

# Annexure xiii

Directorate of Natural Resource Management

Exhibits visit by APC on 25.10.2019 – Action taken Report

- a. **Observation: Soil Test Crop response based balanced fertilization through Integrated Plant Nutrition System (STCR-IPNS) along with micronutrients were explained.**
- b. **Actionable points: Soil Test Crop response based balanced fertilization through Integrated Plant Nutrition System (STCR-IPNS) is to be followed in all districts (Action: JDAs and DDH )**

**Action taken :**

- Soil Test Crop Response based fertilizer prescriptions under Integrated Plant Nutrition System (STCR-IPNS) for various crops provide a scientific basis wherein the fertiliser doses for NPK are tailored to the requirement of NPK for specific yield levels of crops taking into account the contribution of NPK from soil, fertilizers, organic manures and or bio-fertilisers. Being a site and situation specific technology, STCR-IPNS recommendation with recommended secondary and micronutrients along with entire improved package of practices for various crops ensures balanced nutrition, increased productivity and efficiency of applied NPK with sustained soil health over long run.
- STCR-IPNS based fertilizer prescriptions have been developed for **31 agricultural and horticultural crops and 10 major cropping sequences on 17 soil series covering six Agro climatic zones of Tamil Nadu** and these fertilizer prescriptions for various crops can be adopted on similar and allied soil types of Tamil Nadu. These STCR-IPNS based recommendation have been included in **Crop Production Guide for Agriculture and Horticulture (2019) for easy adoption**. The technology has been disseminated through Soil Testing and Technology Advisory Centre (SOTAC) functioning in the Department of Soil Science and Agricultural Chemistry and STLs of KVKs of TNAU using DSSIFER software to farmers and various stakeholders of Tamil Nadu.

**In all farms of TNAU, STCR-IPNS based fertilizer prescriptions are being adopted** for various crops in order to obtain higher productivity and fertilizer use efficiency with maintenance of soil health.

- Communication regarding STCR based fertiliser prescription equations for various crops and soils and their adoptability in various districts of Tamil Nadu has been sent to Director of Agriculture for facilitating the process of **adoption of STCR recommendations by all the Soil Testing Laboratories of Tamil Nadu**. Accordingly a **Committee has been constituted by the Department of Agriculture, Tamil Nadu** for finalization of adoption of STCR recommendations and Minutes of Meeting of the Committee was communicated to TNAU. In this regard, the actionable points along with required details have been communicated to Director of Agriculture, Chennai on 20.11.19 for adoption of STCR recommendations by all the Soil Testing Laboratories of Tamil Nadu.
- As per the letter No. 275/APC&PS/Agri/2019 dt:18.11.2019, STCR-IPNS recommendation developed for various crops/soils will be communicated to all JDAs and DDH of various districts shortly so as to facilitate the process of adoption in all districts of Tamil Nadu.
- STCR-IPNS recommendations for various crops and soils of Tamil Nadu and their applicability in various districts is furnished in Annexure I.

