Agriculture Director inspects PPFM-sprayed paddy fields in the delta

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News

Director of Agriculture K.V. Muralidharan inspected PPFM-sprayed paddy fields in Thanjavur and Tiruvarur districts on 21 November 2026 (DT Next). PPFM (Pink Pigmented Facultative Methylotrophs) is a bio-stimulant of beneficial bacteria that promotes crop growth and helps plants tolerate stresses such as drought – it relieves stress rather than inducing it. It had been applied to crops affected by nutrient deficiency; he asked farmers about the results and irrigation. At the Papanasam Agricultural Extension Centre in Thanjavur district he reviewed crop status, and he visited PPFM-treated fields at Nallavanniyan Kudikadu and at Katchanam in Tiruvarur district. At Perumangudi he saw farmer Sundaravel's field growing five paddy varieties together under sponsored research schemes, and a National Food Security and Nutrition Mission demonstration farm with black gram as an alternate crop. The report puts kuruvai cultivation in Thanjavur district at 1.59 lakh acres and samba–thaladi at 2.21 lakh acres. He told officials to upload details on the online portal and to make farmers aware of micronutrient and seed stocks and crop insurance.

Key facts for the exam

Point	Details
Inspected by	K.V. Muralidharan, Director of Agriculture

Point	Details
Date	21 November 2026
Places	Papanasam, Perumangudi, Nallavanniyan Kudikadu (Thanjavur); Katchanam (Tiruvarur)
PPFM stands for	Pink Pigmented Facultative Methylotrophs
Genus	Methylobacterium
Benefit	Eases drought stress, faster growth; about 10% yield gain (TNAU)
Dose	1% solution; 1000 ml/acre in the delta rice drought programme (TNAU)
Area (Thanjavur district)	Kuruvai 1.59 lakh acres; samba–thaladi 2.21 lakh acres (reported)

Background

- PPFM bacteria belong to the genus Methylobacterium and live on leaf surfaces. They feed on one-carbon compounds such as methanol released by plants through stomata – hence 'methylotrophs' (TNAU).
- They produce plant hormones such as cytokinins and indole acetic acid (IAA). Cytokinin promotes cell division and delays leaf ageing, improving germination, chlorophyll and drought tolerance. It must not be mixed with pesticides or fungicides.
- The Cauvery delta has three paddy seasons: kuruvai (June–September, short duration), samba (August–January, long duration) and thaladi (October–February, after the kuruvai harvest). Water is normally released from Mettur dam on 12 June.
- Another bio-fertiliser for paddy is Azolla – this water fern fixes atmospheric nitrogen in symbiosis with the cyanobacterium Anabaena.

Tamil Nadu link: This is a Tamil Nadu story from the delta districts. Under the Tamil Nadu Protected Agricultural Zone Development Act, 2020 the Cauvery delta is a 'Protected Agricultural Zone', where new projects such as oil and gas (including coal-bed methane and shale gas) exploration, metal smelting, tanneries and ship-breaking are barred (Act 11 of 2020, Second Schedule). The PPFM technology is recommended by Tamil Nadu Agricultural University (TNAU), Coimbatore.

Frequently asked questions

What is this news about?

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What are the key facts to remember for the exam?

Inspected by: K.V. Muralidharan, Director of Agriculture; Date: 21 November 2026; Places: Papanasam, Perumangudi, Nallavanniyan Kudikadu (Thanjavur); Katchanam (Tiruvarur); PPFM stands for: Pink Pigmented Facultative Methylotrophs.

What is the background to this news?

PPFM bacteria belong to the genus Methylobacterium and live on leaf surfaces. They feed on one-carbon compounds such as methanol released by plants through stomata – hence 'methylotrophs' (TNAU).

Practice questions (with answers)

1. PPFM bacteria are 'methylotrophs' – which compound released by leaves do they use as a carbon source?

A) Glucose

B) Cellulose

C) Nitrogen gas

D) Methanol

Answer: D – Explanation: Methanol – a one-carbon compound released through stomata, mostly in the morning (TNAU). The genus is Methylobacterium.

2. Which plant hormone, produced by PPFM, promotes cell division and delays leaf ageing?

A) Abscisic acid

B) Cytokinin

C) Ethylene

D) Gibberellin

Answer: B – Explanation: Cytokinin. Abscisic acid closes stomata (the 'stress hormone'); ethylene ripens fruit; gibberellin elongates stems.

3. In the Cauvery delta, which short-duration paddy season begins in June with the release of Mettur water?

A) Samba

B) Thaladi

C) Navarai

D) Kuruvai

Answer: D – Explanation: Kuruvai (June–September). Samba is the long-duration season; thaladi follows kuruvai; navarai is the December–March crop.

4. The Cauvery delta was declared a 'Protected Agricultural Zone' under a 2020 State Act mainly to bar which new projects?

A) Hydrocarbon projects

B) Wind farms

C) Dairy farms

D) Solar parks

Answer: A – Explanation: New projects such as hydrocarbon (oil, gas, methane) exploration – under the TN Protected Agricultural Zone Development Act, 2020 (Act 11 of 2020).

5. In the Cauvery delta, which paddy crop is raised on the same field right after the kuruvai harvest?

A) Samba

B) Navarai

C) Thaladi

D) Sornavari

Answer: C – Explanation: Thaladi – raised after the kuruvai harvest (October–February). Samba is the long-duration crop (August–January); Navarai runs December–April; Sornavari is the April–August crop of the northern districts.

Sources: DT Next; TNAU Agritech Portal. © Shanmugam IAS Academy.