State	Predominant Soil Types	Average N Content (kg/ha)	Average P Content (kg/ha)	Average K Content (kg/ha)	Common Micronutrient Deficiencies	Average Annual Rainfall (mm)	References
	Alluvial soils (from Indo-Gangetic plains),	((Zinc (Zn) deficiency common; Iron (Fe)		
Haryana	loamy soils	150-250 (low to medium)	10-25 (medium)	200–500 (medium to high)	generally adequate	500-700	
Alluvial soils (from Indo-Gangetic plains),	Red soils, Black soils, Lateritic soils, Coastal			-	Zinc (Zn) and Boron (B) deficiencies in some		
loamy soils	alluvials	100-250 (low to medium)	5-20 (low to medium)	150-400 (medium)	regions	900-1200	
150–250 (low to medium)	Alluvial, Loamy	180-250 (med)	15-25 (med)	200-450 (med-high)	Zn deficiency common	700-800	
10–25 (medium)	Alluvial, Loamy, Shallow in hilly areas	170-240 (med)	15-25 (med)	200-400 (med)	Zn deficiency, occasional Fe issues	800-900	
200–500 (medium to high)	Alluvial, Loamy	180-260 (med)	15–25 (med)	200–450 (med-high)	Zn deficiency common	800-900	
Zinc (Zn) deficiency common; Iron (Fe)					,		
generally adequate	Alluvial, Loamy	180-250 (med)	15-25 (med)	200-400 (med)	Zn deficiency common	650-750	
500-700	Alluvial, Loamy	170-240 (med)	15-25 (med)	200-400 (med)	Zn deficiency common	600-700	1 1040 (1045)
Karnal	Alluvial, Loamy	180-250 (med)	15-25 (med)	200-450 (med-high)	Zn deficiency common	650-750	I. ICAR (Indian Council of
Panipat	Alluvial, Loamy	170-240 (med)	10-20 (low-med)	200-400 (med)	Zn deficiency common	600-700	Agricultural Research)
Sonipat	Alluvial, Loamy	170-240 (med)	10-20 (low-med)	200-400 (med)	Zn deficiency common	600-700	2. Soil Health Card Scheme, Gol
Rohtak	Alluvial, Loamy	170-230 (med)	10-20 (low-med)	200-350 (med)	Zn deficiency, some B deficiency	500-600	3. Singh et al. (2017), Indian
Jhajjar	Alluvial, Loamy	170-230 (med)	10-20 (low-med)	200–350 (med)	Zn deficiency common	500-600	Journal of Agricultural Sciences
Faridabad	Alluvial, Light textured (loamy-sandy)	150-230 (low-med)	10-20 (low-med)	200–350 (med)	Zn deficiency common	500-600	
Palwal	Alluvial, Light textured (loamy-sandy)	150–230 (low-med)	10-20 (low-med)	200–350 (med)	Zn deficiency common	500-600	
	Alluvial, Light textured (loamy-sandy), Aridic		(1
Gurugram	spots	150-230 (low-med)	10-20 (low-med)	200-350 (med)	Zn deficiency, occasional Fe issues	450-550	
Nuh (Mewat)	Sandy loam, Aridic conditions	150-220 (low-med)	10–20 (low-med)	150–300 (med)	Zn deficiency, B deficiency	400-500	1 '
Rewari	Sandy loam, Aridic conditions	150-220 (low-med)	10–20 (low-med)	150-300 (med)	Zn deficiency, B deficiency	400-500	1
Mahendragarh	Sandy loam, Aridic conditions	150–220 (low-med)	10-20 (low-med)	150-300 (med)	Zn deficiency, B deficiency	350-450	1
Bhiwani	Sandy loam to sandy, Aridic conditions	120–200 (low-med)	5–15 (low-med)	150-300 (med)	Zn deficiency common	300-450	7
Jind	Alluvial, Loamy	170–230 (med)	10–20 (low-med)	200–350 (med)	Zn deficiency common	500-600	7
311d	Attaviat, Lourny	170 200 (mea)	10 20 (low med)	200 000 (Ilicu)	Zir denetericy common	000 000	
Hisar	Alluvial to slightly sandy loam in some areas	150–230 (low-med)	10-20 (low-med)	200–300 (med)	Zn deficiency common	300–500	
Fatehabad	Alluvial, Light textured	150-230 (low-med)	10-20 (low-med)	200-300 (med)	Zn deficiency common	300–500	
Sirsa	Sandy loam, Aridic conditions	150-220 (low-med)	10-20 (low-med)	200-300 (med)	Zn deficiency common	200–300	_
Charkhi Dadri	Sandy loam to sandy, Aridic conditions	120-200 (low-med)	5–15 (low-med)	150-300 (med)	Zn deficiency common	300-400	_
							_
Ariyalur	Red loamy, Lateritic	150-220 (med)	10-15 (low-med)	200-300 (med)	Zn, B deficiencies	800–900	
Chengalpattu	Coastal alluvial, Red sandy	180-250 (med)	10-20 (med)	200–350 (med)	Zn deficiency common	1000-1200	_
Chennai	Coastal alluvial, Sandy loam	180-250 (med)	10-20 (med)	200–350 (med)	Zn deficiency common	1200-1300	
Coimbatore	Red soils, Black soils	150-230 (med)	10-18 (med)	200–350 (med)	Zn, Fe deficiencies in pockets	600–700	
Cuddalore	Coastal alluvial, Deltaic soils	180-250 (med)	10-20 (med)	200–400 (med-high)	Zn deficiency common	1000-1200	