**Annexure I**

**STCR Recommendations for Various Crops and Soils of Tamil Nadu**

<b>Fertiliser Prescription Equations (with FYM)</b>			
<b>Crop/Variety</b>	<b>Soil</b>	<b>Prescription Equation</b>	<b>Applicable Districts</b>
1.Rice - Kharif (short duration varieties)	Sandy loam to clay loam River alluvium (Noyyal series)	FN = 4.39 T - 0.52 SN - 0.80 ON FP <sub>2</sub> O <sub>5</sub> = 2.22 T - 3.63 SP - 0.98 OP FK <sub>2</sub> O = 2.44 T - 0.39 SK - 0.72 OK	Coimbatore, Tiruppur and Vellore
2.Rice - Rabi (medium & long duration varieties)	Sandy loam to clay loam River alluvium (Noyyal series)	FN = 4.63 T - 0.56 SN - 0.90 ON FP <sub>2</sub> O <sub>5</sub> = 1.98 T - 3.18 SP - 0.99 OP FK <sub>2</sub> O = 2.57 T - 0.42 SK - 0.67 OK	Coimbatore, Tiruppur and Vellore
3.Rice (SRI)-kharif (short duration varieties)	Sandy loam to clay loam River alluvium (Noyyal series)	FN = 4.33 T - 0.53 SN - 0.68 ON FP <sub>2</sub> O <sub>5</sub> = 2.08 T - 3.18 SP - 0.70 OP FK <sub>2</sub> O = 2.78 T - 0.30 SK - 0.63 OK	Coimbatore, Tiruppur and Vellore
4.Rice(SRI)-Rabi (medium & Longduration varieties)	Sandy loam to clay loam River alluvium (Noyyal series)	FN = 4.20 T - 0.45 SP - 0.68 ON FP <sub>2</sub> O <sub>5</sub> = 2.05 T - 2.65 SP - 0.66 OP FK <sub>2</sub> O = 2.85 T - 0.29 SK - 0.59 OK	Coimbatore, Tiruppur and Vellore
5.Rice (SRI)-Rabi (var. White Ponni)	Sandy loam to clay loam River alluvium (Noyyal series)	FN = 3.43T - 0.34 SN - 0.64 ON FP <sub>2</sub> O <sub>5</sub> = 1.83T - 3.24 SP - 0.61 OP FK <sub>2</sub> O = 1.98T - 0.18 SK - 0.37 OK	Coimbatore, Tiruppur and Vellore
6.Rice - Kharif (short duration varieties)	Red sandy loam (Irugur series)	FN = 5.19 T - 0.89 SN - 0.98 ON FP <sub>2</sub> O <sub>5</sub> = 2.27 T - 4.50 SP - 1.09 OP FK <sub>2</sub> O = 3.11 T - 0.59 SK - 1.02 OK	Coimbatore, Tiruppur, Erode, Salem, Namakkal, Tiruchirappalli, Madurai, Dindigul, Theni, Karur, Ariyalur, Dharmapuri, Krishnagiri, Vellore and Thiruvallur.
7.Rice - Rabi (medium & long duration varieties)	Red sandy loam (Irugur series)	FN = 4.88 T - 0.68 SN - 0.72 ON FP <sub>2</sub> O <sub>5</sub> = 2.06 T - 2.91 SP - 2.27 OP FK <sub>2</sub> O = 2.89 T - 0.47 SK - 0.59 OK	Coimbatore, Tiruppur, Erode, Salem, Namakkal, Tiruchirappalli, Madurai, Dindigul, Theni, Karur, Ariyalur, Dharmapuri, Krishnagiri, Vellore and Thiruvallur.

