



सं.नं.: पी.पी.एस./सं.नि.(अनु.)/आर.टी.आई./2025/3840

दिनांक: 9 सितम्बर, 2025

सेवा में,

श्री शिवेश कुमार
104, मैजेस्टिक त्रिवेणी अपार्टमेंट
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विषय: श्री शिवेश कुमार, पटना, बिहार निवासी की ऑनलाइन आर.टी.आई.अपील नं. IAGRI/A/E/25/00031 दिनांक 07/06/2025 के सन्दर्भ में.

महोदय,

कृपया अपनी ऑनलाइन आर.टी.आई.अपील दिनांक 07/06/2005 का अवलोकन करें. उपरोक्त आर.टी.आई.अपील के सन्दर्भ में पॉइंट वाइज जवाब निम्नलिखित रूप से आपकी सुचना एवं अन्य कार्रवाई हेतु प्रेषित किया जा रहा है.

क्र.सं.	मांगी गई अपील का विवरण	अपील का जवाब
1.	HOW MUCH UREA AND OTHER FERTILISER CAN BE SAVED PER ACRE OR HECTARE FOR DIFFERENT CROPS IF CULTIVATION IS DONE ON THE BASIS OF SOIL TESTING WHEN TESTING IS DONE FOR 12 PARAMETERS LIKE PH,EC, ORGANIC CARBON, NITROGEN, PHOSPHORUS, POTASH, IRON, ZINC MANGANESE, COPPER AND BORON. WHATEVER RELEVANT DATA IS AVAILABLE TO YOU KINDLY MAKE AVAILABLE. I HAD RAISED THIS QUESTION BUT TILL NOW IT IS NOT ANSWERED. KINDLY REPLY AS SOON AS POSSIBLE.	Based on the target yield or potential yield of the crop variety and soil test values of nutrients, fertilizer saving of different extent can be achieved. The tables below show the varying fertilizer requirement for two crops, viz. pearl millet and wheat based on soil test values through two different approaches, viz. (1) STCR equation based, (2) General recommendation based. Detailed information is attached along with this letter as Annexure-I.

धन्यवाद.

भवदीय,

विश्वनाथन चिन्नुसामी
9/9/25

(विश्वनाथन चिन्नुसामी)

अपीलीय अधिकारी एवं संयुक्त निदेशक (अनुसन्धान)

प्रतिलिपि:

- नोडल अधिकारी, आर.टी.आई. अनुभाग, निदेशक कार्यालय, भा.कृ.अ.सं., नई दिल्ली – ११००१२
- प्रभारी, ए.के.एम.यू., भा.कृ.अ.सं., नई दिल्ली – ११००१२ (संस्थान की वेबसाइट पर अपलोड करने हेतु)

श्री आशीष कुर्मी, सागर, मध्य प्रदेश निवासी की ऑनलाइन आर.टी.आई. अपील नं. IAGRI/A/E/25/00031 दिनांक 07/06/2025 के सन्दर्भ में.

RTI APPEAL:

HOW MUCH UREA AND OTHER FERTILISER CAN BE SAVED PER ACRE OR HECTARE FOR DIFFERENT CROPS IF CULTIVATION IS DONE ON THE BASIS OF SOIL TESTING WHEN TESTING IS DONE FOR 12 PARAMETERS LIKE PH, EC, ORGANIC CARBON, NITROGEN, PHOSPHORUS, POTASH, IRON, ZINC MANGANESE, COPPER AND BORON. WHATEVER RELEVANT DATA IS AVAILABLE TO YOU KINDLY MAKE AVAILABLE.