Dharmapuri	Red loamy, Lateritic soils	150-200 (med)	5-15 (low-med)	150–300 (med)	Zn, B deficiencies	700–900	
Dindigul	Red soils, Black soils	150-220 (med)	10-15 (low-med)	200-350 (med)	Zn, B deficiencies	700-900	
Erode	Red soils, Black soils	150-230 (med)	10-18 (med)	200-350 (med)	Zn deficiency common	600–700	
Kallakurichi	Red loamy, Lateritic soils	150-220 (med)	10-15 (low-med)	200-300 (med)	Zn, B deficiencies	900-1000	_
Kanchipuram	Coastal alluvial, Red sandy	180-250 (med)	10-20 (med)	200-350 (med)	Zn deficiency common	1000-1200	
Kanniyakumari	Lateritic, Red loam, Coastal	180-250 (med)	10-20 (med)	200-350 (med)	Zn deficiency, Fe sometimes	1400-1800	
Karur	Red soils, Black soils along river belts	150-220 (med)	10-15 (low-med)	200-350 (med)	Zn deficiency common	600–800	
Krishnagiri	Red loamy, Lateritic soils	150-220 (med)	5–15 (low-med)	150-300 (med)	Zn, B deficiencies	700–900	_
Madurai	Red soils, Black soils	150-220 (med)	10-15 (low-med)	200-350 (med)	Zn deficiency common	700-800	
Mayiladuthurai	Deltaic alluvial (Cauvery delta)	180-250 (med)	10-20 (med)	200-400 (med-high)	Zn deficiency common	1100-1300	
Nagapattinam	Deltaic alluvial (Cauvery delta), Coastal	180-250 (med)	10-20 (med)	200-400 (med-high)	Zn deficiency common	1100-1300	1. Tamil Nadu Agricultural
Namakkal	Red soils, Black soils	150-220 (med)	10-15 (low-med)	200-350 (med)	Zn deficiency common	700–800	University (TNAU) Soil Reports
Nilgiris	Mountainous, acidic, well-drained	150-220 (med)	10-15 (low-med)	150-300 (med)	Zn, B, Fe deficiencies in pockets	1500-2000	2. Soil Health Card Scheme, Gol
Perambalur	Red loamy, Lateritic	150-220 (med)	10-15 (low-med)	200-300 (med)	Zn, B deficiencies	800-900	3. Ghosh et al. (2015), Advances
Pudukkottai	Red loamy, Black soils in parts	150-220 (med)	5-15 (low-med)	200-300 (med)	Zn deficiency common	800-1000	in Agronomy
Ramanathapuram	Coastal sandy, Saline patches	100-200 (low-med)	5-15 (low-med)	150-300 (med)	Zn, B deficiencies	700-900	
Ranipet	Red loamy, Lateritic soils	150-220 (med)	10-15 (low-med)	200–300 (med)	Zn deficiency common	900-1000	
Salem	Red soils, Black soils	150-230 (med)	10-18 (med)	200-350 (med)	Zn deficiency common	700–900	
Sivagangai	Red soils, Black soils	150-220 (med)	10-15 (low-med)	200-350 (med)	Zn, B deficiencies	700–800]
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Tenkasi	Red loamy, Lateritic soils, some black patches	150-220 (med)	10-15 (low-med)	200-350 (med)	Zn deficiency common	800-1000	j

Thanjavur	Deltaic alluvial (Cauvery delta)	180-250 (med)	10-20 (med)	200-400 (med-high)	Zn deficiency common	1100-1300
Theni	Red soils, Black soils, Hill slopes	150-220 (med)	10-15 (low-med)	200-350 (med)	Zn, B deficiencies	700–900
Thoothukudi	Coastal alluvial, Sandy loam, Saline patches	100-200 (low-med)	5-15 (low-med)	150–300 (med)	Zn deficiency common	600-800
Tiruchirappalli	Alluvial in Cauvery basin, Red soils elsewhere	150-220 (med)	10–15 (low-med)	200-350 (med)	Zn deficiency common	800–1000
Tirunelveli	Red soils, Coastal alluvial in parts	150-220 (med)	10-15 (low-med)	200-350 (med)	Zn deficiency common	700–900
Tirupathur	Red loamy, Lateritic soils	150-220 (med)	10-15 (low-med)	200-300 (med)	Zn deficiency common	900-1000
Tiruppur	Red soils, Black soils	150-230 (med)	10-18 (med)	200-350 (med)	Zn deficiency common	600-700
Tiruvallur	Coastal alluvial, Red sandy	180-250 (med)	10-20 (med)	200-350 (med)	Zn deficiency common	1000-1200
Tiruvannamalai	Red loamy, Lateritic soils	150-220 (med)	10-15 (low-med)	200-300 (med)	Zn, B deficiencies	900-1000
Tiruvarur	Deltaic alluvial (Cauvery delta)	180-250 (med)	10-20 (med)	200-400 (med-high)	Zn deficiency common	1100-1300
Vellore	Red loamy, Lateritic soils	150-220 (med)	10-15 (low-med)	200-300 (med)	Zn deficiency common	900-1000
Viluppuram	Red loamy, Lateritic soils	150-220 (med)	10-15 (low-med)	200-300 (med)	Zn deficiency common	900-1000
Virudhunagar	Red soils, Black soils	150-220 (med)	10-15 (low-med)	200-350 (med)	Zn deficiency common	600-800