8.Rice - Rabi (medium & long duration varieties)	Clay loam Black alluvium (Adanur series)	FN = 2.80 T - 0.29 SN - 0.89 ON FP <sub>2</sub> O <sub>5</sub> = 1.35 T - 1.28 SP - 1.78 OP FK <sub>2</sub> O = 2.50 T - 0.42 SK - 1.14 OK	Thanjavur, Tiruvarur, Nagapattinam, Tiruchirappalli, Karur, and Cuddalore.
9.Rice - Kharif (short duration varieties)	Clay loam Black alluvium (Kalathur series)	FN = 5.29 T - 0.75 SN - 0.89 ON FP <sub>2</sub> O <sub>5</sub> = 1.65 T - 1.76 SP - 0.78 OP FK <sub>2</sub> O = 2.73 T - 0.37 SK - 0.82 OK	Thanjavur, Tiruvarur, Nagapattinam, Tiruchirappalli, Madurai, Perambalur and Ariyalur.
10.Rice-Rabi (medium & long duration varieties)	Clay loam Black alluvium (Kalathur series)	FN = 5.34 T - 0.67 SN - 0.73 ON FP <sub>2</sub> O <sub>5</sub> = 1.90 T - 1.86 SP - 0.70 OP FK <sub>2</sub> O = 2.81 T - 0.33 SK - 0.80 OK	Thanjavur, Tiruvarur, Nagapattinam, Tiruchirappalli, Madurai, Perambalur and Ariyalur.
11.Rice - Kharif (short duration varieties)	Sandy clay loam River alluvium (Manakkarai series)	FN = 4.25 T - 0.60 SN - 0.79 ON FP <sub>2</sub> O <sub>5</sub> = 2.71 T - 4.39 SP - 0.89 OP FK <sub>2</sub> O = 3.83 T - 0.60 SK - 0.82 OK	Tirunelveli, Thoothukudi and Thiruvallur.
12.Rice - Rabi (medium & long duration varieties)	Sandy clay loam River alluvium (Manakkarai series)	FN = 4.47 T - 0.58 SN - 0.79 ON FP <sub>2</sub> O <sub>5</sub> = 2.66 T - 3.68 SP - 0.89 OP FK <sub>2</sub> O = 4.08 T - 0.65 SK - 0.82 OK	Tirunelveli, Thoothukudi and Thiruvallur.
13.Rice (SRI)- Rabi (medium & long duration varieties)	Sandy clay River alluvium (Ambasamudram series)	FN = 3.54 T - 0.30 SN - 0.94 ON FP <sub>2</sub> O <sub>5</sub> = 1.37 T - 0.41 SP - 0.80 OP FK <sub>2</sub> O = 2.61 T - 0.64 SK - 0.61 OK	Tirunelveli, Thoothukudi Virudhunagar and Kanyakumari
14.Rice (SRI)- Rabi (medium & long duration varieties)	Red sandy loam (Vannapatti series)	FN = 3.49 T - 0.36 SN - 0.74 ON FP <sub>2</sub> O <sub>5</sub> = 1.66 T - 2.76 SP - 0.69 OP FK <sub>2</sub> O = 2.19 T - 0.66 SK - 0.52 OK	Krishnagiri, Dharmapuri Erode and Karur
15.Wheat (Hills)	Sandy clay loam Laterite (Ooty Series)	FN = 7.60 T - 0.55 SN - 0.92 ON FP <sub>2</sub> O <sub>5</sub> = 3.59 T - 0.26 SP - 0.54 OP FK <sub>2</sub> O = 3.88 T - 0.45 SK - 0.51 OK	Nilgiris, Salem and foot hills of Tamil Nadu.
16.Wheat (Plains)	Clay loam Mixed black calcareous (Perianaicken- palayam series)	FN = 8.83 T - 0.71 SN - 0.88 ON FP <sub>2</sub> O <sub>5</sub> = 4.52 T - 1.75 SP - 0.95 OP FK <sub>2</sub> O = 6.05 T - 0.20 SK - 0.83 OK	Coimbatore, Tiruppur, Dindigul, Salem, Tiruchirappalli, Ariyalur, Dharmapuri, Krishnagiri, Villupuram and Vellore.