REPLY:

Based on the target yield or potential yield of the crop variety and soil test values of nutrients, fertilizer saving of different extent can be achieved. The tables below show the varying fertilizer requirement for two crops, viz. pearl millet and wheat based on soil test values through two different approaches, viz. (1) STCR equation based, (2) General recommendation based:

(1) STCR equation based:

Crop	STCR equation for New Delhi soil	Target yield (t/ha)	Soil test value for nutrient (kg/ha)			Nutrient required (kg/ha)			Fertilizer required (kg/ha)		
			N	P	K	N	P2O5	K2O	Urea	DAP	MOP
Pearlmillet	FN = 69.7 T - 0.36 SN	3.5	100	8	80	208	162	115	452	352	191
	FP2O5 = 57.3 T - 4.81 SP	3.5	350	15	200	118	128	81	256	279	135
	FK2O = 39.2 T - 0.28 SK	3.5	600	30	350	28	56	39	61	122	65
Wheat	FN = 43.0 T - 0.44 SN	6	100	8	80	214	179	114	465	390	190
	FP2O5 = 37.9 T - 6.02 SP	6	350	15	200	104	137	74	226	298	124
	FK2O = 23.4 T - 0.33 SK	6	600	30	350	-6 (0)	47	25	-13 (0)	102	42

(FN, FP2O5 and FK2O = fertilizer dose (kg/ha) and (SN, SP and SK = soil test values (kg/ha), T stand for targeted yield of the crop in tonnes/ha

(2) General recommendation based:

Crop	Target yield (t/ha)	Soil test value for nutrient (kg/ha)			Fertility rating			Fertilizer required (kg/ha)			Fertilizer saving (%) assuming that farmer will otherwise apply the RDF*		
		N	P	K	N	P	K	Urea	DAP	MOP	Urea	DAP	MOP
Pearlmillet	Potential yield of variety	100	8	80	Low	Low	Low	1.25-1.5 × RDN*	1.25-1.5 × RDP*	1.25-1.5 × RDK*	--	--	--
		350	15	200	Medium	Medium	Medium	RDN	RDP	RDK	--	--	--
		600	30	350	High	High	High	0.5 - 0.75 × RDN	0.5 - 0.75 × RDP	0.5 - 0.75 × RDK	25-50	25-50	25-50
Wheat	Potential yield of variety	100	8	80	Low	Low	Low	1.25-1.5 × RDN	1.25-1.5 × RDP	1.25-1.5 × RDK	--	--	--
		350	15	200	Medium	Medium	Medium	RDN	RDP	RDK	--	--	--
		600	30	350	High	High	High	0.5 - 0.75 × RDN	0.5 - 0.75 × RDP	0.5 - 0.75 × RDK	25-50	25-50	25-50

*RDN: Recommended dose of N; RDP: Recommended dose of P; RDK: Recommended dose of K; RDF: Recommended dose of fertilizer for the crop for that area.

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With the above two approaches, only N, P and K fertilizers can be saved by curtailing the application rate based on yield target and soil test values. However, based on other data, e.g., pH, EC, organic C, iron, zinc, manganese, copper and boron, one will be able to make better choice for crops to be grown on that soil, and decide on management practices for best possible yield. Also, the requirement of amendments like lime or gypsum in acid or alkali/sodic soils, respectively, or organic manures in low organic C soils can be decided based on the pH, EC and organic C values, respectively. Besides, the soil test on iron, zinc, manganese, copper and boron will tell whether they are deficient in the soil or not, based on which one will be able to apply the micronutrient fertilizer required for that soil to get the best possible yield of the chosen crop. In general, for micronutrients, if the soil test values appear in the deficient range, then the recommended dose should be applied.

Please note that actual saving of fertilizer can be calculated if the actual application rate by a farmer is known.

References:

- (1) Sharma VK, Pandey RN, Kumar S, Chobhe KA, Chandra S (2016) Soil test crop response based fertilizer recommendations under integrated nutrient management for higher productivity of pearl millet (*Pennisetum glaucum*) and wheat (*Triticum aestivum*) under long term experiment. Indian Journal of Agricultural Sciences 86 (8): 1076–1081
- (2) Sharma BM, Singh RV (2007) STCR approach for fertilizer recommendation based on target yield concept. Technical Bulletin, Division of Soil Science and Agricultural Chemistry, Indian Agricultural Research Institute, New Delhi, pp. 68.

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