

S – 18/1/2022-SBM-DDWS  
Government of India  
Ministry of Jal Shakti  
Department of Drinking Water and Sanitation  
Swachh Bharat Mission (Grameen)  
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CGO Complex, Lodhi Road  
New Delhi – 110 003  
Date: 08.08.2023

**OFFICE MEMORANDUM**

**Subject: - ICAR reports on FOM/LFOM -reg.**

The undersigned is directed to enclose herewith, reports received from Indian Council of Agriculture & Research (ICAR) on interim package of practices for important crops (FOM/LFOM) and analytical parameters and characteristics of enriched bioslurry, for information and further necessary action.

Encl: As above

*8/8/23*

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To,

1. Secretary, D/o Fertilisers
2. Secretary, D/o Animals Husbandry & Dairying
3. Secretary, M/o Housing & Urban Affairs
4. Secretary, D/o Agriculture and Farmers Welfare
5. Secretary, M/o Petroleum and Natural Welfare
6. Secretary, M/o New and Renewable Energy

Copy for information to:

1. Nodal Officers ( GOBARdhan)
2. PMU members (GOBARdhan)
3. Secretary, D/o Agriculture Research & Education and DG ,ICAR
4. PS to JS & MD (DDWS/GOBARdhan)

# **CABINET REPORT**

**Action taken report of ICAR**

**on**

**GOBARdhan**



**Secretary level review meeting on 04-08-2023**

**Indian Council of Agriculture Research  
Department of Agriculture Research and Education  
MoAFW, GOI, New Delhi**

## Cabinet report of ICAR on GOBARdhan

**Target:**

ICAR to submit the interim package of practices report by end of July 2023

**Package of practices for important crops (FOM – Fermented organic manure; LFOM – Liquid fermented organic manure):**

### 1. Rice

- In transplanted puddled rice crop, application of FOM (Bio-slurry enriched and stabilized to 2.1% N) @ 2.5 t/ha during nursery preparation and @1.25 t/ha after transplanting is recommended along with the recommended dose of fertiliser (RDF) (120 kg N/ha, 60 kg P<sub>2</sub>O<sub>5</sub>/ha, 60 kg K<sub>2</sub>O/ha).
- In direct seeded rice, the liquid FOM is recommended @ 1.25 t/ha along with the RDF.
- LFOM should be used @ 500 Litre per ha for 2 to 3 times

### 2. Wheat

- In wheat, soil application of FOM (dried bio-slurry) @ 6-8 t/ha, 10 days before sowing is recommended along with recommended dose of fertiliser (120 kg N/ha, 60 kg P<sub>2</sub>O<sub>5</sub>/ha, 60 kg K<sub>2</sub>O/ha) for sustainable productivity.
- FOM should be applied before last plough and ploughed into the soil

### 3. Maize

- Application of FOM @ 4 to 6 t/ha is recommended along with 80% of recommended dose of fertiliser (150 kg N/ha, 60 kg P<sub>2</sub>O<sub>5</sub>/ha, 30 kg K<sub>2</sub>O/ha) for optimum productivity.

### 4. Pea (*Pisum Sativum* L.)

For optimum green pod yield of pea, application of FOM (with 2.8% N) and urea in 1:3 ratio is recommended. This practice resulted in improved microbial activity in the soil.

### 5. Okra

For optimum productivity of okra crop, FOM application @ 5 t/ha is recommended along with recommended dose of fertiliser (100 kg N/ha, 60 kg P<sub>2</sub>O<sub>5</sub>/ha, 40 kg K<sub>2</sub>O/ha).

### 6. Spinach

Application of 25% of recommended nitrogen through FOM and 75% recommended nitrogen through fertiliser produced optimum yield of spinach. The FOM needs to be mixed in soil at least 15-20 days before sowing. Side or top dressing or fresh FOM application need to be avoided.

### 7. Baby corn

Application of FOM @ 3 t/ha along with full recommended dose of fertilizer ((150 kg N/ha, 60 kg P<sub>2</sub>O<sub>5</sub>/ha, 20 kg K<sub>2</sub>O/ha) is recommended for optimum production of baby corn. Spray of 0.3% iron is recommended along with the above practice. After application of FOM, field need to be ploughed and ridges and furrows to be formed at a spacing of 45 cm x 25 cm.

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#### Important Note:

- Don't apply FOM / LFOM as foliar spray. Use this along with recommended dose of fertilizers for each crop.
- FOM should be applied 7-10 days before sowing in all the crops.
- pH of FOM should be in between 6.5 to 7.5.

NRM/ICAR



**Analytical parameters and characteristics of enriched bioslurry produced at IARI and collected from field**

S.No	Parameters	Test Method	Unit	Enriched bio-slurry	Bio-slurry
1	pH (2% solution)	Glass electrode pH meter	Number	7.8	6.4
2	Moisture @ 106°C for 18 Hours	FCO-1985 (Gravimetric analysis)	%	71	45
3	Nitrogen as N fresh bioslurry sample	Kjeldahl Method	%	0.4	0.2
	Nitrogen in oven dried			1.2	0.5
	Nitrogen in enriched oven dried sample			3.1	
4	Phosphate as P <sub>2</sub> O <sub>5</sub>	FCO-1985	%	0.11	0.12
	Phosphate as P <sub>2</sub> O <sub>5</sub> oven dried sample			0.42	
5	Potassium as K <sub>2</sub> O	FCO-1985	%	0.34	0.35
	Potassium as K <sub>2</sub> O oven dried sample			1.15	
6	Total Organic Carbon	Dichromate Method & TOC analyser & CHNOS analyser	%	9.8	13.5
	Total Organic Carbon oven dried sample			33.9	
7	C/N Ratio	By Calculation	%	26.7	67.5
	C/N Ratio, oven dried sample			26.7	
8	K <sub>2</sub> O+ P <sub>2</sub> O <sub>5</sub> + N	By Calculation	%	0.8	0.67
	K <sub>2</sub> O+ P <sub>2</sub> O <sub>5</sub> + N oven dried sample			2.9	
9	Electrical Conductivity (2% Solution)at 25°C	EC meter Standard method of Soil Analysis, C.A. Black	dS/m	0.47	0.85
10	Arsenic as As oven dried sample	Digestion Followed by AAS	mg/kg	Not Detected	1
11	Cadmium as Cd oven dried sample	Digestion Followed by AAS	mg/kg	Not Detected	2
12	Copper as Cu oven dried sample	Digestion Followed by AAS	mg/kg	8.4	9.5
13	Chromium as Cr oven dried sample	Digestion Followed by AAS	mg/kg	6.0	7.2
14	Lead as Pb oven dried sample	Digestion Followed by AAS	mg/kg	10	8
15	Zinc as Zn oven dried sample	Digestion Followed by AAS	mg/kg	63	46