17.Maize – Kharif (varieties)	Clay loam Mixed black calcareous (Perianaicken-palayam series)	FN = 4.60 T - 0.55 SN FP <sub>2</sub> O <sub>5</sub> = 2.25T - 1.80 SP FK <sub>2</sub> O = 5.16T - 0.49 SK	Coimbatore, Tiruppur, Dindigul,Salem,Tiruchirappalli, Ariyalur, Dharmapuri, Krishnagiri,Villupuram and Vellore.
18.Maize – Rabi (varieties)	Clay loam Mixed black calcareous (Perianaicken-palayam series)	FN = 5.29 T - 0.38 SN- 0.78 ON FP <sub>2</sub> O <sub>5</sub> = 2.08 T - 1.29 SP- 0.89 OP FK <sub>2</sub> O = 5.20 T - 0.45 SK- 0.78 OK	Coimbatore,Tiruppur,Dindigul, Salem,Tiruchirappalli,Ariyalur, Dharmapuri, Krishnagiri, Villupuram and Vellore.
19.Hybrid Maize	Red sandy loam (Palaviduthi series)	FN = 3.96 T - 0.62 SN - 0.69 ON FP <sub>2</sub> O <sub>5</sub> = 1.56 T - 1.93 SP - 0.60 OP FK <sub>2</sub> O = 1.66 T - 0.27 SK - 0.49 OK	Dindigul, Coimbatore, Tiruchirappalli, Madurai, Karur, Theni, Ariyalur and Thiruvallur.
20.Hybrid Maize	Clay loam Mixed black calcareous (Perianaicken-palayam series)	FN = 4.01 T - 0.76 SN - 0.83 ON FP <sub>2</sub> O <sub>5</sub> = 1.57 T - 2.71 SP - 0.61OP FK <sub>2</sub> O = 2.09 T - 0.26 SK - 0.65 OK	Coimbatore,Tiruppur,Dindigul, Salem,Tiruchirappalli,Ariyalur, Dharmapuri,Krishnagiri,Villupuram and Vellore.
21.Hybrid Maize	Sandy clay to clay Black calcareous (Pilamedu series)	FN = 3.78 T - 0.78 SN - 0.89 ON FP <sub>2</sub> O <sub>5</sub> = 1.47 T - 2.02 SP - 0.91 OP FK <sub>2</sub> O = 1.79 T - 0.14 SK - 0.62 OK	Coimbatore,Tiruppur,Erode, Salem, Namakkal, Tiruchirappalli, Madurai, Dindigul, Theni, Karur, Perambalur, Ariyalur, Dharmapuri and Virudhunagar.
22.Rainfed maize	Red sandy loam (Irugur series)	FN = 3.23 T- 0.42 SN - 0.52 ON FP <sub>2</sub> O <sub>5</sub> = 1.51 T - 1.98 SP – 0.94 OP FK <sub>2</sub> O = 1.73 T - 0.21 SK – 0.48 OK	Coimbatore, Tiruppur, Erode, Salem, Namakkal, Tiruchirappalli, Madurai, Dindigul, Theni, Karur, Ariyalur, Dharmapuri, Krishnagiri, Vellore and Thiruvallur.
23.Sorghum (Hybrids)	Red sandy loam (Irugur series)	FN = 4.86T-0.53 SN-0.98 ON FP <sub>2</sub> O <sub>5</sub> = 1.63T-0.87 SP-0.90 OP FK <sub>2</sub> O = 4.56T-0.59SK-0.76 OK	Coimbatore, Tiruppur, Erode, Salem, Namakkal, Tiruchirappalli, Madurai, Dindigul, Theni, Karur, Ariyalur, Dharmapuri,Krishnagiri, Vellore and Thiruvallur.
24.Sorghum (varieties)	Clay loam Mixed black calcareous	FN = 6.06T - 0.81 SN - 0.53 ON FP <sub>2</sub> O <sub>5</sub> = 2.06T - 3.14 SP - 0.72 OP FK <sub>2</sub> O = 5.03T - 0.47 SK- 0.66 OK	Coimbatore, Tiruppur, Dindigul, Salem, Tiruchirappalli,Ariyalur, Dharmapuri, Krishnagiri,

	(Perianaicken-palayam series)		Villupuram and Vellore.
25.Ragi	Clay loam Mixed black calcareous (Perianaicken-palayam series)	FN = 4.35T-0.37 SN-0.98 ON FP <sub>2</sub> O <sub>5</sub> = 1.18T-1.03 SP-0.80 OP FK <sub>2</sub> O = 2.68T-0.14 SK-0.40 OK	Coimbatore,Tiruppur,Dindigul,Salem,Tiruchirapalli, Ariyalur, Dharmapuri, Krishnagiri, Villupuram and Vellore.
26.Ragi	Red Sandy clayloam (Somayanur series)	FN = 4.94 T-0.55 SN FP <sub>2</sub> O <sub>5</sub> = 1.36T-0.96 SP FK <sub>2</sub> O = 4.20T-0.46 SK	Coimbatore,Tiruppur, Salem, Namakkal, Madurai,Dindigul,Theni andVillupuram.
27.Pearl millet	Clay loam Mixed black calcareous (Perianaickenpalayam series)	FN = 6.04T-0.49 SN-0.80 ON FP <sub>2</sub> O <sub>5</sub> = 2.78T-1.65SP-0.97 OP FK <sub>2</sub> O = 3.29T-0.17 SK-0.58 OK	Coimbatore,Tiruppur,Dindigul, Salem,Tiruchirapalli,Ariyalur, Dharmapuri,Krishnagiri, Villupuram and Vellore.
28.Little millet	Red sandy loam (Irugur series)	FN = 8.83T - 0.41 SN - 0.55 ON FP <sub>2</sub> O <sub>5</sub> = 3.75T - 1.10 SP - 0.62 OP FK <sub>2</sub> O = 4.57T - 0.15 SK - 0.48 OK	Coimbatore, Tiruppur, Erode, Salem, Namakkal, Tiruchirappalli, Madurai, Dindigul, Theni, Karur, Ariyalur, Dharmapuri, Krishnagiri, Vellore and Thiruvallur.
29.Blackgram	Clay loam Mixed black calcareous (Perianacken-palayam series)	FN = 10.84T-0.39 SN FP <sub>2</sub> O <sub>5</sub> = 7.23T-1.00 SP FK <sub>2</sub> O = 5.20T-0.04 SK	Coimbatore, Tiruppur, Dindigul,Salem, Tiruchirappalli , Ariyalur, Dharmapuri, Krishnagiri,Villupuram and Vellore.
30.Greengram	Red sandy loam (Irugur series)	FN = 25.07 T - 0.71 SN FP <sub>2</sub> O <sub>5</sub> = 15.44 T - 5.48 SP FK <sub>2</sub> O = 11.00 T - 0.19 SK	Coimbatore,Tiruppur, Erode,Salem,Namakkal, Tiruchirappalli, Madurai, Dindigul, Theni, Karur, Ariyalur, Dharmapuri, Krishnagiri, Vellore and Thiruvallur.

