

Under Mission for Integrated Development of Horticulture (MIDH), assistance is provided for setting up of new TC lab & strengthening of existing TC lab units. For setting up of new TC lab assistance is provided @ 100% for maximum cost of Rs 250 lakh/unit for public sector whereas 40% assistance of maximum cost of Rs. 250 lakhs is provided in case of public sector. In case of strengthening of TC unit assistance is provided @ 100% for maximum cost of Rs. 20 Lakh/unit for public sector whereas 50% assistance of maximum cost of Rs. 20 lakhs is provided in case of public sector.

Besides, under National Food Security Mission (NFSM) support is given to States for setting up tissue culture labs and supply of tissue culture plants of sugarcane @ Rs 3.50 per plant.

(f): The State-wise information on per hectare consumption of Urea Fertilizer during 2012-13 to 2014-15 is given at **Annexure-II**. At national level the consumption of Urea is constant at around 155 kg per hectare. However, Government of Punjab has reported 0.05% reduction in use of Urea over last year.

In order to reduce the excessive use of urea, Government is promoting adoption of soil test based site specific Integrated Nutrient Management envisaging conjunctive use of both inorganic and organic source (like, bio-fertilizers and locally available organic manures like Farm Yard Manure, compost, Vermi-Compost & Green manure) of plant nutrients to ensure judicious use of fertilizers preventing deterioration of soil health.

In addition, split application and placement of urea, use of slow releasing N-fertilizers and nitrification inhibitors, growing leguminous crops and use of Resource Conservation Technologies (RCTs) are also advocated.

Neem coated urea, which is a slow N release fertilizer and enhance N use efficiency has been made mandatory from May 2015, for all the indigenous producers of urea to produce 100% of their total production of subsidized urea as neem coated urea.

Annexure-I

Area, Production and Yield of Principal Crops in various Countries during 2013

Area- "000" Hectares
Production - "000" Tonnes
Yield – Kg/Hectare

Country	Area	Production	Yield	Production (%)
(1)	(2)	(3)	(4)	(5)
1. Paddy				
World	**165163**	**740903**	**4486**	**100.00**
China	30582	205207	6710	27.70
India	**43940**	**159200**	**3623**	**21.49**
Indonesia	13835	71280	5152	9.62
Bangladesh	11770	51500	4376	6.95
Viet Nam	7903	44039	5573	5.94
Thailand	12373	36063	2915	4.87
Myanmar	7500	28767	3836	3.88
Philippines	4746	18439	3885	2.49
Brazil	2353	11783	5007	1.59
Japan	1599	10758	6728	1.45
2. Wheat				
World	**219047**	**715909**	**3268**	**100.00**
China	24119	121931	5055	17.03
India	**29650**	**93510**	**3154**	**13.06**
USA	18274	57967	3172	8.10
France	5323	38614	7254	5.39
Canada	10442	37530	3594	5.24
Germany	3128	25019	7998	3.49
Pakistan	8687	24211	2787	3.38
Oceania	13029	23303	1789	3.26
Australia	12979	22856	1761	3.19
Ukraine	6566	22793	3471	3.18
3. Maize				
World	**185121**	**1018112**	**5500**	**100.00**
USA	35478	353699	9970	34.74
China	36339	218624	6016	21.47
Brazil	15280	80273	5254	7.88
Argentina	4864	32119	6604	3.15
Ukraine	4827	30950	6412	3.04
India	**9500**	**23290**	**2452**	**2.29**
Mexico	7096	22664	3194	2.23
Indonesia	3822	18512	4844	1.82
France	1850	15053	8137	1.48
Canada	1480	14194	9591	1.39
4. Sugarcane				
World	**26943**	**1911180**	**70935**	**100.00**
Brazil	10195	768090	75339	40.19

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India	**5060**	**341200**	**67431**	**17.85**
China	1825	128851	70588	6.74
Thailand	1322	100096	75738	5.24
Pakistan	1129	63750	56476	3.34
Mexico	783	61182	78158	3.20
Colombia	406	34876	85958	1.82
Indonesia	450	33700	74889	1.76
Philippines	435	31874	73205	1.67
Oceania	381	29085	76263	1.52
5. Groundnut (in shell)				
World	**25418**	**45654**	**1796**	**100.00**
China	4652	17019	3659	37.28
India	**5250**	**9472**	**1804**	**20.75**
Nigeria	2360	3000	1271	6.57
USA	421	1893	4496	4.15
Sudan (former)	2162	1767	817	3.87
Myanmar	890	1375	1545	3.01
Indonesia	519	1340	2582	2.94
Argentina	404	1026	2539	2.25
United Republic of Tanzania	740	785	1061	1.72
Senegal	770	710	922	1.55
6. Tobacco Unmanufactured				
World	**4238**	**740903**	**174817**	**100.00**
China	1528	230114	150637	31.06
Brazil	405	138760	342405	18.73
India	**490**	**113479**	**231590**	**15.32**
USA	136	24588	180700	3.32
Indonesia	270	18439	68244	2.49
Zimbabwe	115	9390	81652	1.27
Malawi	120	8613	71673	1.16
Argentina	59	8613	145398	1.16
Pakistan	50	7039	140779	0.95
Turkey	136	6798	49901	0.92

Source: FAOSTAT (as on 29.07.2015)

Annexure-II

Per-hectare Consumption of UREA fertilizer Since 2012-13

S.No.	State/U.T.	UREA Per ha Fertiliser consumption in Kgs.*		
		2012-13	2013-14	2014-15
1	Andhra Pradesh	208.63	223.35	228.48
2	Telangana		267.31	268.65
3	Karnataka	140.49	139.47	147.37
4	Kerala	31.95	33.93	30.73
5	Tamil Nadu	162.99	144.43	159.80
6	Puducherry	491.60	547.71	360.73
7	A&N Islands	13.64	13.01	14.80
8	Lakshadweep			
	SZ TOTAL	155.35	166.29	167.49
9	Gujarat	150.55	163.97	176.39
10	Madhya Pradesh	85.25	96.82	87.75
11	Chhattisgarh	101.74	99.15	102.77
12	Maharashtra	105.38	112.25	115.59
13	Rajasthan	76.15	69.82	76.82
14	Goa	44.73	48.50	36.90
15	Daman & Diu	87.38	48.54	66.67
16	D&N Haveli			
	WZ TOTAL	98.28	102.73	105.59
17	Haryana	348.22	338.84	339.84
18	Punjab	362.99	344.57	354.02
19	Uttar Pradesh	225.85	209.13	214.16
20	Uttarakhand	231.61	276.91	262.55
21	Himachal Pradesh	66.21	65.16	70.77
22	J & K			
23	Delhi	36.74	151.63	87.24
24	Chandigarh			
	NZ TOTAL	266.36	251.61	255.29
25	Bihar	280.99	253.85	263.32
26	Jharkhand	71.12	57.99	64.27
27	Odisha	89.38	91.37	86.87
28	West Bengal	145.43	129.28	136.96
	EZ TOTAL	164.21	148.72	153.99
29	Assam	111.75	111.71	130.80
30	Tripura	117.77	93.31	36.01
31	Manipur	137.92	73.33	91.71
32	Meghalaya		70.27	2.50
33	Nagaland	3.64	4.84	4.17
34	Arunachal Pr.	4.17	5.82	3.58
35	Mizoram			52.00
36	Sikkim			
	NE TOTAL	100.32	94.65	88.92
	ALL INDIA	154.68	151.89	155.90

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