GOVERNMENT OF INDIA
MINISTRY OF CHEMICALS AND FERTILIZERS
DEPARTMENT OF FERTILIZERS

RAJYA SABHA

UNSTARRED QUESTION **NO. 3541** TO BE ANSWERED **ON: 24.03.2026**

Imbalanced use of urea and promotion of sustainable fertilizers

3541: SHRI DEREK O' BRIEN:

Will the Minister of **Chemicals and Fertilizers** be pleased to state:

(a) whether Government has reviewed the prevailing pattern of fertilizer consumption in the country, particularly the continued overuse of urea and the resulting imbalance in the application of nitrogen (N), phosphorus (P) and potassium (K);

(b) whether any study has been undertaken to determine the desirable/ideal N: P: K application ratio for Indian conditions and if so, the key findings and the details thereof;

(c) the State-wise N: P: K consumption ratio for each of the last three years; and

(d) whether Government proposes to transition towards a more sustainable fertilizer regime and if so, the details of such initiatives along with the proposed implementation timeline?

ANSWER

THE MINISTER OF STATE IN THE MINISTRY OF CHEMICALS & FERTILIZERS

(**SMT. ANUPRIYA PATEL**)

(a) to (c) According to Indian Council of Agricultural Research (ICAR), there is no single “ideal” NPK usage ratio applicable across the country, as nutrient requirements vary widely with crop type, soil health, and agro-climatic conditions. Further, ICAR conducts field experiments both in house and All India coordinated research trials to determine the recommended doses of fertilizers (RDF) for different crops, integrating both chemical fertilizers and organic sources. These recommendations are location-specific and crop-specific, developed through long-term research across diverse agro-ecological regions.
ICAR recommends soil test based balanced and integrated nutrient management through conjunctive use of both inorganic and organic sources (manure, bio-fertilizers, green manuring, in-situ crop residue recycling etc.) of plant nutrients with 4R approach i.e., right quantity, right time, right mode and right type of fertilizer for judicious use of

chemical fertilizers and to reduce use of chemical fertilizers. The ICAR also imparts training to different stakeholders, organizes front-line demonstrations, awareness programs etc. to educate farmers on all these aspects.

Following is the study based on the data published by Fertilizer Association of India:

Category	N:P:K Range	States
Very Wide Ratio	>20 : 5 : 1	Punjab, Haryana, Uttar Pradesh, Bihar
Wide Ratio	12–20 : 4–7 : 1	Rajasthan, Madhya Pradesh
Moderately Wide	8–12 : 3–5 : 1	Gujarat, West Bengal
Moderate / Improving	6–8 : 3–4 : 1	Odisha, Andhra Pradesh
Near Balanced	5–6 : 2–3 : 1	Telangana, Karnataka, Maharashtra
Balanced (close to ideal)	~4 : 2 : 1	Tamil Nadu, Kerala
National Average (India)	**~9.8 : 3.7 : 1**	Indicates overall nitrogen dominance

India's overall N:P:K ratio remains significantly skewed toward nitrogen compared to the recommended 4:2:1 ratio, reflecting heavy reliance on urea. Strengthening balanced fertilization practices and promoting phosphatic and potassic fertilizers are essential to improve soil health and nutrient-use efficiency.

Further, the information regarding State-wise consumption ratio of NPK for last 3 years is as under:

Major States	**2022-23 N:P:K**	**2023-24 N:P:K**	**2024-25 N:P:K**
Andhra Pradesh	7.2 : 3.7 : 1	6.6 : 3.4 : 1	6.1 : 3.2 : 1
Telanagana	17.2 : 6.5 : 1	14.7 : 5.6 : 1	12.6 : 4.8 : 1
Karnataka	6.4 : 3.2 : 1	5.1 : 2.8 : 1	4.8 : 2.4 : 1
Kerala	1.4 : 0.6 : 1	1.4 : 0.6 : 1	1.4 : 0.6 : 1
Tamil Nadu	5.4 : 2.3 : 1	5.4 : 2.3 : 1	4.9 : 2.0 : 1
Puducherry	14.3 : 3.0 : 1	14.4 : 3.4 : 1	11.7 : 3.1 : 1
Gujarat	18.1 : 5.3 :1	16.2 : 5.3 :1	14.7 : 4.6 :1
Madhya Pradesh	24.4 : 12.2 :1	22.5 : 11.8 :1	15.3 : 6.8 :1
Chattisgarh	13.4 : 6.1 : 1	12.9 : 6.7 : 1	11.2 : 5.1 : 1
Maharashtra	5.4 : 3.1 : 1	4.4 : 2.8 : 1	4.2 : 2.5 : 1
Rajasthan	104.9 : 39.2 : 1	95.6 : 37.6 : 1	45.7 : 15.0 : 1
Goa	2.0 : 1.4 : 1	2.1 : 1.2 : 1	1.7 : 0.9 : 1
Haryana	43.5 : 12.0 : 1	44.3 : 11.9 : 1	29.2 : 7.3 : 1
Punjab	50.8 : 12.6 : 1	43.7 : 10.5 : 1	29.8 : 6.5 : 1
Uttar Pradesh	32.7 : 10.2 : 1	28.1 : 9.0 : 1	22.7 : 6.7 : 1

Uttrakhand	27.9 : 7.8 : 1	21.2 : 4.6 : 1	22.2 : 5.1 : 1
Himachal Pradesh	4.8 : 1.3 : 1	5.1 : 1.4 : 1	5.0 : 1.6 : 1
J & K	8.0 : 2.1 : 1	7.9 : 2.1 : 1	8.3 : 2.4 : 1
Bihar	14.4 : 4.5 :1	13.5 : 4.3 :1	11.0 : 3.3 :1
Jharkhand	30.4 : 10.4 : 1	52.2 : 16.8 : 1	37.3 : 11.0 : 1
Orissa	8.8 : 3.8 : 1	8.7 : 4.4 : 1	8.3 : 3.9 : 1
West Bengal	3.0 : 1.7 : 1	2.7 : 1.6 : 1	2.7 : 1.5 : 1
Assam	6.2 : 1.7 : 1	6.9 : 2.0 : 1	5.7 : 1.5 : 1
Tripura	6.0 : 2.9 : 1	4.7 : 2.8 : 1	3.1 : 1.6 : 1
Manipur	6.5 : 1.8 : 1	12.7 : 1.8 : 1	7.0 : 2.5 : 1
Nagaland	-	61.7 : 2.2 : 1	101.0 : 5.8 : 1
ALL INDIA	**11.8 : 4.6 : 1**	**10.9 : 4.4 : 1**	**9.3 : 3.5 : 1**

(d) The Cabinet Committee on Economic Affairs (CCEA), on June 28, 2023, approved the “PM Programme for Restoration, Awareness Generation, Nourishment, and Amelioration of Mother-Earth (PM-PRANAM). The initiative aims to support the mass movement initiated by States and Union Territories (UTs) to preserve the health of Mother Earth through the promotion of sustainable and balanced fertilizer use, adoption of alternative fertilizers, promotion of organic farming, and implementation of resource conservation technologies.

Under the PM-PRANAM scheme, there is a provision to provide incentives to States/UTs for reduction of consumption of chemical fertilizers (Urea, DAP, NPK, MOP) in a given financial year, compared to the average consumption over the previous three years, equivalent to 50% of the fertilizer subsidy saved. Of the total grant, 95% will be allocated to the State, while the remaining 5% will be utilized for monitoring, IEC, research, capacity building and reward purposes.

****