31.Groundnut	Red sandy loam (Irugur series)	FN = 6.54T-0.56 SN-0.69 ON FP <sub>2</sub> O <sub>5</sub> = 3.80T-3.32 SP-0.77 OP FK <sub>2</sub> O = 8.35T-0.65SK-0.87 OK	Coimbatore, Tiruppur, Erode, Salem, Namakkal, Tiruchirappalli, Madurai, Dindigul, Theni, Karur, Ariyalur, Dharmapuri, Krishnagiri, Vellore and Thiruvallur.
32.Groundnut	Red sandy clay loam (Somayanur series)	FN = 6.54 T - 0.51 SN - 1.10 ON FP <sub>2</sub> O <sub>5</sub> = 4.19 T - 2.95 SP - 0.77 OP FK <sub>2</sub> O = 5.47 T - 0.33SK - 0.87 OK	Coimbatore, Tiruppur, Salem, Namakkal, Madurai, Dindigul, Theni and Villupuram.
33.Groundnut	Low level Laterite	FN = 5.97 T - 0.45 SN FP <sub>2</sub> O <sub>5</sub> = 3.80 T - 3.32 SP FK <sub>2</sub> O = 7.08 T - 0.58 SK	Cuddalore, Villupuram, Pudukottai, S ivagangai, Tiruvannamalai and Thanjavur.
34.Rainfed groundnut	Red Sandy clay loam (Somayanur series)	FN = 7.50 T - 0.33 SN - 0.45ON FP <sub>2</sub> O <sub>5</sub> = 3.50 T - 1.67 SP - 0.55 OP FK <sub>2</sub> O = 6.78 T - 0.31 SK - 0.43 OK	Coimbatore, Tiruppur, Salem, Namakkal, Madurai, Dindigul, Theni and Villupura
35.Sunflower	Clay loam Mixed black calcareous (Perianaicken- palayam series)	FN = 9.60T-0.49 SN-0.68 ON FP <sub>2</sub> O <sub>5</sub> = 4.20T-1.87 SP-0.80 OP FK <sub>2</sub> O = 9.24T-0.45SK-0.64 OK	Coimbatore, Tiruppur, Dindigul, Salem, Tiruchirappalli, Ariyalur, Dharmapuri, Krishnagiri, Villupuram and Vellore.
36.Gingelly	Clay loam Black alluvium (Adanur series)	FN = 13.07 T-0.46 SN FP <sub>2</sub> O <sub>5</sub> = 6.30 T-1.79 SP FK <sub>2</sub> O = 12.8 T-0.47 SK	Erode, Thanjavur, Tiruvarur, Nagapattinam, Tiruchirappalli, Karur and Cuddalore.
37.Sugarcane	Clay loam Mixed black calcareous (Perianaickenpal- ayam series)	FN = 4.17 T - 1.09 SN - 1.11ON FP <sub>2</sub> O <sub>5</sub> = 1.01 T - 2.56 SP - 1.01 OP FK <sub>2</sub> O = 3.44 T - 0.84 SK - 1.03 OK	Coimbatore, Tiruppur, Dindigul, Salem, Tiruchirappalli, Ariyalur, Dharmapuri, Krishnagiri, Villupuram and Vellore.
38.Sugarcane	Clay loam Red coastal alluvium (Gadillum series)	FN = 4.06T - 0.74 SN - 0.87ON FP <sub>2</sub> O <sub>5</sub> = 0.71T - 1.09 SP - 0.72OP FK <sub>2</sub> O = 2.67T- 0.57 SK - 1.33 OK	Cuddalore and Villupuram.

39.Sugarcane	Red sandy loam (Irugur series)	FN = 3.42 T - 0.56 SN - 0.93 ON FP <sub>2</sub> O <sub>5</sub> = 1.15 T - 1.94 SP - 0.98 OP FK <sub>2</sub> O = 3.16 T - 0.73 SK - 0.99 OK	Coimbatore, Tiruppur, Erode, Salem,Namakkal, Tiruchirappalli, Madurai, Dindigul, Theni, Karur, Ariyalur, Dharmapuri, Krishnagiri, Vellore and Thiruvallur.
40.Cotton (varieties)	Clay loam Mixed black calcareous Perianaicken- palayam series)	FN = 8.81 T - 0.62 SN FP <sub>2</sub> O <sub>5</sub> = 2.53 T - 1.36 SP FK <sub>2</sub> O = 4.92 T - 0.25 SK	Coimbatore,Tiruppur,Dindigul, Salem,Tiruchirappalli,Ariyalur, Dharmapuri,Krishnagiri, Villupuram,Ramanathapuram and Vellore.
41.Cotton (varieties)	Red sandy loam (Irugur series)	FN = 7.66T - 0.43 SN - 0.71 ON FP <sub>2</sub> O <sub>5</sub> = 3.22T - 3.27 SP - 0.87 OP FK <sub>2</sub> O = 5.97T - 0.50 SK - 0.66 OK	Coimbatore, Tiruppur, Erode, Salem, Namakkal, Tiruchirappalli, Madurai, Dindigul, Theni, Karur, Ariyalur, Dharmapuri, Krishnagiri, Vellore and Thiruvallur.
42.Cotton under Drip fertigation (Hybrid )	Clay loam Mixed black calcareous (Perianaicken- palayam series)	FN = 8.51T - 0.40 SN - 0.73 ON FP <sub>2</sub> O <sub>5</sub> = 4.41T - 2.25 SP - 0.75 OP FK <sub>2</sub> O = 6.59T - 0.18 SK - 0.66 OK	Coimbatore,Tiruppur,Dindigul, Salem,Tiruchirappalli,Ariyalur, Dharmapuri,Krishnagiri, Villupuram and Vellore.
43.Hybrid cotton (Rainfed)	Sandy clay to clay Black calcareous (Pilamedu series)	FN = 5.35T - 0.24 SN - 0.53ON FP <sub>2</sub> O <sub>5</sub> = 3.67T - 1.99 SP - 0.84 OP FK <sub>2</sub> O = 3.83T - 0.13 SK - 0.55 OK	Coimbatore, Tiruppur, Erode,Salem,Namakkal, Tiruchirappalli,Madurai, Dindigul, Theni, Karur, Perambalur, Ariyalur, Dharmapuri and Virudhunagar.
44.Aggregatum (small) Onion	Red sandy loam (Irugur series)	FN = 0.99T-0.37 SN-0.58 ON FP <sub>2</sub> O <sub>5</sub> = 0.58T-1.43 SP-0.69 OP FK <sub>2</sub> O = 0.67T-0.25SK-0.44 OK	Coimbatore, Tiruppur, Erode,Salem,Namakkal, Tiruchirappalli,Madurai, Dindigul, Theni, Karur, Ariyalur, Dharmapuri, Krishnagiri,Vellore and Thiruvallur.



45.Big onion	Red sandy loam (Irugur series)	FN = 0.80T - 0.60 SN - 0.84 ON FP <sub>2</sub> O <sub>5</sub> = 0.58T - 2.10 SP - 0.87 OP FK <sub>2</sub> O = 0.61T - 0.33 SK - 0.70 OK	Coimbatore, Tiruppur, Erode,Salem,Namakkal, Tiruchirappalli,Madurai, Dindigul, Theni, Karur, Ariyalur, Dharmapuri, Krishnagiri, Vellore and Thiruvallur.
46.Bhendi	Clay loam Mixed black calcareous (Perianaicken- palayam series)	FN = 1.15T-0.46 SN - 0.81ON FP <sub>2</sub> O <sub>5</sub> = 0.52T-1.31 SP - 0.87 OP FK <sub>2</sub> O = 1.77T-0.64SK - 0.91 OK	Coimbatore,Tiruppur, Dindigul,Salem,Tiruchirappalli, Ariyalur, Dharmapuri, Krishnagiri,Villupuram and Vellore.
47.Cabbage	Red sandy loam (Irugur series)	FN = 0.55T-0.89 SN - 0.76 ON FP <sub>2</sub> O <sub>5</sub> = 0.29T-2.75 SP - 0.86 OP FK <sub>2</sub> O = 0.36T-0.31SK - 0.56 OK	Coimbatore, Tiruppur, Erode, Salem, Namakkal, Tiruchirappalli, Madurai, Dindigul, Theni, Karur, Ariyalur, Dharmapuri, Krishnagiri, Vellore and Thiruvallur.
48.Tomato	Red sandy loam (Palaviduthi series)	FN = 0.45T- 0.63 SN - 0.72 ON FP <sub>2</sub> O <sub>5</sub> = 0.42T - 4.18 SP- 0.73 OP FK <sub>2</sub> O = 0.40T - 0.48 SK- 0.66 OK	Dindigul, Coimbatore, Tiruchirappalli,Madurai, Karur, Theni, Ariyalur and Thiruvallur.
49.Brinjal	Red sandy loam (Palaviduthi series)	FN = 0.69T- 0.72 SN - 0.64 ON FP <sub>2</sub> O <sub>5</sub> = 0.41T - 3.57 SP- 0.72 OP FK <sub>2</sub> O = 0.65T - 0.34 SK - 0.52 OK	Dindigul, Coimbatore, Tiruchirappalli,Madurai, Karur,Theni, Ariyalur and Thiruvallur.
50.Beetroot	Red sandy clay loam (Palathurai series)	FN = 0.64T-0.65 SN -0.96 ON* FP <sub>2</sub> O <sub>5</sub> = 0.52T-1.58 SP -0.92 OP FK <sub>2</sub> O = 0.61T-0.27SK -0.92 OK	Coimbatore, Tiruppur, Erode,Karur,Namakkal, Tiruchirappalli, Perambalur, Dindigul, Theni, Ariyalur, Krishnagiri, Virudhunagar and Vellore
51.Radish	Red sandy clay loam (Palathurai series)	FN = 0.69T - 0.74SN-1.03 ON FP <sub>2</sub> O <sub>5</sub> = 0.28T - 1.35 SP-1.15 OP FK <sub>2</sub> O = 0.43T - 0.21SK-0.64 OK	Coimbatore, Tiruppur, Erode,Karur,Namakkal, Tiruchirappalli, Perambalur, Dindigul, Theni,Ariyalur,

			Krishnagiri, Virudhunagar and Vellore
52.Potato	Laterite (Ooty Series)	FN = 0.70T-0.24SN - 0.41 ON FP <sub>2</sub> O <sub>5</sub> = 1.44T-0.55 SP - 0.95 OP FK <sub>2</sub> O = 0.72T-0.25SK - 0.39 OK	Nilgiris and Dindigul
53.Cauliflower	Red sandy loam (Irugur series)	FN = 0.93T-0.79SN - 0.63 ON FP <sub>2</sub> O <sub>5</sub> = 0.44T-1.74 SP - 0.85 OP FK <sub>2</sub> O = 0.44T-0.18SK - 0.46 OK	Coimbatore, Tiruppur, Erode,Salem,Namakkal, Tiruchirappalli,Madurai, Dindigul, Theni, Karur, Ariyalur, Dharmapuri, Krishnagiri, Vellore and Thiruvallur
54.Carrot	Laterite (Ooty series)	FN = 0.48T-0.17 SN-0.33ON FP <sub>2</sub> O <sub>5</sub> = 1.11T-1.17 SP-0.31 OP FK <sub>2</sub> O = 0.83T-0.40SK-0.43OK	Nilgiris,Salem and Dindigul.
55.Tapioca	Red Sandy loam (Thulukkanur series)	FN = 0.56T-0.61 SN-0.81 ON FP <sub>2</sub> O <sub>5</sub> = 0.35T-1.80 SP-0.53 OP FK <sub>2</sub> O = 0.94T-0.67SK-0.70 OK	Erode,Karur,Salem, Namakkal, Tiruchirappalli, Ariyalur, Madurai,Theni and Dharmapuri
56.Chilli	Red sandy loam (Irugur series)	FN = 8.29 T - 0.32 SN FP <sub>2</sub> O <sub>5</sub> = 7.13 T - 5.24 SP FK <sub>2</sub> O = 5.86 T - 0.15 SK	Coimbatore, Tiruppur, Erode,Salem, Namakkal, Tiruchirappalli, Madurai, Dindigul, Theni, Karur, Ariyalur, Dharmapuri and Krishnagiri.
57.Turmeric	Red sandy loam (Irugur series)	FN = 1.11T - 0.83 SN-0.98 ON FP <sub>2</sub> O <sub>5</sub> = 0.57T-5.21SP-1.02OP FK <sub>2</sub> O = 0.83T-0.50 SK-0.61OK	Coimbatore, Tiruppur, Erode,Salem,Namakkal,Tiruchirappalli,Madurai, Dindigul, Theni, Karur, Ariyalur, Dharmapuri and Krishnagiri.
58. Ashwagandha	Clay loam Mixed black calcareous (Perianaickenpal-ayam series)	FN = 24.77T-0.61SN-0.74 ON FP <sub>2</sub> O <sub>5</sub> = 18.33T-2.68 SP-0.84 OP FK <sub>2</sub> O = 18.12T-0.21SK-0.59 OK	Coimbatore,Tiruppur,Dindigul, Salem,Tiruchirappalli,Ariyalur, Dharmapuri,Krishnagiri, Villupuram and Vellore.

59. Glory Lily	Red sandy loam (Palaviduthi series)	FN = 41.45 T - 0.53 SN - 0.71 ON FP <sub>2</sub> O <sub>5</sub> = 23.08 T - 1.92 SP - 0.88 OP FK <sub>2</sub> O = 30.45 T - 0.21 SK - 0.64 OK	Dindigul, Coimbatore, Tiruchirappalli, Madurai, Karur, Theni, Ariyalur and Thiruvallur.
60. Chrysanthemum	Red sandy clay loam (Somayanur series)	FN = 2.01 T - 1.14 SN - 0.67 ON FP <sub>2</sub> O <sub>5</sub> = 1.08 T - 2.56 SP - 0.69 OP FK <sub>2</sub> O = 1.57 T - 0.74 SK - 0.62 OK	Coimbatore, Tiruppur, Salem, Namakkal, Madurai, Dindigul, Theni and Villupuram.

Note: (i) FN, FP<sub>2</sub>O<sub>5</sub> and FK<sub>2</sub>O respectively are fertiliser N, P<sub>2</sub>O<sub>5</sub> and K<sub>2</sub>O in kg ha<sup>-1</sup>; T is the yield target in q ha<sup>-1</sup> (except for Sugarcane T is in t ha<sup>-1</sup>) and SN, SP and SK respectively are alkaline KMnO<sub>4</sub>-N, Olsen-P and NH<sub>4</sub>OAc-K in kg ha<sup>-1</sup>; ON, OP and OK are the quantities of N, P and K in kg ha<sup>-1</sup> supplied through FYM.